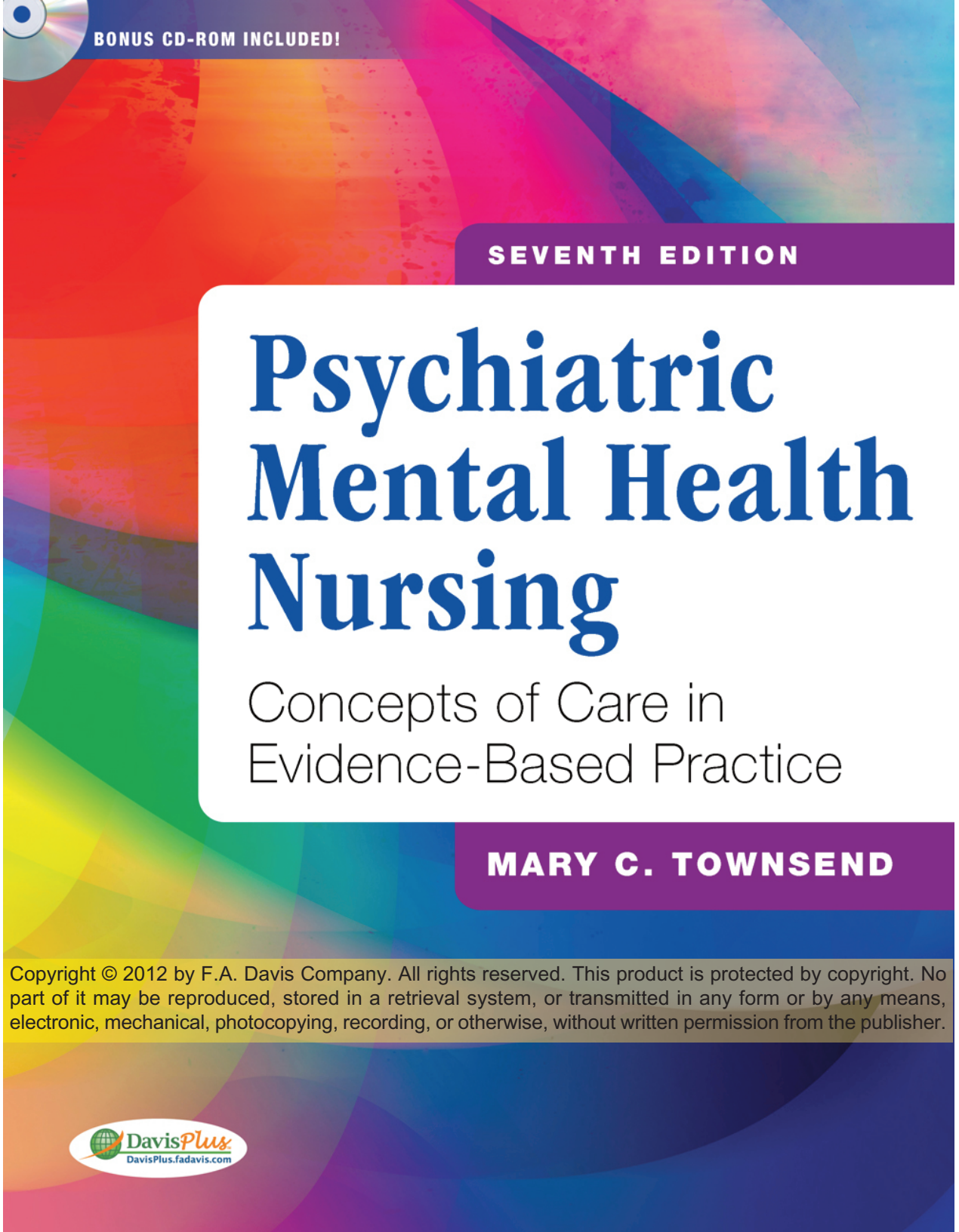

Welcome to the *Student Workbook to Accompany Psychiatric Mental Health Nursing: Concepts of Care in Evidence-Based Practice*

Learning about psychiatric nursing and working with clients in the hospital or community environment can be both challenging and rewarding. This workbook contains:

- Printable psychotropic drug monographs.
- Dozens of learning activities.
- Care plans and critical pathways.
- And a variety of handy clinical tools to help you in your course work.

Jump in, or read through this introduction to orient yourself before you begin.

How do I get started?

Click the "Contents" box in the lower right-hand corner of the page and choose a section of the workbook to view.

How do I navigate through the student Workbook?

There are several ways to navigate through the workbook. You can use the left and right arrows in the bottom right-hand corner of the screen to go to the previous page and next page respectively. You can also click the "Contents" button on any page to return to the Contents page and then select a section of the Student Workbook you wish to view. Finally, you can use the bookmarks on the left-side of the screen to jump to any area of the workbook.

What does the "index finger" mean?

When the hand icon changes to an "index finger," you can get more information about the topic by clicking your mouse once.

Can I enlarge or reduce a page?

Yes, there are several ways to enlarge and reduce the page. Using your keyboard, you can hold down the "Ctrl" key and hit the "+" key to zoom in or hold down the "Ctrl" key and hit the "−" key to zoom out. In addition, you can click the plus sign and minus sign icons on the toolbar at the top of the screen.

How do I return to the list of elements in each chapter?

Click the menu button in the lower left-hand corner of your screen. This button will contain the title of the section you currently are in.

How do I go back to the Table of Contents?

Click the "Contents" box in the lower right side of your screen.

Can I copy material and paste it into other programs?

Yes, there are several ways to copy material from the Student Workbook. Highlight the material you wish to copy. Then, using your keyboard, you can hold down the "Ctrl" key and hit "C" to copy the material. You can then switch to the program you wish to paste material into and hold down the "Ctrl" key and hit the "V" key paste. You can also use the options in the "Edit" menu at the top of the screen.

alprazolam
amitriptyline
aripiprazole
asenapine
atomoxetine
benztropine
bupropion
buspirone
carbamazepine
chlordiazepoxide
chlorpromazine
citalopram
clomipramine
clonazepam
clozapine
desvenlafaxine
dextroamphetamine
diazepam
doxepin
duloxetine
escitalopram
eszopiclone
fluoxetine
fluphenazine
flurazepam
fluvoxamine
gabapentin
guanfacine
haloperidol
iloperidone
imipramine
lamotrigine
lisdexamfetamine
lithium
lorazepam
lurasidone
methylphenidate (oral)
mirtazapine
monoamine oxidase (MAO) inhibitors
nefazodone
olanzapine
oxazepam
paliperidone
paroxetine hydrochloride
perphenazine
quetiapine
ramelteon
risperidone
sertraline
temazepam
thioridazine
thiothixene
topiramate
trazodone
triazolam
trihexyphenidyl
valproates
venlafaxine
vilazodone
zaleplon
ziprasidone
zolpidem

alprazolam

(al-**pray**-zoe-lam)

Apo-Alpraz, Novo-Alprazol, Niravam, Nu-Alpraz, Xanax, Xanax XR

CLASSIFICATION

Therapeutic: *antianxiety agents* ***Pharmacologic:*** *benzodiazepines*

Schedule IV

Pregnancy Category D

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Treatment of Generalized Anxiety Disorder (GAD).
- Panic Disorder.
- Management of anxiety associated with depression.
- **Unlabelled Use:**
  - Management of symptoms of premenstrual syndrome (PMS).
  - Insomnia, irritable bowel syndrome (IBS) and other somatic symptoms associated with anxiety.
  - Used as an adjunct with acute mania, acute psychosis.

ACTION

- Acts at many levels in the CNS to produce anxiolytic effect.
- May produce CNS depression.
- Effects may be mediated by GABA, an inhibitory neurotransmitter.
- Therapeutic Effects:
  - Relief of anxiety.

PHARMACOKINETICS

Absorption: Well absorbed (90%) from the GI tract; absorption is slower with extended-release tablets.

Distribution: Widely distributed, crosses blood-brain barrier. Probably crosses the placenta and enters breast milk. Accumulation is minimal.

Metabolism and Excretion: Metabolized by the liver (CYP3A4 enzyme system) to an active compound that is subsequently rapidly metabolized.

Half-life: 12–15 hr.

TIME/ACTION PROFILE (sedation)

ROUTE	ONSET	PEAK	DURATION
PO	1–2 hr	1–2 hr	up to 24 hr

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Cross-sensitivity with other benzodiazepines may exist.
- Pre-existing CNS depression.
- Severe uncontrolled pain.
- Angle-closure glaucoma, obstructive sleep apnea, pulmonary disease.
- Pregnancy and lactation.
- Concurrent itraconazole or ketoconazole.
- *OB/Lactation:* Use in pregnancy or lactation may cause CNS depression, flaccidity, feeding difficulties, and seizures in infant.

Use Cautiously in:

- Renal Impairment, Hepatic dysfunction (↓ dose required).
- Concurrent use with nefazodone, fluvoxamine, cimetidine, fluoxetine, hormonal contraceptives, propoxyphene, diltiazem, isoniazid, erythromycin, clarithromycin, grapefruit juice (↓ dose may be necessary).
- History of suicide attempt or alcohol/drug dependence, debilitated patients (↓ dose required).
- *Pedi:* Safety and efficacy not established.
- Decreased dosage and frequent monitoring required.
- *Geri:* Elderly patients have increased sensitivity to benzodiazepines.
- Appears on Beers list and is associated with increased risk of falls (↓ dose required) and excessive CNS effects.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: dizziness, drowsiness, lethargy, confusion, hangover, headache, mental depression, paradoxical excitation.

EENT: blurred vision.

GI: constipation, diarrhea, nausea, vomiting, weight gain.

Derm: rashes.

Misc: physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:

- **Alcohol**, **antidepressants**, other **benzodiazepines**, **antihistamines**, and **opioid analgesics**—concurrent use results in ↑ CNS depression.
- **Hormonal contraceptives**, **disulfiram**, **fluoxetine**, **isoniazid**, **metoprolol**, **propoxyphene**, **propranolol**, **valproic acid**, **CYP3A4 inhibitors** (**erythromycin**, **ketoconazole**, **itraconazole**, **fluvoxamine**, **cimetidine**, **nefazodone**) ↓ metabolism of alprazolam, ↑ blood levels and ↑ its actions (dose adjustments may be necessary).
- May ↓ efficacy of **levodopa**.
- **CYP3A4 inducers** (**rifampin**, **carbamazepine**, or **barbiturates**) ↑ metabolism and ↓ effects of alprazolam.
- Sedative effects may be ↓ by **theophylline**.
- **Cigarette smoking** ↓ blood levels and effects.

Drug-Natural:

- **Kava-kava**, **valerian**, or **chamomile** can ↑ CNS depression.

Drug-Food:

- Concurrent ingestion of **grapefruit juice** ↑ blood levels.

Continued on the following page

ROUTE/DOSAGE

Anxiety

- **PO (Adults):** 0.25–0.5 mg 2–3 times daily (not >4 mg/day; begin with 0.25 mg 2–3 times daily in geriatric/debilitated patients).

Panic Attacks

- **PO (Adults):** 0.5 mg 3 times daily; may be increased by 1 mg or less every 3–4 days as needed (not >10 mg/day). *Extended–release tablets (Xanax XR)*— 0.5–1 mg once daily in the morning, may be increased every 3–4 days by not more than 1 mg/day; up to 10 mg/day (usual range 3–6 mg/day).

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 0.25 mg, 0.5 mg, 1 mg, 2 mg
  - **Cost:** 0.25 mg $98.21/100, 0.5 mg $122.35/100, 1 mg $163.25/100, 2 mg $277.56/100.
- ***Extended-release tablets:*** 0.5 mg, 1 mg, 2 mg, 3 mg.
- ***Orally disintegrating tablets (orange):*** 0.25 mg, 0.5 mg, 1 mg, 2 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Assess degree and manifestations of anxiety and mental status (orientation, mood, behavior) prior to and periodically during therapy.
- Assess patient for drowsiness, light-headedness, and dizziness. These symptoms usually disappear as therapy progresses. Dose should be reduced if these symptoms persist.
- *Geri:* Assess CNS effects and risk of falls. Institute falls prevention strategies.
- Prolonged high-dose therapy may lead to psychological or physical dependence. Risk is greater in patients taking >4 mg/day. Restrict the amount of drug available to patient. Assess regularly for continued need for treatment.
- *Lab Test Considerations:* Monitor CBC and liver and renal function periodically during long-term therapy. May cause ↓ hematocrit and neutropenia.
- *Toxicity and Overdose:* Flumazenil is the antidote for alprazolam toxicity or overdose. (Flumazenil may induce seizures in patients with a history of seizures disorder or who are on tricyclic antidepressants.).

POTENTIAL NURSING DIAGNOSES

- Anxiety (Indications)
- Risk for injury (Side Effects)
- Risk for falls (Side Effects)

IMPLEMENTATION

- Do not confuse Xanax (alprazolam) with Zantac (ranitidine).
- If early morning anxiety or anxiety between doses occurs, the same total daily dose should be divided into more frequent intervals.
- **PO:** May be administered with food if GI upset occurs. Administer greatest dose at bedtime to avoid daytime sedation.
- Tablets may be crushed and taken with food or fluids if patient has difficulty swallowing. Do not crush, break, or chew extended-release tablets.
- Taper by 0.5 mg q 3 days to prevent withdrawal. Some patients may require longer tapering period (months).
- For *orally disintegrating tablets:* Remove tablet from bottle with dry hands just prior to taking medication. Place tablet on tongue. Tablet will dissolve with saliva; may also be taken with water. Remove cotton from bottle and reseal tightly to prevent moisture from entering bottle. If only $^1/_2$ tablet taken, discard unused portion immediately; may not remain stable .

Continued on the following page

PATIENT/FAMILY TEACHING

- Instruct patient to take medication exactly as directed; do not skip or double up on missed doses. If a dose is missed, take within 1 hr; otherwise, skip the dose and return to regular schedule. If medication is less effective after a few weeks, check with health care professional; do not increase dose. Abrupt withdrawal may cause sweating, vomiting, muscle cramps, tremors, and seizures.
- May cause drowsiness or dizziness. Caution patient to avoid driving and other activities requiring alertness until response to the medication is known.
- *Geri:* Instruct patient and family how to reduce falls risk at home.
- Advise patient to avoid drinking grapefruit juice during therapy.
- Advise patient to avoid the use of alcohol or other CNS depressants concurrently with alprazolam. Instruct patient to consult health care professional before taking Rx, OTC, or herbal products concurrently with this medication.
- Inform patient that benzodiazepines are usually prescribed for short-term use and do not cure underlying problems.
- Teach other methods to decrease anxiety (exercise, support group, relaxation techniques).
- Advise patient to not share medication with anyone.

EVALUATION/DESIRED OUTCOMES

- Decreased sense of anxiety without CNS side effects.
- Decreased frequency and severity of panic attacks.
- Decreased symptoms of premenstrual syndrome.

amitriptyline

(a-mee-trip-ti-leen)

♣Apo-Amitriptyline, ♣Elavil, ♣Levate

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *tricyclic antidepressants*

Pregnancy Category C

♣= Genetic implication.

♣= Canadian drug name.

INDICATIONS

- Depression.
- **Unlabelled Use:**
  - Anxiety, insomnia, treatment-resistant depression.
  - Chronic pain syndromes (i.e., fibromyalgia, neuropathic pain/chronic pain, headache, low back pain).

ACTION

- Potentiates the effect of serotonin and norepinephrine in the CNS.
- Has significant anticholinergic properties.
- Therapeutic Effects:
  - Antidepressant action.

PHARMACOKINETICS

Absorption: Well absorbed from the GI tract.

Distribution: Widely distributed

Protein Binding: 95% bound to plasma proteins.

Metabolism and Excretion: Extensively metabolized by the liver. Some metabolites have antidepressant activity. Undergoes enterohepatic recirculation and secretion into gastric juices. Probably crosses the placenta and enters breast milk.

Half-life: 10–50 hr.

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
PO	2–3 wk (up to 30 days)	2–6 wk	days–wk

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Angle-closure glaucoma.
- Known history of QTc prolongation, recent MI, heart failure.

Continued on the following page

Use Cautiously in:

- May ↑ risk of suicide attempt/ideation especially during dose early treatment or dose adjustment; risk may be greater in children or adolescents.
- Patients with pre-existing cardiovascular disease.
- Prostatic hyperplasia (increased risk of urinary retention).
- History of seizures (threshold may be ↓).
- *OB:* Use only if clearly needed and maternal benefits outweigh risk to fetus.
- *Lactation:* May cause sedation in infant.
- *Pedi:* Safety not established in children <12 yr.
- *Geri:* Appears on Beers list. ↑ risk of adverse reactions including falls secondary to sedative and anticholinergic effects.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SUICIDAL THOUGHTS, lethargy, sedation.

EENT: blurred vision, dry eyes, dry mouth.

CV: ARRHYTHMIAS, hypotension.

ECG changes.

GI: constipation, hepatitis, paralytic ileus, increased appetite, weight gain.

GU: urinary retention, ↓ libido.

Derm: photosensitivity.

Endo: changes in blood glucose, gynecomastia.

Hemat: blood dyscrasias.

INTERACTIONS

Drug-Drug:

- Amitriptyline is metabolized in the liver by the cytochrome P450 2D6 enzyme, and its action may be affected by drugs that compete for metabolism by this enzyme, including other **antidepressants**, **phenothiazines**, **carbamazepine**, **class 1C antiarrhythmics** including **propafenone**, and **flecainide**; when these drugs are used concurrently with amitriptyline, dosage ↓ of one or the other or both may be necessary.
- Concurrent use of other drugs that inhibit the activity of the enzyme, including **cimetidine**, **quinidine**, **amiodarone**, and **ritonavir**, may result in ↑ effects of amitriptyline.
- May cause hypotension, tachycardia, and potentially fatal reactions when used with **MAO inhibitors** (avoid concurrent use—discontinue 2 wk before starting amitriptyline).
- Concurrent use with **SSRI antidepressants** may result in ↑ toxicity and should be avoided (**fluoxetine** should be stopped 5 wk before starting amitriptyline).
- Concurrent use with **clonidine** may result in hypertensive crisis and should be avoided.
- Concurrent use with **levodopa** may result in delayed or ↓ absorption of levodopa or hypertension. Blood levels and effects may be ↓ by **rifamycins** (**rifampin**, **rifapentine**, and **rifabutin**).
- Concurrent use with **moxifloxacin** ↑ risk of adverse cardiovascular reactions. ↑ CNS depression with other **CNS depressants** including **alcohol**, **antihistamines**, **clonidine**, **opioids**, and **sedative/hypnotics**. **Barbiturates** may alter blood levels and effects. **Adrenergic** and **anticholinergic** side effects may be ↑ with other agents having **anticholinergic** properties. **Phenothiazines** or **oral contraceptives** ↑ levels and may cause toxicity. **Nicotine** may ↑ metabolism and alter effects.

Drug-Natural:

- **St. John's wort** may decrease serum concentrations and efficacy.
- Concomitant use of **kava-kava**, **valerian**, or **chamomile** can increase CNS depression.
- Increased anticholinergic effects with **jimson weed** and **scopolia**.

Continued on the following page

ROUTE/DOSAGE

- **PO (Adults):** 75 mg/day in divided doses; may be increased up to 150 mg/day *or* 50–100 mg at bedtime, may increase by 25–50 mg up to 150 mg (in hospitalized patients, may initiate with 100 mg/day, increasing total daily dose up to 300 mg).
- **PO (Geriatric Patientsand Adolescents):** 10 mg tid and 20 mg at bedtime *or* 25 mg at bedtime initially, slowly increased to 100 mg/day as a single bedtime dose or divided doses.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 10 mg, 25 mg, 50 mg, 75 mg, 100 mg, 150 mg
  - **Cost:** *Generic*—10 mg $13.32/100, 25 mg $12.22/100, 50 mg $14.20/100, 75 mg $12.21/100, 100 mg $12.21/100, 150 mg $24.42/100.
- ***Syrup:*** 10 mg/5 mL.

NURSING IMPLICATIONS

ASSESSMENT

- Obtain weight and BMI initially and periodically during treatment.
- Assess fasting glucose and cholesterol levels in overweight/obese individuals.
- Monitor blood pressure and pulse before and during initial therapy. Notify health care professional of decreases in blood pressure (10–20 mm Hg) or sudden increase in pulse rate. Patients taking high doses or with a history of cardiovascular disease should have ECG monitored before and periodically during therapy.
- **Depression:** Monitor mental status (orientation, mood behavior) frequently. Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient.
- Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yrs. After starting therapy, children, adolescents, and young adults should be seen by health care professional at least weekly for 4 wk, every 3 wk for next 4 wk, and on advice of health care professional thereafter.
- **Pain:** Assess intensity, quality, and location of pain periodically during therapy. May require several weeks for effects to be seen. Use pain scale to monitor effectiveness of medication. Assess for sexual dysfunction (decreased libido; erectile dysfunction).
- *Geri:* Geriatric patients started on amitriptyline may be at an increased risk for falls; start with low dose and monitor closely. Assess for anticholinergic effects (weakness and sedation).
- *Lab Test Considerations:* Assess leukocyte and differential blood counts, liver function, and serum glucose before and periodically during therapy. May cause an ↑ serum bilirubin and alkaline phosphatase. May cause bone marrow depression. Serum glucose may be ↑ or ↓.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Chronic pain (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Dose increases should be made at bedtime because of sedation. Dose titration is a slow process; may take weeks to months. May give entire dose at bedtime. Sedative effect may be apparent before antidepressant effect is noted. May require tapering to avoid withdrawal effects.
- **PO:** Administer medication with or immediately after a meal to minimize gastric upset. Tablet may be crushed and given with food or fluids.

Continued on the following page

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed. If a dose is missed, take as soon as possible unless almost time for next dose; if regimen is a single dose at bedtime, do not take in the morning because of side effects. Advise patient that drug effects may not be noticed for at least 2 wk. Abrupt discontinuation may cause nausea, vomiting, diarrhea, headache, trouble sleeping with vivid dreams, and irritability.
- May cause drowsiness and blurred vision. Caution patient to avoid driving and other activities requiring alertness until response to drug is known.
- Orthostatic hypotension, sedation, and confusion are common during early therapy, especially in geriatric patients. Protect patient from falls and advise patient to make position changes slowly. Institute fall precautions. Advise patient to make position changes slowly. Refer as appropriate for nutrition/weight management and medical management.
- Advise patient to avoid alcohol or other CNS depressant drugs during and for 3–7 days after therapy has been discontinued.
- Advise patient, family and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide, new or worse depression or anxiety, agitation or restlessness, panic attacks, insomnia, new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior occur.
- Instruct patient to notify health care professional if urinary retention, dry mouth, or constipation persists. Sugarless candy or gum may diminish dry mouth, and an increase in fluid intake or bulk may prevent constipation. If symptoms persist, dose reduction or discontinuation may be necessary. Consult health care professional if dry mouth persists for >2 wk.
- Caution patient to use sunscreen and protective clothing to prevent photosensitivity reactions. Alert patient that medication may turn urine blue-green in color.
- Inform patient of need to monitor dietary intake. Increase in appetite may lead to undesired weight gain.
- Advise patient to notify health care professional if pregnancy is planned or suspected or if breastfeeding.
- Advise patient to notify health care professional of medication regimen before treatment or surgery. Medication should be discontinued as long as possible before surgery.
- Therapy for depression is usually prolonged and should be continued for at least 3 months to prevent relapse. Emphasize the importance of follow-up exams to monitor effectiveness, side effects, and improve coping skills. Advise patient and family that treatment is not a cure and symptoms can recur after discontinuation of medication. Refer patient to local support group.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings.
- Increased appetite.
- Improved energy level.
- Improved sleep.
- Decrease in chronic pain symptoms.
- Full therapeutic effects may be seen 2–6 wk after initiating therapy.

aripiprazole

(a-ri-**pip**-ra-zole)

Abilify

CLASSIFICATION

Therapeutic: *antipsychotics, mood stabilizers* ***Pharmacologic:*** *dihydrocarbostyril*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Schizophrenia.
- Acute and maintenance therapy of manic and mixed episodes associated with bipolar disorder (as monotherapy or with lithium or valproate).
- Adjunct treatment of depression in adults.
- Agitation associated with schizophrenia or bipolar disorder.

ACTION

- Psychotropic activity may be due to agonist activity at dopamine D_2 and serotonin 5-HT_{1A} receptors and antagonist activity at the 5-HT_{2A} receptor.
- Also has $alpha_1$ adrenergic blocking activity.
- Therapeutic Effects:
  - Decreased manifestations of schizophrenia.
  - Decreased mania in bipolar patients.
  - Decreased symptoms of depression.
  - Decreased agitation associated with schizophrenia or bipolar disorder.

PHARMACOKINETICS

Absorption: Well absorbed (87%) following oral administration; 100% following IM injection.

Distribution: Extensive extravascular distribution.

Protein Binding: *aripiprazole and dehydro-aripiprazole*—>99%.

Metabolism and Excretion: Mostly metabolized by the liver (CYP3A4 and CYP2D6 isoenzymes); 🍁 the CYP2D6 enzyme system exhibits genetic polymorphism; <7% of population may be poor metabolizers and may have significantly ↑ aripiprazole concentrations and an ↑ risk of adverse effects (may need smaller doses); one metabolite (dehydro-aripiprazole) has antipsychotic activity. 18% excreted unchanged in feces; <1% excreted unchanged in urine.

Half-life: *Aripiprazole*—75 hr; *dehydro-aripiprazole—94 hr*.

TIME/ACTION PROFILE (antipsychotic effect)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	2 wk	unknown
IM	unknown	1–3 hr	unknown

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- *Lactation:*
  - Presumed to be excreted in breast milk.
  - discontinue drug or bottle feed.

Use Cautiously in:

- Known cardiovascular or cerebrovascular disease.
- Conditions which cause hypotension (dehydration, treatment with antihypertensives or diuretics).
- Diabetes (may ↑ risk of hyperglycemia).
- Seizure disorders.
- Patients at risk for aspiration pneumonia.
- Concurrent ketoconazole or other potential CYP3A4 inhibitors (↓ aripiprazole dose by 50%).
- Concurrent quinidine, fluoxetine, paroxetine, or other potential CYP2D6 inhibitors.
- Concurrent carbamazepine or other potential CYP3A4 inducers.
- *OB:* Use only if benefit outweighs risk to fetus.
- *Pedi:* May ↑ risk of suicide attempt/ideation especially during dose early treatment or dose adjustment; risk may be greater in children, adolescents, and young adults taking antidepressants (safe use in children/adolescents not established).
- *Geri:* ↑ risk of mortality in elderly patients treated for dementia-related psychosis.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SUICIDAL THOUGHTS, drowsiness, extrapyramidal reactions, akathisia, confusion, depression, fatigue, hostility, insomnia, lightheadedness, manic reactions, impaired cognitive function, nervousness, restlessness, seizures, tardive dyskinesia.

Resp: dyspnea.

CV: bradycardia, chest pain, edema, hypertension, orthostatic hypotension, tachycardia.

EENT: blurred vision, conjunctivitis, ear pain.

GI: constipation, anorexia, ↑ salivation, nausea, vomiting, weight loss.

GU: urinary incontinence.

Hemat: AGRANULOCYTOSIS, anemia, leukopenia, neutropenia.

Derm: dry skin, ecchymosis, skin ulcer, sweating.

MS: muscle cramps, neck pain.

Metab: hyperglycemia.

Neuro: abnormal gait, tremor.

Misc: NEUROLEPTIC MALIGNANT SYNDROME, ↓ heat regulation.

INTERACTIONS

Drug-Drug:

- **Ketoconazole** or **other potential CYP3A4 inhibitors** ↓ metabolism and ↑ effects (↓ aripiprazole dose by 50%).
- **Quinidine**, **fluoxetine**, **paroxetine**, or **other potential CYP2D6 inhibitors** ↓ metabolism and ↑ effects (↓ aripiprazole dose by at least 50%).
- Concurrent **carbamazepine** or **other potential CYP3A4 inducers** ↑ metabolism and ↓ effects (double aripiprazole dose. then ↓ to 10–15 mg/day when interfering drug is withdrawn).

ROUTE/DOSAGE

Schizophrenia

- **PO (Adults):** 10 or 15 mg daily; doses up to 30 mg/day have been used; increments in dosing should not be made before 2 wk at a given dose.

Continued on the following page

- **PO (Children13–17 yr):** 2 mg daily; ↑ to 5 mg daily after 2 days, and then to target dose of 10 mg daily after another 2 days; may further ↑ dose in 5-mg increments if needed (max: 30 mg/day).

Bipolar mania

- **PO (Adults):** 15 mg daily as monotherapy or with lithium or valproate; may ↑ to 30 mg daily, based on response.
- **PO (Children10–17 yr):** 2 mg daily; ↑ to 5 mg daily after 2 days, and then to target dose of 10 mg daily after another 2 days; may further ↑ dose in 5-mg increments if needed (max: 30 mg/day).

Depression

- **PO (Adults):** 2–5 mg daily, may titrate upward at 1-wk intervals to 5–10 mg daily; not to exceed 15 mg/day.

Agitation Associated with Schizophrenia or Bipolar Disorder

- **IM (Adults):** 9.75 mg/day, may use a dose of 5.25 mg based on clinical situation. May give additional doses up to a cumulative dose of 30 mg/day, if needed.

AVAILABILITY

- ***Tablets:*** 2 mg, 5 mg, 10 mg, 15 mg, 20 mg, 30 mg
  - **Cost:** 2 mg $999.90/90, 5 mg $999.90/90, 10 mg $1,035.88/90, 15 mg $999.88/90, 20 mg $1,375.83/90, 30 mg $1,375.83/90.
- ***Tablets, orally disintegrating:*** 10 mg, 15 mg.
- ***Oral solution (orange cream):*** 1 mg/mL.
- ***Injection:*** 9.75 mg/1.3 mL single-dose vials.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status (orientation, mood, behavior) before and periodically during therapy. Assess for suicidal tendencies, especially during early therapy for depression. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yrs.
- Assess weight and BMI initially and throughout therapy.
- Obtain fasting blood glucose and cholesterol levels initially and periodically during therapy.
- Monitor blood pressure (sitting, standing, lying), pulse, and respiratory rate before and periodically during therapy.
- Observe patient carefully when administering medication to ensure that medication is actually taken and not hoarded or cheeked.
- Monitor patient for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill rolling of hands, masklike face, shuffling gait, rigidity, tremors; and *dystonic*—muscle spasms, twisting motions, twitching, inability to move eyes, weakness of arms or legs) periodically throughout therapy. Report these symptoms.
- Monitor for tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities; lip smacking or puckering; puffing of cheeks; uncontrolled chewing; rapid or worm-like movements of tongue). Notify health care professional immediately if these symptoms occur, as these side effects may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, muscle rigidity, altered mental status, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness, loss of bladder control). Notify health care professional immediately if these symptoms occur.
- *Lab Test Considerations:* May cause ↑ creatinine phosphokinase.
- Monitor CBC frequently during initial months of therapy in patients with pre-existing or history of low WBC. May cause leukopenia, neutropenia, or agranulocytosis. Discontinue therapy if this occurs.

Continued on the following page

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Indications)
- Imbalanced nutrition: risk for more than body requirements (Side Effects)

IMPLEMENTATION

- **PO:** Administer once daily without regard to meals.
- Do not open the blister until ready to administer. For single tablet removal, open the package and peel back the foil on the blister to expose the tablet. Do not push the tablet through the foil; may damage tablet. Immediately upon opening the blister, using dry hands, remove the tablet and place the entire orally disintegrating tablet on the tongue. Tablet disintegration occurs rapidly in saliva. Take tablet without liquid; but if needed, it can be taken with liquid. Do not attempt to split the tablet.
- **IM:** IM route should be used for agitation. Convert to oral dose as soon as possible. Administer IM; for dose of 5.25 mg use 0.7 mL, 9.75 mg use 1.3 mL, and 15 mg use 2 mL of aripiprazole solution. Solution should be clear and colorless; do not administer solutions that are discolored or contain a precipitate.

PATIENT/FAMILY TEACHING

- Advise patient to take medication as directed and not to skip doses or double up on missed doses. Take missed doses as soon as remembered unless almost time for the next dose.
- Inform patient of possibility of extrapyramidal symptoms and tardive dyskinesia. Instruct patient to report these symptoms immediately.
- Advise patient to make position changes slowly to minimize orthostatic hypotension.
- Medication may cause drowsiness and lightheadedness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking; other unusual changes in behavior or mood occur.
- Caution patient to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Advise patient that extremes in temperature should be avoided, because this drug impairs body temperature regulation.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Emphasize the importance of routine follow-up exams and continued participation in psychotherapy as indicated.

EVALUATION/DESIRED OUTCOMES

- Decrease in excitable, paranoic, or withdrawn behavior.
- Decrease incidence of mood swings in patients with bipolar disorders.
- Increased sense of well-being in patients with depression.
- Decreased agitation associated with schizophrenia or bipolar disorder.

asenapine

(a-**sen**-a-peen)

Saphris

CLASSIFICATION

Therapeutic: *antipsychotics, mood stabilizers* ***Pharmacologic:*** *dibenzo-oxepino pyrroles*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Acute treatment of schizophrenia.
- Acute treatment of manic/mixed episodes associated with bipolar I disorder.

ACTION

- May act through combined antagonism of dopaminergic (D_2) and 5-HT_{2A} receptors.
- Therapeutic Effects:
  - Decreased symptoms of acute schizophrenia and mania/mixed episodes of bipolar I disorder.

PHARMACOKINETICS

Absorption: 35% absorbed following sublingual administration.

Distribution: Rapidly distributed throughout the body. Vd is approximately 20–25 L/kg: 95% bound to plasma proteins.

Metabolism and Excretion: Highly metabolized; primarily by CYP1A2 and UGTA14 enzyme systems 50% excreted in urine, 40% in feces, primarily as metabolites.

Half-life: 24 hr.

TIME/ACTION PROFILE (antipsychotic effect)

ROUTE	ONSET	PEAK	DURATION
SL	unknown	0.5–1.5 hr†	12–24 hr

†Blood levels.

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Dementia-related psychoses
- Severe hepatic impairment
- *Lactation:* Avoid use during lactation.

Use Cautiously in:

- History of cardiac arrhythmias, congenital QT prolongation, electrolyte abnormalities (especially hypomagnesemia or hypokalemia; correct prior to use) or concurrent use of medications known to prolong the QTc interval; may ↑ risk of life-threatening arrhythmias.
- History of seizures or conditions/medications known to ↓ seizure threshhold.

Continued on the following page

- History of leukopenia/neutropenia.
- Strenuous exercise, exposure to extreme heat, concurrent medications with anticholinergic activity, or risk of dehydration.
- *Geri:* ↑ risk of adverse reactions; consider age-related ↓ in hepatic function, cardiovascular status, and concurrent medications; History of suicide attempt.
- *Geri:* ↑ risk of mortality in elderly patients treated for dementia-related psychosis.
- *OB:* Use only when potential benefit justifies the potential risk.
- *Pedi:* safe and effective use has not been established.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SEIZURES, SUICIDAL THOUGHTS, akathisia, dizziness, drowsiness, extrapyramidal symptoms, anxiety, fatigue, syncope, tardive dyskinesia.

CV: bradycardia, orthostatic hypotension, QTc prolongation, tachycardia.

GI: oral hypoesthesia, dry mouth, dyspepsia.

Endo: hyperglycemia, hyperprolactinemia.

Metab: weight gain, ↑ appetite.

INTERACTIONS

Drug-Drug:

- Concurrent use of **drugs known to prolong QTc** including **Class 1A antiarrhythmics** such as **quinidine** and **procainamide** or **Class 3 antiarrhythmics** including **amiodarone** and **sotalol** or other **antipsychotics** including **ziprasidone**, **chlorpromazine** or **thioridazine** or certain **antibiotics** such as **gatifloxacin** or **moxifloxacin**; may ↑ risk of torsade de pointes and/or sudden death.
- Concurrent use should be avoided.
- **Fluvoxamine**, a strong inhibitor of CYP1A2, ↑ levels and risk of toxicity; use cautiously.
- Similar effects may occur with **paroxetine**, a CYP2D6 substrate and inhibitor.
- Drugs having similar properties (**substrates/inhibitors of CYP2D6**) should also be used cautiously with asenapine.
- ↑ risk of CNS depression with other **CNS depressants** including **antihistamines**, some **antidepressants**, **sedative/hypnotics**, and **alcohol**.

ROUTE/DOSAGE

- **SL (Adults):** *Schizophrenia*—5 mg twice daily; *Bipolar Disorder*—10 mg twice daily, may be decreased to 5 mg twice daily if tolerated poorly.

AVAILABILITY

- **Sublingual tablets:** 5 mg, 10 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status (orientation, mood, behavior) before and periodically during therapy. Assess for suicidal tendencies. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yrs.
- Assess weight and BMI initially and throughout therapy.
- Monitor blood pressure (sitting, standing, lying) and pulse before and periodically during therapy.
- Observe patient carefully when administering medication to ensure that medication is actually taken and not hoarded or cheeked.
- Monitor patient for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill rolling of hands, masklike face, shuffling gait, rigidity, tremors; and *dystonic*—muscle spasms, twisting motions, twitching,

Continued on the following page

inability to move eyes, weakness of arms or legs) periodically throughout therapy. Report these symptoms.
- Monitor for tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities; lip smacking or puckering; puffing of cheeks; uncontrolled chewing; rapid or worm-like movements of tongue). Notify health care professional immediately if these symptoms occur, as these side effects may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, muscle rigidity, altered mental status, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness, loss of bladder control). Discontinue asenapine and notify health care professional immediately if these symptoms occur.
- Monitor for symptoms related to hyperprolactinemia (menstrual abnormalities, galactorrhea, sexual dysfunction).
- *Lab Test Considerations:* Obtain fasting blood glucose and cholesterol levels initially and periodically during therapy.
- Monitor CBC frequently during initial months of therapy in patients with pre-existing or history of low WBC. May cause leukopenia, neutropenia, or agranulocytosis. Monitor patients with neutropenia for fever or other symptoms of infection and treat promptly. Discontinue therapy if ANC <1000/mm^3 occurs.
- May cause transient ↑ in serum ALT.

POTENTIAL NURSING DIAGNOSES
- Disturbed thought process (Indications)

IMPLEMENTATION
- **SL:** Open packet immediately before use by firmly pressing thumb button and pulling out tablet pack.
- Do not push tablet through or cut or tear tablet pack.
- Peel back colored tab and gently remove tablet.
- Place tablet under tongue and allow to dissolve completely; dissolves in saliva within seconds.
- Avoid eating or drinking for 10 min after administration.
- Slide tablet pack back into case until it clicks.

PATIENT/FAMILY TEACHING
- Advise patient to take medication as directed and not to skip doses or double up on missed doses. Take missed doses as soon as remembered unless almost time for the next dose.
- Inform patient of possibility of extrapyramidal symptoms and tardive dyskinesia. Instruct patient to report these symptoms immediately.
- Advise patient to make position changes slowly to minimize orthostatic hypotension.
- Medication may cause drowsiness and dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking; other unusual changes in behavior or mood occur.
- Caution patient to notify health care professional before taking other Rx, OTC, or herbal products and to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Advise patient that extremes in temperature should be avoided, because this drug impairs body temperature regulation.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Advise female patients to notify health care professional if pregnancy is planned or suspected and to avoid breastfeeding during therapy.
- Emphasize the importance of routine follow-up exams and continued participation in psychotherapy as indicated.

EVALUATION/DESIRED OUTCOMES
- Decrease in excitable, paranoic, or withdrawn behavior.
- Decrease incidence of mood swings in patients with bipolar disorders.
- Decreased agitation associated with schizophrenia or bipolar disorder.

atomoxetine

(a-to-**mox**-e-teen)

Strattera

CLASSIFICATION

Therapeutic: *agents for attention deficit disorder* ***Pharmacologic:*** *selective norepinephrine reuptake inhibitors*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Attention-Deficit/Hyperactivity Disorder (ADHD).

ACTION

- Selectively inhibits the presynaptic transporter of norepinephrine.
- Therapeutic Effects:
  - Increased attention span.

PHARMACOKINETICS

Absorption: Well absorbed following oral administration.

Distribution: Unknown.

Protein Binding: 98%.

Metabolism and Excretion: Mostly metabolized by the liver (CYP2D6 enzyme pathway). 🍁 A small percentage of the population are poor metabolizers and will have higher blood levels with ↑ effects.

Half-life: 5 hr.

TIME/ACTION PROFILE

ROUTE	ONSET	PEAK	DURATION
PO	unknown	1–2 hr	12–24 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Concurrent or within 2 wk therapy with MAO inhibitors.
- Angle-closure glaucoma.

Use Cautiously in:

- Hypertension, tachycardia, cardiovascular or cerebrovascular disease.
- Pre-existing psychiatric illness.
- May ↑ risk of suicide attempt/ideation especially during dose early treatment or dose adjustment; risk may be greater in children or adolescents.
- Concurrent albuterol or vasopressors (↑ risk of adverse cardiovascular reactions).
- *OB:* Use only if benefits outweigh risks to fetus.
- *Lactation/Pedi:* Safety not established.

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ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SUICIDAL THOUGHTS, dizziness, fatigue, mood swings, behavioral disturbances, hallucinations, mania, thought disorder

Adults: insomnia.

CV: hypertension, orthostatic hypotension, syncope, tachycardia.

GI: dyspepsia, severe liver injury (rare), nausea, vomiting

Adults: dry mouth, constipation.

Derm: rash, urticaria.

GU: Adults: dysmenorrhea, ejaculatory problems, ↓ libido, erectile dysfunction, urinary hesitation, urinary retention.

Metab: ↓ appetite, weight/growth loss.

Misc: ALLERGIC REACTIONS INCLUDING ANGIONEUROTIC EDEMA.

INTERACTIONS

Drug-Drug:

- Concurrent use with **MAO inhibitors** may result in serious, potentially fatal reactions (do not use within 2 wk of each other).
- ↑ risk of cardiovascular effects with **albuterol** or **vasopressors** (use cautiously).
- **Drugs which inhibit the CYP2D6 enzyme pathway** (**quinidine**, **fluoxetine**, **paroxetine**) will increase blood levels and effects, dose ↓ recommended.

ROUTE/DOSAGE

- **PO (Children and adolescents <70 kg):** 0.5 mg/kg/day initially, may be ↑ every 3 days to a daily target dose of 1.2 mg/kg, given as a single dose in the morning or evenly divided doses in the morning and late afternoon/early evening (not to exceed 1.4 mg/kg/day or 100 mg/day whichever is less). *If taking concurrent CYP2D6 inhibitor (quinidine, fluoxetine, paroxetine)*—0.5 mg/kg/day initially, may ↑ if needed to 1.2 mg/kg/day after 4 wk.
- **PO (Adults, adolescents, and children >70 kg):** 40 mg/day initially, may be ↑ every 3 days to a daily target dose of 80 mg/day given as a single dose in the morning or evenly divided doses in the morning and late afternoon/early evening; may be further ↑ after 2–4 wk up to 100 mg/day. *If taking concurrent CYP2D6 inhibitor (quinidine, fluoxetine, paroxetine)*—40 mg/day initially, may ↑ if needed to 80 mg/day after 4 wk.

Hepatic Impairment

- PO (Adults and Children): *Moderate hepatic impairment (Child-Pugh Class B)*—↓ initial and target dose by 50%; *Severe hepatic impairment (Child-Pugh Class C)*—↓ initial and target dose to 25% of normal.

AVAILABILITY

- ***Capsules:*** 10 mg, 18 mg, 25 mg, 40 mg, 60 mg, 80 mg, 100 mg
  - **Cost:** 10 mg $368.58/90, 18 mg $433.13/90, 25 mg $369.98/90, 40 mg $389.95/90, 60 mg $389.95/90, 80 mg $435.93/90, 100 mg $439.96/90.

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NURSING IMPLICATIONS

ASSESSMENT

- Assess attention span, impulse control, and interactions with others.
- Monitor blood pressure and pulse periodically during therapy. Obtain a history (including assessment of family history of sudden death or ventricular arrhythmia), physical exam to assess for cardiac disease, and further evaluation (ECG and echocardiogram), if indicated. If exertional chest pain, unexplained syncope, or other cardiac symptoms occur, evaluate promptly.
- Monitor growth, body height, and weight in children.
- Assess for signs of liver injury (pruritus, dark urine, jaundice, right upper quadrant tenderness, unexplained "flu-like" symptoms) during therapy. Monitor liver function tests at first sign of liver injury. Discontinue and do not restart atomoxetine in patients with jaundice or laboratory evidence of liver injury.
- Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Indications)
- Impaired social interaction (Indications)

IMPLEMENTATION

- **PO:** Administer without regard to food.
- Capsules should be swallowed whole; do not open, crush, or chew.
- Doses may be discontinued without tapering.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed. Take missed doses as soon as possible, but should not take more than the total daily amount in any 24-hr period. Advise patient and parents to read the *Medication Guide* prior to starting therapy and with each Rx refill.
- Inform patient that sharing this medication may be dangerous.
- Advise patient to notify health care professional immediately if signs of liver injury occur.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking; other unusual changes in behavior or mood occur.
- Caution patient to consult health care professional prior to taking other Rx, OTC, dietary supplements, or herbal products.
- May cause dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise female patients to notify health care professional if pregnancy is planned or suspected or if they are breastfeeding.
- *Pedi:* Advise parents to notify school nurse of medication regimen.

EVALUATION/DESIRED OUTCOMES

- Improved attention span and social interactions in ADHD.

benztropine

(**benz**-troe-peen)

Apo-Benztropine, Cogentin

CLASSIFICATION

Therapeutic: *antiparkinson agents* ***Pharmacologic:*** *anticholinergics*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Adjunctive treatment of all forms of Parkinson's disease, including drug-induced extrapyramidal effects and acute dystonic reactions.

ACTION

- Blocks cholinergic activity in the CNS, which is partially responsible for the symptoms of Parkinson's disease.
- Restores the natural balance of neurotransmitters in the CNS.
- Therapeutic Effects:
  - Reduction of rigidity and tremors.

PHARMACOKINETICS

Absorption: Well absorbed following PO and IM administration.

Distribution: Unknown.

Metabolism and Excretion: Unknown.

Half-life: Unknown.

TIME/ACTION PROFILE (antidyskinetic activity)

ROUTE	ONSET	PEAK	DURATION
PO	1–2 hr	several days	24 hr
IM, IV	within min	unknown	24 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Children <3 yr.
- Angle-closure glaucoma.
- Tardive dyskinesia.

Use Cautiously in:

- Prostatic hyperplasia.
- Seizure disorders.
- Cardiac arrhythmias.
- *OB/Lactation:* Safety not established.
- *Geri:* ↑ risk of adverse reactions.

Continued on the following page

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: confusion, depression, dizziness, hallucinations, headache, sedation, weakness.

EENT: blurred vision, dry eyes, mydriasis.

CV: arrhythmias, hypotension, palpitations, tachycardia.

GI: constipation, dry mouth, ileus, nausea.

GU: hesitancy, urinary retention.

Misc: decreased sweating.

INTERACTIONS

Drug-Drug:

- Additive anticholinergic effects with **drugs sharing anticholinergic properties**, such as **antihistamines**, **phenothiazines**, **quinidine**, **disopyramide**, and **tricyclic antidepressants**.
- Counteracts the cholinergic effects of **bethanechol**.
- **Antacids** and **antidiarrheals** may ↓ absorption.

Drug-Natural:

- ↑ anticholinergic effect with **angel's trumpet**, **jimson weed**, and **scopolia**.

ROUTE/DOSAGE

Parkinsonism

- **PO (Adults):** 1–2 mg/day in 1–2 divided doses (range 0.5–6 mg/day).

Acute Dystonic Reactions

- **IM, IV (Adults):** 1–2 mg, then 1–2 mg PO twice daily.

Drug-Induced Extrapyramidal Reactions

- **PO, IM, IV (Adults):** 1–4 mg given once or twice daily (1–2 mg 2–3 times daily may also be used PO).

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 0.5 mg, 1 mg, 2 mg.
- ***Injection:*** 1 mg/mL.

NURSING IMPLICATIONS

ASSESSMENT

- Assess parkinsonian and extrapyramidal symptoms (restlessness or desire to keep moving, rigidity, tremors, pill rolling, masklike face, shuffling gait, muscle spasms, twisting motions, difficulty speaking or swallowing, loss of balance control) before and throughout therapy.
- Assess bowel function daily. Monitor for constipation, abdominal pain, distention, or absence of bowel sounds.
- Monitor intake and output ratios and assess patient for urinary retention (dysuria, distended abdomen, infrequent voiding of small amounts, overflow incontinence).
- Patients with mental illness are at risk of developing exaggerated symptoms of their disorder during early therapy with benztropine. Withhold drug and notify physician or other health care professional if significant behavioral changes occur.
- **IM/IV:** Monitor pulse and blood pressure closely and maintain bedrest for 1 hr after administration. Advise patients to change positions slowly to minimize orthostatic hypotension.

POTENTIAL NURSING DIAGNOSES

- Impaired physical mobility (Indications)
- Risk for injury (Indications)

Continued on the following page

IMPLEMENTATION

- **PO:** Administer with food or immediately after meals to minimize gastric irritation. May be crushed and administered with food if patient has difficulty swallowing.
- **IM:** Parenteral route is used only for dystonic reactions.

IV Administration

- **Direct IV:** IV route is rarely used because onset is same as with IM route.
  Rate: Administer at a rate of 1 mg over 1 min.
- **Syringe Compatibility:** metoclopramide, perphenazine.
- **Y-Site Compatibility:** fluconazole, tacrolimus.

PATIENT/FAMILY TEACHING

- Encourage patient to take benztropine as directed. Take missed doses as soon as possible, up to 2 hr before the next dose. Taper gradually when discontinuing or a withdrawal reaction may occur (anxiety, tachycardia, insomnia, return of parkinsonian or extrapyramidal symptoms).
- May cause drowsiness or dizziness. Advise patient to avoid driving or other activities that require alertness until response to the drug is known.
- Instruct patient that frequent rinsing of mouth, good oral hygiene, and sugarless gum or candy may decrease dry mouth. Patient should notify health care professional if dryness persists (saliva substitutes may be used). Also, notify the dentist if dryness interferes with use of dentures.
- Caution patient to change positions slowly to minimize orthostatic hypotension.
- Instruct patient to notify health care professional if difficulty with urination, constipation, abdominal discomfort, rapid or pounding heartbeat, confusion, eye pain, or rash occurs.
- Advise patient to confer with health care professional before taking OTC medications, especially cold remedies, or drinking alcoholic beverages.
- Caution patient that this medication decreases perspiration. Overheating may occur during hot weather. Patient should notify health care professional if unable to remain indoors in an air-conditioned environment during hot weather.
- Advise patient to avoid taking antacids or antidiarrheals within 1–2 hr of this medication.
- Emphasize the importance of routine follow-up exams.

EVALUATION/DESIRED OUTCOMES

- Decrease in tremors and rigidity and an improvement in gait and balance. Therapeutic effects are usually seen 2–3 days after the initiation of therapy.

buPROPion

(byoo-**proe**-pee-on)

Aplenzin, Budeprion SR, Budeprion XL, Wellbutrin, Wellbutrin SR, Wellbutrin XL, Zyban

CLASSIFICATION

Therapeutic: *antidepressants, smoking deterrents* ***Pharmacologic:*** *aminoketones*

Pregnancy Category B

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Treatment of depression (with psychotherapy).
- Depression in patients with seasonal affective disorder (XL only).
- Smoking cessation (Zyban only).
- Unlabelled Use:
  - Treatment of ADHD in adults (SR only).
  - To increase sexual desire in women.

ACTION

- Decreases neuronal reuptake of dopamine in the CNS.
- Diminished neuronal uptake of serotonin and norepinephrine (less than tricyclic antidepressants).
- Therapeutic Effects:
  - Diminished depression.
  - Decreased craving for cigarettes.

PHARMACOKINETICS

Absorption: Although well absorbed, rapidly and extensively metabolized by the liver.

Distribution: Unknown.

Metabolism and Excretion: Extensively metabolized by the liver. Some conversion to active metabolites.

Half-life: 14 hr (active metabolites may have longer half-lives).

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
PO	1–3 wk	unknown	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- History of bulimia, and anorexia nervosa.
- Concurrent MAO inhibitor or ritonavir therapy.
- *Lactation:* Potential for serious adverse reactions in nursing infants.

Continued on the following page

Use Cautiously in:

- Renal/hepatic impairment (↓ dose recommended).
- Recent history of MI.
- History of suicide attempt
- Unstable cardiovascular status.
- May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment; this risk appears to be greater in adolescents or children.
- *OB:* Use only if benefit to patient outweighs potential risk to fetus.
- *Geri:* ↑ risk of drug accumulation; ↑ sensitivity to effects.

Exercise Extreme Caution in:

- History of seizures, head trauma or concurrent medications that ↓ seizure threshold (theophylline, antipsychotics, antidepressants, systemic corticosteroids).
- Severe hepatic cirrhosis (↓ dose required).
- *Pedi:* ↑ risk of suicidal thinking and behavior.
- Observe carefully, especially at initiation of therapy and during ↑ or ↓ in dose.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SEIZURES, SUICIDAL THOUGHTS/BEHAVIOR, agitation, headache, depression, hostility, insomnia, mania, psychoses.

GI: dry mouth, nausea, vomiting, change in appetite, weight gain, weight loss.

Derm: photosensitivity.

Endo: hyperglycemia, hypoglycemia, syndrome of inappropriate ADH secretion.

Neuro: tremor.

INTERACTIONS

Drug-Drug:

- ↑ risk of adverse reactions when used with **amantadine**, **levodopa**, or **MAO inhibitors** (concurrent use of MAO inhibitors is contraindicated).
- ↑ risk of seizures with **phenothiazines**, **antidepressants**, **theophylline**, **corticosteroids**, **OTC stimulants/anorectics**, or cessation of **alcohol** or **benzodiazepines** (avoid or minimize alcohol use).
- Blood levels ↑ by **ritonavir** (avoid concurrent use).
- **Carbamazepine** may ↓ blood levels and effectiveness.
- Concurrent use with **nicotine** replacement may cause hypertension.
- ↑ risk of bleeding with **warfarin**.
- Bupropion and one of its metabolites inhibit the CYP2D6 enzyme system and may ↑ levels and risk of toxicity from **antidepressants** (SSRIs and tricyclic), some **beta blockers**, **antiarrhythmics**, and **antipsychotics**.

ROUTE/DOSAGE

Depression

- **PO (Adults):** *Immediate-release*—100 mg twice daily initially; after 3 days may ↑ to 100 mg 3 times daily; after at least 4 wk of therapy, may ↑ up to 450 mg/day in divided doses (not to exceed 150 mg/dose; wait at least 6 hr between doses at the 300 mg/day dose or at least 4 hr between doses at the 450-mg/day dose). *Sustained-release*—150 mg once daily in the morning; after 3 days, may ↑ to 150 mg twice daily with at least 8 hr between doses; after at least 4 wk of therapy, may ↑ to a maximum daily dose of 400 mg given as 200 mg twice daily. *Extended-release (Wellbutrin XL)*—150 mg once daily in the morning, may be ↑ after 4 days to 300 mg once daily; some patients may require up to 450 mg/day as a single daily dose. *Extended-release (Aplenzin)*—174 mg once daily in the morning, may be ↑ after 4 days to 348 mg once daily; some patients may require up to 522 mg/day as a single daily dose.

Continued on the following page

Seasonal Affective Disorder

- **PO (Adults):** 150 mg/day in the morning; if dose is well tolerated, ↑ to 300 mg/day in one wk. Doses should be tapered to 150 mg/day for 2 wk before discontinuing.

Smoking cessation

- **PO (Adults):** *Zyban*—150 mg once daily for 3 days, then 150 mg twice daily for 7–12 wk (doses should be at least 8 hr apart).

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 75 mg, 100 mg
  - **Cost:** *Generic*—75 mg $54.99/90, 100 mg $66.99/90.
- ***Sustained-release tablets:*** 100 mg, 150 mg, 200 mg
  - **Cost:** *Generic*—100 mg $189.97/180, 150 mg $163.93/180, 200 mg $334.96/180.
- ***Extended-release tablets (Wellbutrin XL):*** 150 mg, 300 mg
  - **Cost:** *Generic*—150 mg $367.97/90, 300 mg $365.96/90.
- ***Extended-release tablets (Aplenzin):*** 174 mg, 348 mg, 522 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor mood changes. Inform health care professional if patient demonstrates significant increase in anxiety, nervousness, or insomnia.
- Assess mental status and mood changes, especially during initial few months of therapy and during dose changes. Risk may be increased in children, adolescents, and adults ≤24 yrs. Inform health care professional if patient demonstrates significant increase in signs of depression (depressed mood, loss of interest in usual activities, significant change in weight and/or appetite, insomnia or hypersomnia, psychomotor agitation or retardation, increased fatigue, feelings of guilt or worthlessness, slowed thinking or impaired concentration, suicide attempt or suicidal ideation). Restrict amount of drug available to patient.
- *Lab Test Considerations:* Monitor hepatic and renal function closely in patients with kidney or liver impairment to prevent ↑ serum and tissue bupropion concentrations.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)

IMPLEMENTATION

- Do not confuse bupropion with buspirone. Do not administer bupropion (Wellbutrin) with Zyban, which contain the same ingredients.
- Administer doses in equally spaced time increments during the day to minimize the risk of seizures. Risk of seizures increases four fold in doses greater than 450 mg per day.
- May be initially administered concurrently with sedatives to minimize agitation. This is not usually required after the 1st wk of therapy.
- Insomnia may be decreased by avoiding bedtime doses. May require treatment during 1st wk of therapy.
- May be administered with food to lessen GI irritation.
- Nicotine patches, gum, inhalers, and spray may be used concurrently with bupropion.
- When converting from other brands of bupropion to *Aplenzin*, 348 mg/day *Aplenzin* is equivalent to 300 mg/day bupropion HCl and 174 mg/day *Aplenzin* is equivalent to 150 mg/day bupropion HCl.
- **PO:** Sustained-release or extended-release tablets should be swallowed whole; do not break, crush, or chew.
- **Seasonal Affective Disorder:** Begin administration in autumn prior to the onset of depressive symptoms. Continue therapy through winter and begin to taper and discontinue in early spring.

Continued on the following page

PATIENT/FAMILY TEACHING

- Instruct patient to take bupropion as directed. Take missed doses as soon as possible and space day's remaining doses evenly at not less than 4-hr intervals. Missed doses for smoking cessation should be omitted. Do not double doses or take more than prescribed. May require 4 wk or longer for full effects. Do not discontinue without consulting health care professional. May require gradual reduction before discontinuation.
- May impair judgment or motor and cognitive skills. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.
- Advise patient, family, and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide, new or worse depression or anxiety, agitation or restlessness, panic attacks, insomnia, new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior occur.
- Advise patient to avoid alcohol during therapy and to consult with health care professional before taking other medications with bupropion, such as Zyban.
- Inform patient that frequent mouth rinses, good oral hygiene, and sugarless gum or candy may minimize dry mouth. If dry mouth persists for more than 2 wk, consult health care professional regarding use of saliva substitute.
- Advise patient to notify health care professional if rash or other troublesome side effects occur.
- Inform patient that unused shell of XL tablets may appear in stool; this is normal.
- Advise patient to use sunscreen and protective clothing to prevent photosensitivity reactions.
- Instruct female patients to inform health care professional if pregnancy is planned or suspected.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Emphasize the importance of follow-up exams to monitor progress. Encourage patient participation in psychotherapy.
- **Smoking Cessation:** Smoking should be stopped during the 2nd week of therapy to allow for the onset of bupropion and to maximize the chances of quitting.
- Advise patient to stop taking bupropion and contact a health care professional immediately if agitation, depressed mood, and any changes in behavior that are not typical of nicotine withdrawal, or if suicidal thoughts or behavior occur.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings. Acute episodes of depression may require several months of treatment.
- Cessation of smoking.

busPIRone

(byoo-**spye**-rone)

BuSpar

CLASSIFICATION

Therapeutic: antianxiety agents

Pregnancy Category B

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Management of anxiety.

ACTION

- Binds to serotonin and dopamine receptors in the brain.
- Increases norepinephrine metabolism in the brain.
- Therapeutic Effects:
  - Relief of anxiety.

PHARMACOKINETICS

Absorption: Rapidly absorbed.

Distribution: Unknown.

Protein Binding: 95% bound to plasma proteins.

Metabolism and Excretion: Extensively metabolized by the liver (CYP3A4 enzyme system); 20–40% excreted in feces.

Half-life: 2–3 hr.

TIME/ACTION PROFILE (relief of anxiety)

ROUTE	ONSET	PEAK	DURATION
PO	7–10 days	3–4 wk	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Severe hepatic or renal impairment.
- Concurrent use of MAO inhibitors.
- Ingestion of large amounts of grapefruit juice.

Use Cautiously in:

- Patients receiving other antianxiety agents (other agents should be slowly withdrawn to prevent withdrawal or rebound phenomenon).
- Patients receiving other psychotropics.
- *Lactation/OB/Pedi:* Safety not established.

Continued on the following page

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: dizziness, drowsiness, excitement, fatigue, headache, insomnia, nervousness, weakness, personality changes.

EENT: blurred vision, nasal congestion, sore throat, tinnitus, altered taste or smell, conjunctivitis.

Resp: chest congestion, hyperventilation, shortness of breath.

CV: chest pain, palpitations, tachycardia, hypertension, hypotension, syncope.

GI: nausea, abdominal pain, constipation, diarrhea, dry mouth, vomiting.

GU: changes in libido, dysuria, urinary frequency, urinary hesitancy.

Derm: rashes, alopecia, blisters, dry skin, easy bruising, edema, flushing, pruritus.

Endo: irregular menses.

MS: myalgia.

Neuro: incoordination, numbness, paresthesia, tremor.

Misc: clamminess, sweating, fever.

INTERACTIONS

Drug-Drug:

- Use with **MAO inhibitors** may result in hypertension and is not recommended.
- **Erythromycin**, **nefazodone**, **ketoconazole**, **itraconazole**, **ritonavir**, and other **inhibitors of CYP3A4** ↑ blood levels and effects of buspirone; dose reduction is recommended (decrease to 2.5 mg twice daily with erythromycin, decrease to 2.5 mg once daily with nefazodone).
- **Rifampin**, **dexamethasone**, **phenytoin**, **phenobarbital**, **carbamazepine**, and other **inducers of CYP3A4** ↓ blood levels and effects of buspirone; dose adjustment may be necessary.
- Avoid concurrent use with **alcohol**.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, or **chamomile** can ↑ CNS depression.

Drug-Food:

- **Grapefruit juice** ↑ serum levels and effect; ingestion of large amounts of grapefruit juice is not recommended.

ROUTE/DOSAGE

- **PO (Adults):** 7.5 mg twice daily; increase by 5 mg/day q 2–4 days as needed (not to exceed 60 mg/day). Usual dose is 20–30 mg/day (in 2 divided doses).

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 5 mg, 7.5 mg, 10 mg, 15 mg, 30 mg
  - **Cost:** *Generic*—5 mg $79.97/180, 7.5 mg $110.97/180, 10 mg $128.99/180, 15 mg $129.40/180, 30 mg $267.93/180.

NURSING IMPLICATIONS

ASSESSMENT

- Assess degree and manifestations of anxiety before and periodically during therapy.
- Buspirone does not appear to cause physical or psychological dependence or tolerance. However, patients with a history of drug abuse should be assessed for tolerance or dependence. Restrict amount of drug available to these patients.

POTENTIAL NURSING DIAGNOSES

- Anxiety (Indications)
- Risk for injury (Side Effects)

Continued on the following page

IMPLEMENTATION

- Do not confuse buspirone with bupropion.
- Patients changing from other antianxiety agents should receive gradually decreasing doses. Buspirone will not prevent withdrawal symptoms.
- **PO:** May be administered with food to minimize gastric irritation. Food slows but does not alter extent of absorption.

PATIENT/FAMILY TEACHING

- Instruct patient to take buspirone exactly as directed. Take missed doses as soon as possible if not just before next dose; do not double doses. Do not take more than amount prescribed.
- May cause dizziness or drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to the medication is known.
- Advise patient to avoid concurrent use of alcohol or other CNS depressants.
- Advise patient to consult health care professional before taking OTC medications or herbal products with this drug.
- Instruct patient to notify health care professional if any chronic abnormal movements occur (dystonia, motor restlessness, involuntary movements of facial or cervical muscles) or if pregnancy is suspected.
- Emphasize the importance of follow-up exams to determine effectiveness of medication.

EVALUATION/DESIRED OUTCOMES

- Increase in sense of well-being.
- Decrease in subjective feelings of anxiety. Some improvement may be seen in 7–10 days. Optimal results take 3–4 wk of therapy. Buspirone is usually used for short-term therapy (3–4 wk). If prescribed for long-term therapy, efficacy should be periodically assessed.

carbamazepine

(kar-ba-**maz**-e-peen)

Apo-Carbamazepine, Carbatrol, Epitol, Equetro, Novo-Carbamaz, Tegretol, Tegretol CR, Tegretol-XR, Teril

CLASSIFICATION

Therapeutic: *anticonvulsants, mood stabilizers*

Pregnancy Category D

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Treatment of tonic-clonic, mixed, and complex-partial seizures.
- Management of pain in trigeminal neuralgia or diabetic neuropathy.
- **Equetro only:**
  - Acute mania and mixed mania.
- **Unlabelled Use:**
  - Other forms of neurogenic pain.

ACTION

- Decreases synaptic transmission in the CNS by affecting sodium channels in neurons.
- Therapeutic Effects:
  - Prevention of seizures.
  - Relief of pain in trigeminal neuralgia.
  - Decreased mania.

PHARMACOKINETICS

Absorption: Absorption is slow but complete. Suspension produces earlier, higher peak, and lower trough levels.

Distribution: Widely distributed. Crosses the blood-brain barrier. Crosses the placenta rapidly and enters breast milk in high concentrations.

Protein Binding: *Carbamazepine*—75–90%; *epoxide*—50%.

Metabolism and Excretion: Extensively metabolized in the liver by cytochrome P450 3A4 to active epoxide metabolite; epoxide metabolite has anticonvulsant and antineuralgic activity.

Half-life: *Carbamazapine*—single dose—25–65 hr, chronic dosing—*Children*—8–14 hr; *Adults*—12–17 hr; *epoxide*—34±9 hr.

TIME/ACTION PROFILE (anticonvulsant activity)

ROUTE	ONSET	PEAK	DURATION
PO	up to one month†	4–5 hr‡	6–12 hr
PO-ER	up to one month†	2–3–12 hr‡	12 hr

†Onset of antineuralgic activity is 8–72 hr
‡Listed for tablets; peak level occurs 1.5 hr after a chronic dose of suspension

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CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Bone marrow suppression.
- Concomitant use or use within 14 days of MAO inhibitors.
- *OB:* Use only during pregnancy if potential benefits outweigh risks to the fetus; additional vitamin K during last weeks of pregnancy has been recommended.
- *Lactation:* Discontinue drug or bottle feed.

Use Cautiously in:

- All patients (may ↑ risk of suicidal thoughts/behaviors).
- Cardiac or hepatic disease.
- Renal failure (dosing adjustment required for ClCr <10 mL/min.
- ↑ intraocularpressure.
- *Geri:* Older men with prostatic hyperplasia may be at ↑ risk for acute urinary retention or difficulty initiating stream.

Exercise Extreme Caution in:

- Patients positive for HLA-B*1502 allele (unless benefits clearly outweigh the risks).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SUICIDAL THOUGHTS, ataxia, drowsiness, fatigue, psychosis, sedation, vertigo.

EENT: blurred vision, nystagmus, corneal opacities.

Resp: pneumonitis.

CV: CHF, edema, hypertension, hypotension, syncope.

GI: hepatitis, pancreatitis, weight gain.

GU: hesitancy, urinary retention.

Derm: photosensitivity, rashes, STEVENS-JOHNSON SYNDROME, TOXIC EPIDERMAL NECROLYSIS, urticaria.

Endo: syndrome of inappropriate antidiuretic hormone (SIADH), hyponatremia.

Hemat: AGRANULOCYTOSIS, APLASTIC ANEMIA, THROMBOCYTOPENIA, eosinophilia, leukopenia.

Misc: chills, fever, lymphadenopathy, ↑ liver enzymes, multi-organ hypersensitivity reactions, hepatic failure (rare).

INTERACTIONS

Drug-Drug:

- May ↑ metabolism of and therefore ↓ levels/effectiveness of **corticosteroids**, **doxycycline**, **felbamate**, **quinidine**, **warfarin**, **estrogen-containing contraceptives**, **barbiturates**, **cyclosporine**, **benzodiazepines**, **theophylline**, **lamotrigine**, **phenytoin**, **topiramate**, **valproic acid**, **bupropion**, and **haloperidol**.
- **Danazol** ↑ blood levels (avoid concurrent use if possible). Concurrent use (within 2 wk) of **MAO inhibitors** may result in hyperpyrexia, hypertension, seizures, and death.
- **Verapamil**, **diltiazem**, **propoxyphene**, **itraconazole**, **ketoconazole**, **erythromycin**, **clarithromycin**, **SSRIs**, **antidepressants**, or **cimetidine** may inhibit the hepatic metabolism of carbamazepine and ↑ levels; may cause toxicity.
- Enzyme inducers such as **rifampin**, **phenobarbital**, **phenytoin**, **primidone**, and **methosuximide** may ↓ serum concentration of carbamazepine.
- May ↑ risk of hepatotoxicity from **isoniazid**.
- **Felbamate** ↓ carbamazepine levels but ↑ levels of active metabolite.

Continued on the following page

- May ↓ effectiveness and ↑ risk of toxicity from **acetaminophen**.
- May ↑ risk of CNS toxicity from **lithium**.
- May ↓ duration of action of **nondepolarizing neuromuscular blocking agents**.

Drug-Food:

- **Grapefruit juice** ↑ serum levels and oral bioavailability by 40% and therefore may ↑ effects.

ROUTE/DOSAGE

- **PO (Adults):** *Anticonvulsant*—200 mg twice daily (tablets) or 100 mg 4 times daily (suspension); increase by 200 mg/day q 7 days until therapeutic levels are achieved (range is 600–1200 mg/day in divided doses q 6–8 hr; not to exceed 1 g/day in 12–15-yr-olds. Extended-release products are given twice daily (XR, CR). *Antineuralgic*—100 mg twice daily or 50 mg 4 times daily (suspension); increase by up to 200 mg/day until pain is relieved, then maintenance dose of 200–1200 mg/day in divided doses (usual range, 400–800 mg/day).
- **PO (Children 6–12 yr):** 100 mg twice daily (tablets) or 50 mg 4 times daily (suspension). ↑ by 100 mg weekly until therapeutic levels are obtained (usual range 400–800 mg/day; not to exceed 1 g/day). Extended-release products (XR, CR) are given twice daily.
- **PO (Children <6 yr):** 10–20 mg/kg/day in 2–3 divided doses; may be ↑ at weekly intervals until optimal response and therapeutic levels are acheived. Usual maintenance dose is 250–350 mg/day (not to exceed 35 mg/kg/day).

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 200 mg
  - **Cost:** *Generic*—$25.97/180.
- ***Chewable tablets:*** 100 mg, ✦ 200 mg
  - **Cost:** *Generic*—100 mg $21.98/180.
- ***Extended-release capsules:*** 100 mg, 200 mg, 300 mg
  - **Cost:** 100 mg $235.66/180, 200 mg $226.49/180, 300 mg $216.88/180.
- ***Extended-release tablets:*** 100 mg, 200 mg, 400 mg
  - **Cost:** 100 mg $83.93/180, 200 mg $143.93/180, 400 mg $279.94/180.
- ***Oral suspension (citrus/vanilla flavor):*** 100 mg/5 mL
  - **Cost:** *Generic*—$28.26/450 mL.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression.
- ✦ Monitor for changes in skin condition in early therapy. Stevens-Johnson syndrome and toxic epidermal necrolysis are significantly more common in patients with a particular human leukocyte antigen (HLA) allele, HLA-B*1502 (occurs almost exclusively in patients with Asian ancestry, including South Asian Indians). Screen patients of Asian ancestry for the HLA-B*1502 allele before starting treatment with carbamazepine. If positive, carbamazepine should not be started unless the expected benefit outweighs increased risk of serious skin reactions. Patients who have been taking carbamazepine for more than a few months without developing skin reactions are at low risk of these events ever developing.
- **Seizures:** Assess frequency, location, duration, and characteristics of seizure activity.
- **Trigeminal Neuralgia:** Assess for facial pain (location, intensity, duration). Ask patient to identify stimuli that may precipitate facial pain (hot or cold foods, bedclothes, touching face).
- **Bipolar Disorder:** Assess mental status (mood, orientation, behavior) and cognitive abilities before and periodically during therapy.
- *Lab Test Considerations:* Monitor CBC, including platelet count, reticulocyte count, and serum iron, weekly during the

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first 2 mo and yearly thereafter for evidence of potentially fatal blood cell abnormalities. Medication should be discontinued if bone marrow depression occurs.

- Perform genetic testing for the HLA-B*1502 allele in patients of Asian ancestry prior to beginning therapy.
- Liver function tests, urinalysis, and BUN should be routinely performed. May cause ↑ AST, ALT, serum alkaline phosphatase, bilirubin, BUN, urine protein, and urine glucose levels.
- Monitor serum ionized calcium levels every 6 mo or if seizure frequency increases. Thyroid function tests and ionized serum calcium concentrations may be ↓; hypocalcemia ↓ seizure threshold.
- Monitor ECG and serum electrolytes before and periodically during therapy. May cause hyponatremia.
- May occasionally cause ↑ serum cholesterol, high-density lipoprotein, and triglyceride concentrations.
- May cause false-negative pregnancy test results with tests that determine human chorionic gonadotropin.
- *Toxicity and Overdose:* Serum blood levels should be routinely monitored during therapy. Therapeutic levels range from 4–12 mcg/mL.

POTENTIAL NURSING DIAGNOSES

- Risk for injury (Indications, Side Effects)
- Chronic pain (Indications)
- Disturbed thought process (Indications)

IMPLEMENTATION

- Implement seizure precautions as indicated.
- **PO:** Administer medication with food to minimize gastric irritation. May take at bedtime to reduce daytime sedation.
- Tablets may be crushed if patient has difficulty swallowing.
- Do not crush or chew extended-release tablets.
- Extended-release capsules may be opened and the contents sprinkled on applesauce or other similar foods.
- Do not administer suspension simultaneously with other liquid medications or diluents; mixture produces an orange rubbery mass.

PATIENT/FAMILY TEACHING

- Instruct patient to take carbamazepine around the clock, as directed. Take missed doses as soon as possible but not just before next dose; do not double doses. Notify health care professional if more than one dose is missed. Medication should be gradually discontinued to prevent seizures. Instruct patient to read the *Medication Guide* before starting and with each Rx refill; changes may occur.
- May cause dizziness or drowsiness. Advise patients to avoid driving or other activities requiring alertness until response to medication is known.
- Instruct patients that behavioral changes, skin rash, fever, sore throat, mouth ulcers, easy bruising, petechiae, unusual bleeding, abdominal pain, chills, rash, pale stools, dark urine, or jaundice should be reported to health care professional immediately. Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking, other unusual changes in behavior or mood occur.
- Inform patient that coating of *Tegretol XR* is not absorbed, but is excreted in feces and may be visible in stool.
- Advise patient not to take alcohol or other CNS depressants concurrently with this medication.
- Caution patients to use sunscreen and protective clothing to prevent photosensitivity reactions.

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- Inform patient that frequent mouth rinses, good oral hygiene, and sugarless gum or candy may help reduce dry mouth. Saliva substitute may be used. Consult dentist if dry mouth persists >2 wk.
- Advise female patients to use a nonhormonal form of contraception while taking carbamazepine.
- Instruct patient to notify health care professional of medication regimen before treatment or surgery.
- Emphasize the importance of follow-up lab tests and eye exams to monitor for side effects.
- Inform patient and family that the Manic-Depressive and Depressive Association can offer support for mania.
- **Seizures:** Advise patients to carry identification describing disease and medication regimen at all times.

EVALUATION/DESIRED OUTCOMES

- Absence or reduction of seizure activity.
- Decrease in trigeminal neuralgia pain. Patients with trigeminal neuralgia who are pain-free should be re-evaluated every 3 mo to determine minimum effective dose.
- Decreased mania and depressive symptoms in Bipolar I disorder.

chlordiazepoxide

(klor-dye-az-e-**pox**-ide)

♣Apo-Chlordiazepoxide, Libritabs, Librium, ♣Mitran, ♣Novopoxide, ♣Poxi

CLASSIFICATION

Therapeutic: *antianxiety agents, sedative/hypnotics* ***Pharmacologic:*** *benzodiazepines*

Schedule IV

Pregnancy Category D

♣ = Genetic implication.

♣ = Canadian drug name.

INDICATIONS

- Adjunct management of anxiety.
- Treatment of alcohol withdrawal.
- Adjunct management of anxiety associated with acute myocardial infarction.

ACTION

- Acts at many levels of the CNS to produce anxiolytic effect.
- Depresses the CNS, probably by potentiating GABA, an inhibitory neurotransmitter.
- Therapeutic Effects:
  - Sedation. Relief of anxiety.

PHARMACOKINETICS

Absorption: Well absorbed from the GI tract. IM absorption may be slow and unpredictable.

Distribution: Widely distributed. Crosses the blood-brain barrier. Crosses the placenta; enters breast milk. Recommend to discontinue drug or bottle feed.

Metabolism and Excretion: Highly metabolized by the liver. Some products of metabolism are active as CNS depressants.

Half-life: 5–30 hr.

TIME/ACTION PROFILE (sedation)

ROUTE	ONSET	PEAK	DURATION
PO	1–2 hr	0.5–4 hr	up to 24 hr
IM	15–30 min	unknown	unknown
IV	1–5 min	unknown	0.25–1 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Some products contain tartrazine and should be avoided in patients with known intolerance.
- Cross-sensitivity with other benzodiazepines may occur.

Continued on the following page

- Comatose patients or those with pre-existing CNS depression.
- Uncontrolled severe pain.
- Pulmonary disease.
- Angle-closure glaucoma.
- Porphyria.
- *OB/Lactation:* May cause CNS depression, flaccidity, feeding difficulties, and weight loss in infants.
- *Pedi:* Not for use in children ≤6 yr.

Use Cautiously in:

- Hepatic dysfunction.
- Severe renal impairment.
- History of suicide attempt or substance abuse.
- *Geri:* Long-acting benzodiazepines cause prolonged sedation in the elderly.
- Appears on Beers list and is associated with increased risk of falls (↓ dose required or consider short-acting benzodiazepine).
- Debilitated patients (initial dose reduction required).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: dizziness, drowsiness, hangover, headache, mental depression, paradoxical excitation, sedation.

EENT: blurred vision.

GI: constipation, diarrhea, nausea, vomiting, weight gain.

Derm: rashes.

Local: pain at IM site.

Misc: physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:

- **Alcohol**, **antidepressants**, **antihistamines**, and **opioid analgesics**—concurrent use results in additive CNS depression.
- **Cimetidine**, **oral contraceptives**, **disulfiram**, **fluoxetine**, **isoniazid**, **ketoconazole**, **metoprolol**, **propoxyphene**, **propranolol**, or **valproic acid** may enhance effects.
- May ↓ efficacy of **levodopa**.
- **Rifampin** or **barbiturates** may ↓ effectiveness of chlordiazepoxide.
- Sedative effects may be ↓ by **theophylline**.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, **chamomile**, or **hops** can ↑ CNS depression.

ROUTE/DOSAGE

- **PO (Adults):** *Alcohol withdrawal*—50–100 mg, repeated until agitation is controlled (up to 400 mg/day). *Anxiety*—5–25 mg 3–4 times daily.
- **PO (Geriatric Patients or Debilitated Patients):** *Anxiety*—5 mg 2–4 times daily initially, increased as needed.
- **PO (Children >6 yr):** *Anxiety*—5 mg 2–4 times daily, up to 10 mg 2–3 times daily.
- **IM, IV (Adults):** *Alcohol withdrawal*—50–100 mg initially; may be repeated in 2–4 hr. *Anxiety*—50–100 mg initially, then 25–50 mg 3–4 times daily as required (25–50 mg initially in geriatric patients). *Preoperative sedation*—50–100 mg 1 hr preop.
- **IM, IV (Geriatric Patients or Debilitated Patients):** *Anxiety/sedation*—25–50 mg/dose.
- **IM, IV (Children >12 yr):** *Anxiety/sedation*—25–50 mg/dose.

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AVAILABILITY (GENERIC AVAILABLE)

- ***Capsules:*** 5 mg, 10 mg, 25 mg.
- ***Tablets:*** 5 mg, 10 mg, 25 mg.
- ***Injection:*** 100-mg ampule.
- ***In combination with:*** amitriptyline (Limbitrol DS), clidinium (Librax). See Appendix B.

NURSING IMPLICATIONS

ASSESSMENT

- Assess for anxiety and level of sedation (ataxia, dizziness, slurred speech) periodically during therapy.
- Assess degree and manifestations of anxiety and mental status (orientation, mood, behavior) prior to and periodically during therapy.
- Monitor blood pressure, heart rate, and respiratory rate frequently when administering parenterally. Report significant changes immediately.
- Prolonged high-dose therapy may lead to psychological or physical dependence. Restrict the amount of drug available to patient.
- *Geri:* Assess risk of falls and institute fall prevention strategies.
- **Alcohol Withdrawal:** Assess for tremors, agitation, delirium, and hallucinations. Protect patient from injury. Institute seizure precautions.
- *Geri:* Assess risk of falls and institute fall prevention strategies.
- *Lab Test Considerations:* Patients on prolonged therapy should have CBC and liver function tests evaluated periodically. May cause ↑ in serum bilirubin, AST, and ALT.
- May alter results of urine 17-ketosteroids and 17-ketogenic steroids. May cause ↓ response on metyrapone tests and decreased thyroidal uptake of ^{123}I and ^{131}I .
- *Toxicity and Overdose:* Flumazenil reverses sedation caused by chlordiazepoxide toxicity or overdose. (Flumazenil may induce seizures in patients with a history of seizure disorder or who are on tricyclic antidepressants.).

POTENTIAL NURSING DIAGNOSES

- Anxiety (Indications)
- Risk for injury (Side Effects)
- Ineffective coping
- Dysfunctional family processes: alcoholism

IMPLEMENTATION

- Do not confuse Librium with Librax.
- IV administration is usually the preferred route for parenteral administration because of the slow, erratic absorption after IM administration.
- After parenteral administration, have patient remain recumbent and observe for 3–8 hr or longer, depending on patient's response.
- Equipment to maintain a patent airway should be immediately available when chlordiazepoxide is administered intravenously.
- Use parenteral solution immediately after reconstitution and discard any unused portion.
- **PO:** Administer after meals or with milk to minimize GI irritation. Tablets may be crushed and taken with food or fluids if patient has difficulty swallowing. Administer greater dose at bedtime to avoid daytime sedation. Do not discontinue abruptly; taper by 10 mg every 3 days to reduce chance of withdrawal effects. Some patients may require longer taper period (months). Monitor patients closely with seizure disorder as abrupt withdrawal may precipitate seizures.
- **IM:** Reconstitute only with 2 mL of diluent provided by manufacturer. Do not use solution if opalescent or hazy. Agitate gently to minimize bubbling. Administer slowly, deep into a well-developed muscle mass to minimize pain at injection site. Solution reconstituted with IM diluent should not be given IV.

IV Administration

- **Direct IV:** *Diluent:* Reconstitute 100 mg in 5 mL of 0.9% NaCl or sterile water for injection. Do not use IM diluent.

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Concentration: 20 mg/mL. *Rate:* Administer prescribed dose slowly over at least 1 min. Rapid administration may cause apnea, hypotension, bradycardia, or cardiac arrest.

- **Y-Site Compatibility:** heparin, hydrocortisone sodium succinate, potassium chloride, vitamin B complex with C.

PATIENT/FAMILY TEACHING

- Instruct patient to take chlordiazepoxide as directed. If medication is less effective after a few weeks, check with health care professional; do not increase dose. Medication should be tapered at the completion of long-term therapy. Sudden cessation of medication may lead to withdrawal (insomnia, irritability, nervousness, tremors).
- May cause drowsiness or dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- *Geri:* Instruct patient and family how to reduce falls risk at home.
- Advise patient to avoid the use of alcohol and other CNS depressants concurrently with this medication.
- Instruct patient to consult health care professional before taking OTC medications.
- Instruct patient to notify health care professional if pregnancy is planned or suspected.
- Advise patient that benzodiazepines do not cure underlying problems. Psychotherapy is beneficial in addressing source of anxiety and improving coping skills.
- Teach other methods to decrease anxiety, such as exercise, use of support group (e.g., Alcoholics Anonymous), or relaxation techniques.
- Teach patient not to share medication with anyone.

EVALUATION/DESIRED OUTCOMES

- Decreased sense of anxiety.
- Increased ability to cope.
- Decreased delirium tremens and more rational ideation when used for alcohol withdrawal.

chlorproMAZINE

(klor -proe -ma-zeen)

Chlorpromanyl, Largactil, Novo-Chlorpromazine

CLASSIFICATION

Therapeutic: *antiemetics, antipsychotics* ***Pharmacologic:*** *phenothiazines*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Second-line treatment for schizophrenia and psychoses after failure with atypical antipsychotics.
- Hyperexcitable, combative behavior in children.
- Nausea and vomiting.
- Intractable hiccups.
- Preoperative sedation.
- Acute intermittent porphyria.
- **Unlabelled Use:**
  - Vascular headache.
  - Bipolar disorder.

ACTION

- Alters the effects of dopamine in the CNS.
- Has significant anticholinergic/alpha-adrenergic blocking activity.
- Therapeutic Effects:
  - Diminished signs/symptoms of psychosis.
  - Relief of nausea/vomiting/intractable hiccups.
  - Decreased symptoms of porphyria.

PHARMACOKINETICS

Absorption: Variable absorption from tablets. Well absorbed following IM administration.

Distribution: Widely distributed; high CNS concentrations. Crosses the placenta; enters breast milk.

Protein Binding: ≥90%.

Metabolism and Excretion: Highly metabolized by the liver and GI mucosa. Some metabolites are active.

Half-life: 30 hr.

TIME/ACTION PROFILE (antipsychotic activity, antiemetic activity, sedation)

ROUTE	ONSET	PEAK	DURATION
PO	30–60 min	unknown	4–6 hr
IM	unknown	unknown	4–8 hr
IV	rapid	unknown	unknown

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Hypersensitivity to sulfites (injectable).
- Cross-sensitivity with other phenothiazines may occur.
- Angle-closure glaucoma.
- Bone marrow depression
- Severe liver/cardiovascular disease.
- Concurrent pimozide use.

Use Cautiously in:

- Diabetes.
- Respiratory disease.
- Prostatic hyperplasia.
- CNS tumors.
- Epilepsy.
- Intestinal obstruction.
- *OB/Lactation:* Safety not established. Discontinue drug or bottle feed.
- *Pedi:* Children with acute illnesses, infections, gastroenteritis, or dehydration (↑ risk of extrapyramidal reactions).
- *Geri:* ↑ risk of mortality in elderly patients treated for dementia-related psychosis.
- *Geri:* Geriatric/debilitated patients (↓ initial dose).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, sedation, extrapyramidal reactions, tardive dyskinesia.

EENT: blurred vision, dry eyes, lens opacities.

CV: hypotension (↑ with IM, IV), tachycardia.

GI: constipation, dry mouth, anorexia, hepatitis, ileus, priapism.

GU: urinary retention.

Derm: photosensitivity, pigment changes, rashes.

Endo: galactorrhea, amenorrhea.

Hemat: AGRANULOCYTOSIS, leukopenia.

Metab: hyperthermia.

Misc: allergic reactions.

INTERACTIONS

Drug-Drug:

- Concurrent use with **pimozide** ↑ the risk of potentially serious cardiovascular reactions.
- May alter serum **phenytoin** levels.
- ↓ pressor effect of **norepinephrine** and eliminates bradycardia.
- Antagonizes peripheral vasoconstriction from **epinephrine** and may reverse some of its actions.
- May ↓ elimination and ↑ effects of **valproic acid**.
- May ↓ the pharmacologic effects of **amphetamine** and **related compounds**.
- May ↓ the effectiveness of **bromocriptine**.
- May ↑ blood levels and effects of **tricyclic antidepressants**.
- **Antacids** or **adsorbent antidiarrheals** may ↓ adsorption; administer 1 hr before or 2 hr after chlorpromazine.
- ↑ risk of anticholinergic effects with **antihistamines**, **tricyclic antidepressants**, **quinidine**, or **disopyramide**.
- Premedication with chlorpromazine ↑ the risk of neuromuscular excitation and hypotension when followed by ↓ **barbiturate** anesthesia.
- **Barbiturates** may ↑ metabolism and ↓ effectiveness.
- Chlorpromazine may ↓ **barbiturate** levels.
- Additive hypotension with **antihypertensives**.
- Additive CNS depression with **alcohol**, **antidepressants**, **antihistamines**, **MAO inhibitors**, **opioid analgesics**, **sedative/hypnotics**, or **general anesthetics**.

Continued on the following page

- Concurrent use with **lithium** may produce disorientation, unconsciousness, or extrapyramidal symptoms.
- Concurrent use with **meperidine** may produce excessive sedation and hypotension.
- Concurrent use with **propranolol** ↑ blood levels of both drugs.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, **chamomile**, or **hops** can ↑ CNS depression.
- ↑ anticholinergic effects with **angel's trumpet**, **jimson weed**, and **scopolia**.

ROUTE/DOSAGE

- **PO (Adults):** *Psychoses*—10–25 mg 2–4 times daily; may ↑ every 3–4 days (usual dose is 200 mg/day; up to 1 g/day). *Nausea and vomiting*—10–25 mg q 4 hr as needed. *Preoperative sedation*—25–50 mg 2–3 hr before surgery. *Hiccups/porphyria*—25–50 mg 3–4 times daily.
- **PO (Children):** *Psychoses/nausea and vomiting*—0.55 mg/kg (15 mg/m^2) q 4–6 hr as needed. *Preoperative sedation*—0.55 mg/kg (15 mg/m^2) 2–3 hr before surgery.
- **IM (Adults):** *Severe psychoses*—25–50 mg initially, may be repeated in 1 hr; ↑ to maximum of 400 mg q 3–12 hr if needed (up to 1 g/day). *Nausea/vomiting*—25 mg initially, may repeat with 25–50 mg q 3–4 hr as needed. *Nausea/vomiting during surgery*—12.5 mg, may be repeated in 30 min as needed. *Preoperative sedation*—12.5–25 mg 1–2 hr prior to surgery. *Hiccups/tetanus*—25–50 mg 3–4 times daily. *Porphyria*—25 mg q 6–8 hr until patient can take PO.
- **IM (Children 6 mo):** *Psychoses/nausea and vomiting*—0.55 mg/kg (15 mg/m^2) q 6–8 hr (not to exceed 40 mg/day in children 6 mo–5 yr, or 75 mg/day in children 5–12 yr). *Nausea/vomiting during surgery*—0.275 mg/kg, may repeat in 30 min as needed. *Preoperative sedation*—0.55 mg/kg 1–2 hr prior to surgery. *Tetanus*—0.55 mg/kg q 6–8 hr.
- **IV (Adults):** *Nausea/vomiting during surgery*—up to 25 mg. *Hiccups/tetanus*—25–50 mg. *Porphyria*—25 mg q 8 hr.
- **IV (Children):** *Nausea/vomiting during surgery*—0.275 mg/kg. *Tetanus*—0.55 mg/kg.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 10 mg, 25 mg, 50 mg, 100 mg, 200 mg.
- ***Injection:*** 25 mg/mL.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status (orientation, mood, behavior) prior to and periodically during therapy.
- Assess weight and BMI initially and throughout therapy.
- Assess fasting blood glucose and cholesterol levels initially and periodically throughout therapy. Refer as appropriate for nutritional/weight and medical management.
- Assess positive (hallucinations, delusions, agitation) and negative (social withdrawal) symptoms of schizophrenia.
- Monitor blood pressure (sitting, standing, lying), pulse, and respiratory rate prior to and frequently during the period of dose adjustment.
- Observe patient carefully when administering medication to ensure medication is actually taken and not hoarded.
- Assess fluid intake and bowel function. Increased bulk and fluids in the diet may help minimize constipation.
- Monitor patient for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill rolling of hands, mask-like face, shuffling gait, rigidity, tremors; and *dystonic*—muscle spasms, twisting motions, twitching, inability to move eyes, weakness of arms or legs) every 2 mo during therapy and 8–12 wk after therapy has been discontinued. Notify health care professional if these symptoms occur; reduction in dose or discontinuation may

Continued on the following page

be necessary. Trihexyphenidyl, diphenhydramine, or benzotropine may be used to control these symptoms. Benzodiazepines may alleviate symptoms of akathisia.
- Monitor for tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities; lip smacking or puckering; puffing of cheeks; uncontrolled chewing; rapid or worm-like movements of tongue, excessive eye blinking). Report these symptoms immediately; may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, convulsions, diaphoresis, hypertension or hypotension, pallor, tiredness, severe muscle stiffness, loss of bladder control). Report these symptoms immediately.
- **Preoperative Sedation:** Assess level of anxiety prior to and following administration.
- **Vascular Headache:** Assess type, location, intensity, and duration of pain and accompanying symptoms.
- ***Lab Test Considerations:*** Monitor CBC, liver function tests, and ocular exams periodically throughout therapy. May cause ↓ hematocrit, hemoglobin, leukocytes, granulocytes, platelets. May cause ↑ bilirubin, AST, ALT, and alkaline phosphatase. Agranulocytosis occurs 4–10 wk after initiation of therapy, with recovery 1–2 wk following discontinuation. May recur if medication is restarted. Liver function abnormalities may require discontinuation of therapy. May cause false-positive or false-negative pregnancy tests and false-positive urine bilirubin test results.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Indications)
- Imbalanced nutrition: risk for more than body requirements (Side Effects)

IMPLEMENTATION

- Do not confuse chlorpromazine with chlorpropamide or prochlorperazine.
- Keep patient recumbent for at least 30 min following parenteral administration to minimize hypotensive effects.
- Phenothiazines should be discontinued 48 hr before and not resumed for 24 hr following metrizamide myelography, because they lower the seizure threshold.
- **Hiccups:** Initial treatment is with oral doses. If hiccups persist 2–3 days, IM injection may be used, followed by IV infusion.
- **PO:** Administer oral doses with food, milk, or a full glass of water to minimize gastric irritation. Tablets may be crushed.
- **IM:** Do not inject subcut. Inject slowly into deep, well-developed muscle. May be diluted with 0.9% NaCl or 2% procaine. Lemon-yellow color does not alter potency of solution. Do not administer solution that is markedly discolored or contains a precipitate.

IV Administration

- **Direct IV:** ***Diluent:*** Dilute with 0.9% NaCl. ***Concentration:*** Do not exceed 1 mg/mL. ***Rate:*** Inject slowly at a rate of at least 1 mg/min for adults and 0.5 mg/min for children.
- **Continuous Infusion:** ***Diluent:*** May further dilute 25–50 mg in 500–1000 mL of D5W, D10W, 0.45% NaCl, 0.9% NaCl, Ringer's or lactated Ringer's injection, dextrose/Ringer's or dextrose/lactated Ringer's combinations.
- **Syringe Compatibility:** atropine, benztropine, butorphanol, diphenhydramine, doxapram, droperidol, fentanyl, glycopyrrolate, hydromorphone, hydroxyzine, meperidine, metoclopramide, midazolam, morphine, pentazocine, scopolamine.
- **Syringe Incompatibility:** cimetidine, heparin, pantoprazole, pentobarbital, thiopental.
- **Y-Site Compatibility:** alfentanyl, amikacin, amsacrine, anidulafungin, ascorbic acid, atracurium, atropine, benztropine, bleomycin, buprenorphine, butorphanol, calcium chloride, calcium gluconate, caspofungin, cimetidine, cisatracurium, cisplatin, cladribine, cyclophosphamide, cyclosporine, cytarabine, dactinomycin, daptomycin, dexmedetomidine, digoxin, diltiazem, diphenhydramine, dobutamine, docetaxel, dopamine, doxacurium, doxorubicin,

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doxorubicin liposome, doxycycline, enalaprilat, ephedrine, epinephrine, epirubicin, erythromycin, esmolol, etoposide, famotidine, fenoldopam, filgrastim, fluconazole, gemcitabine, gentamicin, glycopyrrolate, granisetron, heparin, hetastarch, hydrocortisone, hydromorphone, idarubicin, ifosfamide, isoproterenol, labetalol, levofloxacin, lidocaine, lorazepam, magnesium sulfate, mannitol, mechlorethamine, meperidine, methoxamine, methyldopate, methylprednisolone, metoclopramide, metoprolol, metronidazole, midazolam, milrinone, mitoxantrone, morphine, multivitamins, nafcillin, nalbuphine, naloxone, nitroglycerin, norepinephrine, octreotide, ondansetron, oxacillin, oxaliplatin, palonosetron, pancuronium, papaverine, pentamidine, pentazocine, phentolamine, phytonadione, potassium chloride, procainamide, prochlorperazine, propofol, propranolol, protamine, pyridoxime, quinupristin/dalfopristin, ranitidine, rituximab, rocuronium, sodium acetate, succinylcholine, sufentanil, tacrolimus, teniposide, theophylline, thiamine, thiotepa, tirofiban, tolazoline, trimetaphan, vancomycin, vasopressin, vecuronium, verapamil, vincristine, vinorelbine, vitamin B complex with C, voriconazole.

- **Y-Site Incompatibility:** acyclovir, allopurinol, aminophylline, amphotericin B cholesteryl, amphotericin B colloidal, amphotericin B liposome, ampicillin, ampicillin/sulbactam, azathioprine, aztreonam, bivalirudin, bumetanide, carboplatin, cefazolin, cefepime, cefonocid, cefoperazone, cefotaxime, cefotetan, cefoxitin, ceftizoxime, ceftriaxone, cefuroxime, chloramphenicol, clindamycin, dantrolene, dexamethasone, diazepam, diazoxide, eftifibatide, epoetin alfa, ertapenem, etoposide phosphate, fludarabine, fluorouracil, folic acid, furosemide, gancilovir, hydralazine, imipenem/cilastatin, inamrinone, indomethacin, insulin, ketorolac, linezolid, melphalan, methotrexate, nitroprusside, paclitaxel, pantoprazole, pemetrexed, pentobarbital, phenobarbital, phytonadione, piperacillin/tazobactam, sargramostim, sodium bicarbonate, streptokinase, ticarcillin/clavulante, tigecycline, trastuzumab, trimethoprim/sulfamethoxazole.

PATIENT/FAMILY TEACHING

- Advise patient to take medication as directed and not to skip doses or double up on missed doses. If a dose is missed, take within 1 hr or omit dose and return to regular schedule. Abrupt withdrawal may lead to gastritis, nausea, vomiting, dizziness, headache, tachycardia, and insomnia.
- Inform patient of possibility of extrapyramidal symptoms and tardive dyskinesia. Instruct patient to report these symptoms immediately to health care professional.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- Medication may cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to the medication is known.
- Caution patient to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Advise patient to use sunscreen and protective clothing when exposed to the sun. Exposed surfaces may develop a temporary pigment change (ranging from yellow-brown to grayish purple). Extremes of temperature (exercise, hot weather, hot baths or showers) should also be avoided, because this drug impairs body temperature regulation.
- Instruct patient to use frequent mouth rinses, good oral hygiene, and sugarless gum or candy to minimize dry mouth. Consult health care professional if dry mouth continues for 2 wk.
- Advise patient not to take chlorpromazine within 2 hr of antacids or antidiarrheal medication.
- Inform patient that this medication may turn urine a pink-to-reddish-brown color.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Instruct patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, rash, weakness, tremors, visual disturbances, dark-colored urine, or clay-colored stools occur.

Continued on the following page

- Emphasize the importance of routine follow-up exams to monitor response to medication and detect side effects. Encourage continued participation in psychotherapy as indicated.
- Treatment is not a cure since symptoms can recur after discontinuation of medication.

EVALUATION/DESIRED OUTCOMES

- Decrease in excitable, manic behavior. Therapeutic effects may not be seen for 7–8 wk.
- Relief of nausea and vomiting.
- Relief of hiccups.
- Preoperative sedation.
- Management of porphyria.
- Relief of vascular headache.
- Decrease in positive (hallucinations, delusions, agitation) symptoms of schizophrenia.

citalopram

(si-**tal**-oh-pram)

Celexa

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *selective serotonin reuptake inhibitors (SSRIs)*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Depression.
- **Unlabelled Use:**
  - Premenstrual dysphoric disorder (PMDD).
  - Obsessive-compulsive discorder (OCD).
  - Panic disorder. Generalized anxiety disorder (GAD).
  - Post-traumatic stress disorder (PTSD).
  - Social anxiety disorder (social phobia).

ACTION

- Selectively inhibits the reuptake of serotonin in the CNS.
- Therapeutic Effects:
  - Antidepressant action.

PHARMACOKINETICS

Absorption: 80% absorbed after oral administration.

Distribution: Enters breast milk.

Metabolism and Excretion: Mostly metabolized by the liver (10% by CYP3A4 and 2C19 enzymes); excreted unchanged in urine.

Half-life: 35 hr.

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
PO	1–4 wk	unknown	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Concurrent MAO inhibitor or pimozide therapy.

Use Cautiously in:

- History of mania.
- History of suicide attempt/ideation (↑ risk during early therapy and during dose adjustment).
- History of seizure disorder.
- Illnesses or conditions that are likely to result in altered metabolism or hemodynamic responses.
- Severe renal or hepatic impairment.
- *OB:* Use during third trimester may result in neonatal serotonin syndrome requiring prolonged hospitalization, respiratory and nutritional support.

Continued on the following page

- *Lactation:* Present in breast milk and may result in lethargy with ↓ feeding in infants; weigh risk/benefits.
- Pedi: May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment in children/adolescents (unlabeled for pediatric use).
- Geri: ↓ doses recommended.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SUICIDAL THOUGHTS, apathy, confusion, drowsiness, insomnia, weakness, agitation, amnesia, anxiety, ↓ libido, dizziness, fatigue, impaired concentration, ↑ depression, migraine headache.

EENT: abnormal accommodation.

Resp: cough.

CV: postural hypotension, tachycardia.

GI: abdominal pain, anorexia, diarrhea, dry mouth, dyspepsia, flatulence, ↑ saliva, nausea, altered taste, ↑ appetite, vomiting.

GU: amenorrhea, dysmenorrhea, ejaculatory delay, erectile dysfunction, polyuria.

Derm: sweating, photosensitivity, pruritus, rash.

Metab: weight loss, weight gain.

F and E hyponatremia.

MS: arthralgia, myalgia.

Neuro: tremor, paresthesia.

Misc: SEROTONIN SYNDROME, fever, yawning.

INTERACTIONS

Drug-Drug:

- May cause serious, potentially fatal reactions when used with **MAO inhibitors;** allow at least 14 days between citalopram and **MAO inhibitors.**
- Concurrent use with **pimozide** may result in prolongation of the QTc interval and is contraindicated.
- Drugs that affect serotonergic neurotransmitter systems, including **linezolid**, **tramadol**, and **triptans** ↑ risk of serotonin syndrome.
- Use cautiously with other **centrally acting drugs** (including **alcohol**, **antihistamines**, **opioid analgesics**, and **sedative/hypnotics**; concurrent use with **alcohol** is not recommended).
- **Cimetidine** may ↑ levels.
- Serotonergic effects may be ↑ by **lithium** (concurrent use should be carefully monitored).
- **Ketoconazole**, **itraconazole**, **erythromycin**, and **omeprazole** may ↑ levels.
- **Carbamazepine** may ↓ blood levels.
- May ↑ levels of **metoprolol**.
- Use cautiously with **tricyclic antidepressants** due to unpredictable effects on serotonin and norepinephrine reuptake.
- ↑ risk of bleeding with **aspirin**, **NSAIDs**, **clopidogrel**, or **warfarin**.

Drug-Natural:

- ↑ risk of serotonergic side effects including serotonin syndrome with **St. John's wort** and **SAMe**.

ROUTE/DOSAGE

- **PO (Adults):** 20 mg once daily initially, may be ↑ by 20 mg/day at weekly intervals, up to 60 mg/day (usual dose is 40 mg/day).
- **PO (Geriatric Patients):** 20 mg once daily initially, may be ↑ to 40 mg/day only in nonresponding patients.

Continued on the following page

Hepatic Impairment

- **PO (Adults):** 20 mg once daily initially, may be ↑ to 40 mg/day only in nonresponding patients.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 10 mg, 20 mg, 40 mg
  - **Cost:** *Generic*—10 mg $89.97/90, 20 mg $89.97/90, 40 mg $89.97/90.
- ***Oral solution (peppermint flavor):*** 10 mg/5 mL
  - **Cost:** *Generic*—10 mg/5 mL $114.00/240 mL.

NURSING IMPLICATIONS

Assessment

- Monitor mood changes during therapy.
- Assess for suicidal tendencies, especially during early therapy and dose changes. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yr. After starting therapy, children, adolescents, and young adults should be seen by health care professional at least weekly for 4 wk, every 3 wk for the next 4 wk, and on advice of health care professional thereafter.
- Assess for sexual dysfunction (erectile dysfunction; decreased libido).
- Assess for serotonin syndrome (mental changes [agitation, hallucinations, coma], autonomic instability [tachycardia, labile blood pressure, hyperthermia], neuromuscular aberrations [hyperreflexia, incoordination], and/or GI symptoms [nausea, vomiting, diarrhea]), especially in patients taking other serotonergic drugs (SSRIs, SNRIs, triptans).

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for injury (Side Effects)
- Sexual dysfunction (Side Effects)

IMPLEMENTATION

- Do not confuse with Celebrex (celecoxib), Cerebyx (fosphenytoin), Zyprexa (olanzapine), or Lexapro (escitalopram).
- **PO:** Administer as a single dose in the morning or evening without regard to food.

PATIENT/FAMILY TEACHING

- Instruct patient to take citalopram as directed.
- May cause drowsiness, dizziness, impaired concentration, and blurred vision. Caution patient to avoid driving and other activities requiring alertness until response to the drug is known.
- Advise patient to avoid alcohol or other CNS depressant drugs during therapy and to consult health care professional before taking other Rx, OTC, or herbal products.
- Caution patient to change positions slowly to minimize dizziness.
- Advise patient, family, and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide, new or worse depression or anxiety, agitation or restlessness, panic attacks, insomnia, new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior or if symptoms of serotonin syndrome occur.
- Advise patient to use sunscreen and wear protective clothing to prevent photosensitivity reactions.

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- Inform patient that frequent mouth rinses, good oral hygiene, and sugarless gum or candy may minimize dry mouth. If dry mouth persists for more than 2 wk, consult health care professional regarding use of saliva substitute.
- Instruct female patients to inform health care professional if pregnancy is planned or suspected, or if they plan to breastfeed. If used during pregnancy should be tapered during third trimester to avoid neontal serotinin syndrome.
- Caution patients that citalopram should not be used for at least 14 days after discontinuing MAO inhibitors, and at least 14 days should be allowed after stopping citalopram before starting an MAO inhibitor.
- Emphasize the importance of follow-up exams to monitor progress.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings. May require 1–4 wk of therapy to obtain antidepressant effects.

clomiPRAMINE

(kloe-**mip**-ra-meen)

Anafranil

CLASSIFICATION

Therapeutic: *antiobsessive agents* ***Pharmacologic:*** *tricyclic antidepressants*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Obsessive-Compulsive Disorder (OCD).
- **Unlabelled Use:**
  - Depression, neuropathic pain/chronic pain.

ACTION

- Potentiates the effect of serotonin (antiobsessional effect) and norepinephrine in the CNS.
- Has moderate anticholinergic effects.
- Therapeutic Effects:
  - Diminished obsessive-compulsive behavior.

PHARMACOKINETICS

Absorption: Well absorbed from the GI tract.

Distribution: Widely distributed, enters breast milk.

Protein Binding: ≥90%.

Metabolism and Excretion: Extensively metabolized by the liver. Some conversion to a pharmacologically active metabolite (desmethylclomipramine). Undergoes enterohepatic recirculation and secretion into gastric juices.

Half-life: 21–31 hr.

TIME/ACTION PROFILE

ROUTE	ONSET	PEAK	DURATION
PO	1–6 wk	unknown	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Angle-closure glaucoma.
- Recent myocardial infarction.
- History of QTc prolongation.
- Cardiac arrythmias.
- Heart failure.
- Concurrent MAO inhibitor or clonidine use (avoid if possible).

Continued on the following page

- *OB:* Potential for fetal harm or neonatal withdrawal syndrome.
- *Lactation:* Discontinue drug or bottle feed.

Use Cautiously in:

- History of seizures (threshold may be lowered).
- Patients with pre-existing cardiovascular disease.
- Older men with prostatic hyperplasia (may be more susceptible to urinary retention).
- Hyperthyroidism (increased risk of arrhythmias)
- May ↑ risk of suicide attempt/ideation especially during dose early treatment or dose adjustment; risk may be greater in children or adolescents.
- *Pedi:* Safety not established in children <10 yr.
- *Geri:* ↑ risk of arrhythmias.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SEIZURES, lethargy, sedation, weakness, aggressive behavior.

EENT: blurred vision, dry eyes, dry mouth, vestibular disorder.

CV: ARRHYTHMIAS,

ECG changes, orthostatic hypotension.

GI: constipation, nausea, vomiting, weight gain, eructation.

GU: male sexual dysfunction, urinary retention.

Derm: dry skin, photosensitivity.

Endo: gynecomastia.

Hemat: anemia.

MS: muscle weakness.

Neuro: extrapyramidal reactions.

Misc: hyperthermia.

INTERACTIONS

Drug-Drug:

- May cause hypotension and tachycardia when used with **MAO inhibitors** (concurrent use not recommended).
- Wait 2 wks before initiating clomipramine after **MAO Inhibitors** are stopped.
- Wait 2 wks before initiating **MAO Inhibitors** after clomipramine is stopped.
- May prevent the therapeutic response to **antihypertensives**.
- Use with **clonidine** may result in hypertensive crisis (avoid concurrent use).
- ↑ CNS depression with other **CNS depressants** including **alcohol**, **antihistamines**, **opioids**, and **sedative/hypnotics**.
- Adrenergic and anticholinergic side effects may be ↑ with other **agents having adrenergic/anticholinergic properties**.
- Effects and toxicity may be ↑ by concurrent use with **SSRI antidepressants** (wait several weeks after stopping SSRIs to start clomipiramine; up to 5 weeks for fluoxetine), **phenothiazines**, **cimetidine**, or **oral contraceptives**.
- **Nicotine** may ↑ metabolism and ↓ effectiveness. Transient delirium may occur with **disulfiram**.

Drug-Natural:

- Increased risk of serotonergic side effects including serotonin syndrome with **St. John's wort** and **SAMe**.
- **Kava**, **valerian**, or **chamomile** can increase CNS depression.

Drug-Food:

- **Grapefruit juice** ↑ serum levels and effect.

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ROUTE/DOSAGE

- **PO (Adults):** *Antiobsessive*—25 mg/day, increased over 2-wk period to 100 mg/day in divided doses. May be further increased over several weeks up to 250–300 mg/day in divided doses. Once stabilizing dose is reached, entire daily dose may be given at bedtime. *Antidepressant*—25 mg 3 times daily, may be increased as needed (unlabeled).
- **PO (Geriatric Patients):** 20–30 mg/day initially, may be increased as needed.
- **PO (Children >10–17 yr):** 25 mg/day initially, increased over 2-wk period to 3 mg/kg/day or 100 mg/day (whichever is smaller) in divided doses. May be further increased to 3 mg/kg/day or 200 mg/day (whichever is smaller) in divided doses. Once stabilizing dose is reached, entire daily dose may be given at bedtime.

AVAILABILITY (GENERIC AVAILABLE)

- ***Capsules:*** 10 mg, 25 mg, 50 mg, 75 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor mental status (orientation, mood, behanior) frequently. Assess patient for frequency of OCD. Note degree to which these thoughts and behaviors interfere with daily functioning.
- Monitor blood pressure and pulse before and during initial therapy. Notify physician or other health care professional of decreases in blood pressure (10–20 mmHg) or sudden increase in pulse rate. Patients taking high doses or with a history of cardiovascular disease should have ECG monitored before and periodically during therapy.
- Assess weight and BMI initially and throughout treatment. Assess FBS and cholesterol levels in obese individuals. Refer as appropriate for nutritional/weight management and medical management.
- Observe for onset of extrapyramidal parkinsonian side effects (difficulty speaking or swallowing, loss of balance control, pill rolling with hands, mask-like face, shuffling gait, rigidity, tremors). Notify physician or other health care professional if these symptoms occur; reduction in dose or discontinuation of medication may be necessary. Trihexyphenidyl or diphenhydramine may be used to control these symptoms.
- *Lab Test Considerations:* Serum glucose may be ↑ or ↓.
- Monitor CBC and differential during chronic therapy. May rarely cause bone marrow suppression.
- In chronic therapy, periodically monitor hepatic and renal function.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (obsessive-compulsive behaviors), related to repressed anxiety (Indications)
- Risk for injury (Side Effects)
- Chronic pain (Indications)

IMPLEMENTATION

- Do not confuse clomipramine with clomiphene or desipramine.
- **PO:** Administer medication with or immediately after a meal to minimize gastric irritation. After titration of dose, total daily dose may be given at bedtime.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication exactly as directed. Abrupt discontinuation may cause nausea, headache, and malaise.
- May cause drowsiness and blurred vision. Caution patient to avoid driving and other activities requiring alertness until response to drug is known.
- Orthostatic hypotension, sedation, and confusion are common during early therapy, especially in geriatric patients. Protect patient from falls and advise patient to change positions slowly.

Continued on the following page

- Advise patient to avoid alcohol or other CNS depressant drugs during course of therapy and for 3–7 days after cessation of therapy.
- Instruct patient to notify health care professional if dry mouth or constipation persists or if urinary retention, uncontrolled movements, or rigidity occurs. Sugarless candy or gum may diminish dry mouth, and an increase in fluid intake or bulk may prevent constipation. If these symptoms persist, dosage reduction or discontinuation may be necessary. Consult health care professional if dry mouth persists for more than 2 wk.
- Advise patient to inform health care professional if sexual dysfunction occurs. Inform male patients that sexual dysfunction is common with this medication.
- Caution patient to use sunscreen and protective clothing to prevent photosensitivity reactions.
- Inform patient of need to monitor dietary intake because possible increase in appetite may lead to undesired weight gain.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Emphasize the importance of follow-up exams to monitor effectiveness and side effects and to improve coping skills.
- Inform patients taking high doses (250–300 mg/day) that risk of seizures is increased.
- Refer patient to local OCD group.

EVALUATION/DESIRED OUTCOMES

- Diminished obsessive compulsive behavior.

clonazepam

(kloe-**na**-ze-pam)

Klonopin, ♣Rivotril, ♣Syn-Clonazepam

CLASSIFICATION

Therapeutic: *anticonvulsants* ***Pharmacologic:*** *benzodiazepines*

Schedule IV

Pregnancy Category C

♣= Genetic implication.

♣= Canadian drug name.

INDICATIONS

- **Prophylaxis of:**
  - Petit mal.
  - Petit mal variant.
  - Akinetic.
  - Myoclonic seizures.
  - Panic disorder with or without agoraphobia.
- **Unlabelled Use:**
  - Uncontrolled leg movements during sleep.
  - Neuralgias.
  - Sedation.
  - Adjunct management of acute mania, acute psychosis, or insomnia.

ACTION

- Anticonvulsant effects may be due to presynaptic inhibition. Produces sedative effects in the CNS, probably by stimulating inhibitory GABA receptors.
- Therapeutic Effects:
  - Prevention of seizures.
  - Decreased manifestations of panic disorder.

PHARMACOKINETICS

Absorption: Well absorbed from the GI tract.

Distribution: Probably crosses the blood-brain barrier and the placenta.

Metabolism and Excretion: Mostly metabolized by the liver.

Half-life: 18–50 hr.

TIME/ACTION PROFILE (anticonvulsant activity)

ROUTE	ONSET	PEAK	DURATION
PO	20–60 min	1–2 hr	6–12 hr

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity to clonazepam or other benzodiazepines.
- Severe liver disease.

Use Cautiously in:

- All patients (may ↑ risk of suicidal thoughts/behaviors).
- Angle-closure glaucoma.
- Obstructive sleep apnea.
- Chronic respiratory disease.
- History of porphyria.
- Do not discontinue abruptly.
- *OB:* Safety not established. chronic use during pregnancy may result in withdrawal in the neonate.
- *Lactation:* May enter breast milk; discontinue drug or bottle feed.
- *Pedi:* Safety not established.
- *Geri:* May experience excessive sedation at usual doses; decreased dosage recommended.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SUICIDAL THOUGHTS, behavioral changes, drowsiness, fatigue, slurred speech, ataxia, sedation, abnormal eye movements, diplopia, nystagmus.

Resp: increased secretions.

CV: palpitations.

GI: constipation, diarrhea, hepatitis, weight gain.

GU: dysuria, nocturia, urinary retention.

Hemat: anemia, eosinophilia, leukopenia, thrombocytopenia.

Neuro: ataxia, hypotonia.

Misc: fever, physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:

- **Alcohol**, **antidepressants**, **antihistamines**, other **benzodiazepines**, and **opioid analgesics**—concurrent use results in ↑ CNS depression.
- **Cimetidine**, **hormonal contraceptives**, **disulfiram**, **fluoxetine**, **isoniazid**, **ketoconazole**, **metoprolol**, **propoxyphene**, **propranolol**, or **valproic acid** may ↓ metabolism of clonazepam, ↑ its actions.
- May ↓ efficacy of **levodopa**.
- **Rifampin** or **barbiturates** may ↑ metabolism and ↑ effectiveness of clonazepam.
- Sedative effects may be ↓ by **theophylline**. May ↑ serum **phenytoin** levels.
- **Phenytoin** may ↓ serum clonazepam levels.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, or **chamomile** can ↑ CNS depression.

ROUTE/DOSAGE

- **PO (Adults):** 0.5 mg 3 times daily; may ↑ by 0.5–1 mg q 3 days. Total daily maintenance dose not to exceed 20 mg. *Panic disorder*—0.125 mg twice daily; ↑ after 3 days toward target dose of 1 mg/day (some patients may require up to 4 mg/day).
- **PO (Children <10 yr or 30 kg):** Initial daily dose 0.01–0.03 mg/kg/day (not to exceed 0.05 mg/kg/day) given in 2–3 equally divided doses; ↑ by no more than 0.25–0.5 mg q 3 days until therapeutic blood levels are reached (not to exceed 0.2 mg/kg/day).

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 0.5 mg, 1 mg, 2 mg

Continued on the following page

- **Cost:** *Generic*—0.5 mg $29.99/100, 1 mg $29.99/100, 2 mg $26.66/100.

- ***Orally-disintegrating tablets:*** 0.125 mg, 0.25 mg, 0.5 mg, 1 mg, 2 mg
  - **Cost:** *Generic*—0.125 mg $69.99/60, 0.25 mg $72.99/60, 0.5 mg $70.99/60, 2 mg $100.00/60.

NURSING IMPLICATIONS

ASSESSMENT

- Observe and record intensity, duration, and location of seizure activity.
- Assess degree and manifestations of anxiety and mental status (orientation, mood, behavior) prior to and periodically during therapy.
- Assess need for continued treatment regularly.
- Assess patient for drowsiness, unsteadiness, and clumsiness. These symptoms are dose related and most severe during initial therapy; may decrease in severity or disappear with continued or long-term therapy.
- Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression.
- *Lab Test Considerations:* Patients on prolonged therapy should have CBC and liver function test results evaluated periodically. May cause an ↑ in serum bilirubin, AST, and ALT.
- May cause ↓ thyroidal uptake of sodium iodide, ^{123}I, and ^{131}I.
- *Toxicity and Overdose:* Therapeutic serum concentrations are 20–80 mg/mL. Flumazenil antagonizes clonazepam toxicity or overdose (may induce seizures in patients with history of seizure disorder or who are on tricyclic antidepressants).

POTENTIAL NURSING DIAGNOSES

- Risk for injury (Indications, Side Effects)

IMPLEMENTATION

- Do not confuse clonazepam with clonidine or clorazepate.
- Institute seizure precautions for patients on initial therapy or undergoing dose manipulations.
- **PO:** Administer with food to minimize gastric irritation. Tablets may be crushed if patient has difficulty swallowing. Administer largest dose at bedtime to avoid daytime sedation. Taper by 0.25 mg every 3 days to decrease signs and symptoms of withdrawal. Some patients may require longer taper period (months).

PATIENT/FAMILY TEACHING

- Instruct patient to take medication exactly as directed. Take missed doses within 1 hr or omit; do not double doses. Abrupt withdrawal of clonazepam may cause status epilepticus, tremors, nausea, vomiting, and abdominal and muscle cramps. Instruct patient to read the *Medication Guide* before starting and with each Rx refill, changes may occur.
- Advise patient to not share medication with others.
- Medication may cause drowsiness or dizziness. Advise patient to avoid driving or other activities requiring alertness until response to drug is known.
- Caution patient to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Instruct patient and family to notify health care professional of unusual tiredness, bleeding, sore throat, fever, clay-colored stools, yellowing of skin, or behavioral changes. Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking, other unusual changes in behavior or mood occur.

Continued on the following page

- Patient on anticonvulsant therapy should carry identification at all times describing disease process and medication regimen.
- Emphasize the importance of follow-up exams to determine effectiveness of the medication.
- Advise patient that clonazepam is usually prescribed for short-term use and does not cure underlying problems.

EVALUATION/DESIRED OUTCOMES

- Decrease or cessation of seizure activity without undue sedation. Dose adjustments may be required after several months of therapy.
- Decrease in frequency and severity of panic attacks.
- Relief of leg movements during sleep.
- Decrease in pain from neuralgia.

clozapine

(**kloe**-za-peen)

Clozaril, FazaClo

CLASSIFICATION

Therapeutic: *antipsychotics*

Pregnancy Category B

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Schizoprenia unresponsive to or intolerant of standard therapy with other antipsychotics (treatment refractory).
- To reduce recurrent suicidal behavior in schizophrenic patients.

ACTION

- Binds to dopamine receptors in the CNS. Also has anticholinergic and alpha-adrenergic blocking activity.
- Produces fewer extrapyramidal reactions and less tardive dyskinesia than standard antipsychotics but carries high risk of hematologic abnormalities.
- Therapeutic Effects:
  - Diminished schizophrenic behavior.
  - Diminished suicidal behavior.

PHARMACOKINETICS

Absorption: Well absorbed after oral administration.

Distribution: Rapid and extensive distribution; crosses blood-brain barrier and placenta.

Protein Binding: 95%.

Metabolism and Excretion: Mostly metabolized on first pass through the liver (by CYP1A2, CYP2D6, and CYP3A4 isoenzymes); 🍁 (the CYP2D6 enzyme system exhibits genetic polymorphism; <7% of population may be poor metabolizers and may have significantly ↑ clozapine concentrations and an ↑ risk of adverse effects).

Half-life: 8–12 hr.

TIME/ACTION PROFILE (antipsychotic effect)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	wk	4–12 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Bone marrow depression.
- Severe CNS depression/coma.
- Uncontrolled epilepsy.

Continued on the following page

- Granulocytopenia.
- *Lactation:* Discontinue drug or bottle-feed.

Use Cautiously in:
- Prostatic enlargement.
- Angle-closure glaucoma.
- Malnourished patients or patients with cardiovascular, hepatic, or renal disease (use lower initial dose, titrate more slowly).
- Diabetes.
- Seizure disorder.
- *Pedi:* Children <16 yr (safety not established).
- *Geri:* ↑ risk of mortality in elderly patients treated for dementia-related psychosis.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SEIZURES, dizziness, sedation.

EENT: visual disturbances.

CV: MYOCARDITIS, hypotension, tachycardia, ECG changes, hypertension.

GI: constipation, abdominal discomfort, dry mouth, ↑ salivation, nausea, vomiting, weight gain.

Derm: rash, sweating.

Endo: hyperglycemia.

Hemat: AGRANULOCYTOSIS, LEUKOPENIA.

Neuro: extrapyramidal reactions.

Misc: fever.

INTERACTIONS

Drug-Drug:
- ↑ anticholinergic effects with other **agents having anticholinergic properties,** including **antihistamines**, **quinidine**, **disopyramide**, and **antidepressants**.
- Concurrent use with **SSRI antidepressants** (especially **fluvoxamine**), **cimetidine**, **ciprofloxacin**, and **erythromycin** ↑ blood levels and risk of toxicity.
- ↑ CNS depression with **alcohol**, **antidepressants**, **antihistamines**, **opioid analgesics**, or **sedative/hypnotics**.
- ↑ hypotension with **nitrates**, acute ingestion of **alcohol**, or **antihypertensives**. ↑ risk of bone marrow suppression with **antihypertensives** or **radiation therapy**.
- Use with **lithium** ↑ risk of adverse CNS reactions, including seizures.
- **Phenytoin**, **nicotine**, and **rifampin** may ↑ levels and lead to ↑ efficacy.

Drug-Natural:
- Caffeine-containing herbs (**cola nut**, **tea**, **coffee**) may ↑ serum levels and side effects.
- **St. John's wort** may ↑ blood levels and efficacy.

ROUTE/DOSAGE

- **PO (Adults):** 25 mg 1–2 times daily initially; ↑ by 25–50 mg/day over a period of 2 wk up to target dose of 300–450 mg/day. May ↑ by up to 100 mg/day once or twice further (not to exceed 900 mg/day). Treatment should be continued for at least 2 yr in patients with suicidal behavior.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 25 mg, 100 mg.
- ***Orally-disintegrating tablets (mint):*** 25 mg, 100 mg.

Continued on the following page

NURSING IMPLICATIONS

ASSESSMENT

- Monitor patient's mental status (orientation, mood, behavior) before and periodically during therapy.
- Monitor blood pressure (sitting, standing, lying) and pulse rate before and frequently during initial dose titration.
- Assess weight and BMI initially and throughout therapy.
- Assess fasting blood glucose and cholesterol levels initially and throughout therapy. Refer as appropriate for nutritional/weight management and medical management.
- Observe patient carefully when administering medication to ensure that medication is actually taken and not hoarded or cheeked.
- Monitor for signs of myocarditis (unexplained fatigue, dyspnea, tachypnea, fever, chest pain, palpitations, other signs and symptoms of heart failure, ECG changes, such as ST-T wave abnormalities, arrhythmias, or tachycardia during first month of therapy). If these occur, clozapine should be discontinued and not restarted.
- Monitor patient for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill-rolling motion of hands, mask-like face, shuffling gait, rigidity, tremors and dystonic muscle spasms, twisting motions, twitching, inability to move eyes, weakness of arms or legs) every 2 mo during therapy and 8–12 wk after therapy has been discontinued. Notify health care professional if these symptoms occur; reduction in dose or discontinuation of medication may be necessary. Trihexyphenidyl or benzotropine may be used to control these symptoms.
- Although not yet reported for clozapine, monitor for possible tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities, lip smacking or puckering, puffing of cheeks, uncontrolled chewing, rapid or worm-like movements of tongue). Report these symptoms immediately; may be irreversible.
- Monitor frequency and consistency of bowel movements. Increasing bulk and fluids in the diet may help to minimize constipation.
- Clozapine lowers the seizure threshold. Institute seizure precautions for patients with history of seizure disorder.
- Transient fevers may occur, especially during first 3 wk of therapy. Fever is usually self-limiting but may require discontinuation of medication. Also, monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness). Notify health care professional immediately if these symptoms occur.
- ***Lab Test Considerations:*** Monitor WBC, absolute neutrophil count (ANC), and differential count before initiation of therapy and WBC and ANC weekly for the first 6 months, then biweekly during therapy and weekly for 4 wk after discontinuation of clozapine. Because of the risk of agranulocytosis, clozapine is available only in a 1-wk supply through the **Clozaril Patient Management System**, which combines WBC testing, patient monitoring, and controlled distribution through participating pharmacies. If WBC is <3000 mm^3 or granulocyte count is <1500 mm^3, withhold clozapine, increase frequency of WBC monitoring according to management system guidelines, and monitor patient for signs and symptoms of infection. If acceptable WBC and ANC levels were maintained during first 6 months of continuous therapy, monitoring may decrease to every 2 wk. If levels are maintained for second 6 months, WBC and ANC may be monitored every 4 wk thereafter.
- *Toxicity and Overdose:* Overdose is treated with activated charcoal and supportive therapy. Monitor patient for several days because of risk of delayed effects.
- Avoid use of epinephrine and its derivatives when treating hypotension, and avoid quinidine and procainamide when treating arrhythmias.

Continued on the following page

POTENTIAL NURSING DIAGNOSES

- Risk for other-directed violence (Indications)
- Disturbed thought process (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- **PO:** Administer capsules with food or milk to decrease gastric irritation.
- Leave oral disintegrating tablet in blister until time of use. Do not push tablet through foil. Just before use, peel foil and gently remove disintegrating tablet. Immediately place tablet in mouth and allow to disintegrate and swallow with saliva. If $^1/_2$ tablet dose used, destroy other half of tablet.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed. Patients on long-term therapy may need to discontinue gradually over 1–2 wk.
- Explain purpose and procedures for *Clozaril Patient Management System* to patient.
- Inform patient of possibility of extrapyramidal symptoms. Instruct patient to report these symptoms immediately.
- Inform patient that cigarette smoking can decrease clozapine levels. Risk for relapse increases if patient begins or increases smoking.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- May cause seizures and drowsiness. Caution patient to avoid driving or other activities requiring alertness while taking clozapine.
- Caution patient to avoid concurrent use of alcohol, other CNS depressants, and Rx, OTC, and herbal products without consulting health care professional.
- Instruct patient to use frequent mouth rinses, good oral hygiene, and sugarless gum or candy to minimize dry mouth.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Instruct patient to notify health care professional promptly if unexplained fatigue, dyspnea, tachypnea, chest pain, palpitations, sore throat, fever, lethargy, weakness, malaise, or flu-like symptoms occur or if pregnancy is planned or suspected.
- Advise female patients to notify health care professional if pregnancy is planned or suspected, or if breast-feeding or planning to breast-feed.
- Advise patient of need for continued medical follow-up for psychotherapy, eye exams, and laboratory tests.

EVALUATION/DESIRED OUTCOMES

- Decreased positive symptoms (delusions, hallucinations) of schizophrenia.
- Decrease in negative symptoms (social withdrawal, flat, blunt affect) of schizophrenia.

desvenlafaxine

(**des**-ven-la-**fax**-een)

Pristiq

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *selective serotonin/norepinephrine reuptake inhibitors*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Major depressive disorder.

ACTION

- Inhibits serotonin and norepinephrine reuptake in the CNS.
- Therapeutic Effects:
  - Decrease in depressive symptomatology, with fewer relapses/recurrences.

PHARMACOKINETICS

Absorption: 80% absorbed following oral administration.

Distribution: Enters breast milk.

Metabolism and Excretion: 55% metabolized by the liver, 45% excreted unchanged in urine.

Half-life: 10 hr.

TIME/ACTION PROFILE (blood levels)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	7.5 hr	24 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity to venlafaxine or desvenlafaxine.
- Concurrent MAO inhibitors or within 14 days of stopping an MAO inhibitor; after desvenlafaxine is stopped wait 7 days until starting an MAO inhibitor.
- Should not be used concurrently with venlafaxine.

Use Cautiously in:

- Untreated cerebrovascular or cardiovascular disease, including untreated hypertension (control blood pressure before initiating therapy).
- Bipolar disorder (may activate mania/hypomania).
- History of ↑ intraocular pressure/angle-closure glaucoma.

Continued on the following page

- Renal impairment (consider modifications, dose should not exceed 50 mg/day, especially in moderate to severe renal impairment).
- History of seizures or neurologic impairment.
- Hepatic impairment (dose should not exceed 100 mg/day).
- *Geri:* Consider age-related decrease in renal function, decreased body mass, concurrent disease states, and medications.
- *OB/Lactation:* Use in pregnancy or lactation only if maternal benefit outweighs fetal/infant risk.
- *Pedi:* ↑ risk of suicidal thinking and behavior (suicidality) in children and adolescents with major depressive disorder and other psychiatric disorders. Observe closely for suicidality and behavior changes.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SEIZURES, SUICIDAL THOUGHTS, anxiety, dizziness, drowsiness, insomnia, headache.

EENT: ↑ intraocular pressure, mydriasis.

Resp: eosinophilic pneumonia, interstitial lung disease.

CV: hypertension.

GI: ↓ appetite, constipation, nausea.

GU: male sexual dysfunction.

Derm: sweating.

F and E hyponatremia.

Hemat: ↑ risk of bleeding.

Metab: hypercholesterolema, hyperlipidemia.

Misc: SEROTONIN SYNDROME.

INTERACTIONS

Drug-Drug:

- Concurrent use with **MAO inhibitors** may result in serious, potentially fatal reactions (wait at least 2 wk after stopping MAO inhibitor before initiating desvenlafaxine; wait at least 1 wk after stopping desvenlafaxine before starting an MAO inhibitor).
- ↑ risk of bleeding with other **drugs that ↑ bleeding risk** including **anticoagulants**, **antithrombotics**, **platelet aggregation inhibitors**, and **NSAIDs**.
- Use cautiously with other **CNS-active drugs**, including **alcohol** or **sedative/hypnotics**; effects of combination are unknown.
- Drugs that affect serotonergic neurotransmitter systems, including **linezolid**, **tramadol**, and **triptans** ↑ risk of serotonin syndrome.
- **Ketoconazole** may ↑ the effects of desvenlafaxine.

ROUTE/DOSAGE

- **PO (Adults):** 50 mg once daily.

Renal Impairment

- **PO (Adults):** *CCr 30–50 mL/min*—50 mg/day; *CCr <30 mL/min*—50 mg every other day.

AVAILABILITY

- ***Extended-release tablets:*** 50 mg, 100 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status and mood changes, especially during initial few months of therapy and during dose changes. Inform health care professional if patient demonstrates significant increase in signs of depression (depressed mood, loss of interest in usual activities, significant change in weight and/or

Continued on the following page

appetite, insomnia or hypersomnia, psychomotor agitation or retardation, increased fatigue, feelings or guilt or worthlessness, slowed thinking or impaired concentration, suicide attempt or suicidal ideation).

- Assess suicidal tendencies, especially in early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yr.
- Monitor blood pressure before and periodically during therapy. Sustained hypertension may be dose related; decrease dose or discontinue therapy if this occurs.
- Monitor appetite and nutritional intake; weigh weekly. Report continued weight loss. Adjust diet as tolerated to support nutritional status.
- Assess for serotonin syndrome (mental changes [agitation, hallucinations, coma], autonomic instability [tachycardia, labile blood pressure, hyperthermia], neuromuscular aberations [hyper reflexia, incoordination], and/or GI symptoms [nausea, vomiting, diarrhea]), especially in patients taking other serotonergic drugs (SSRIs, SNRIs, triptans).
- *Lab Test Considerations:* May cause ↑ fasting serum total cholesterol, LDL, cholesterol, and triglycerides.
- May cause transient proteinuria, not usually associated with ↑ BUN or creatinine.
- May cause hyponatremia.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- **PO:** Administer at the same time each day, with or without food. Tablets should be swallowed whole; do not crush, break, chew, or dissolve.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication exactly as directed at the same time each day. Take missed doses as soon as possible unless almost time for next dose. Do not double doses or discontinue abruptly; gradually decrease before discontinuation.
- Advise patient, family and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide, new or worse depression or anxiety, agitation or restlessness, panic attacks, insomnia, new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior or if symptoms of serotonin syndrome occur.
- May cause drowsiness or dizziness. Caution patient to avoid driving or other activities requiring alertness until response to the drug is known.
- Caution patient to avoid taking alcohol or other CNS-depressant drugs during therapy and not to take other Rx, OTC, or herbal products without consulting health care professional.
- Instruct female patients to inform health care professional if pregnancy is planned or suspected or if breastfeeding.
- Instruct patient to notify health care professional if signs of allergy (rash, hives, swelling, difficulty breathing) occur.
- Emphasize the importance of follow-up exams to monitor progress. Encourage patient participation in psychotherapy.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings. Need for therapy should be periodically reassessed. Therapy is usually continued for several mo.

dextroamphetamine

(dex-troe-am-**fet**-a-meen)

Dexedrine

CLASSIFICATION

Therapeutic: *central nervous system stimulants* ***Pharmacologic:*** *amphetamines*

Schedule II

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Adjunct management of ADHD. Narcolepsy.
- **Unlabelled Use:**
  - Exogenous obesity.

ACTION

- Produces CNS stimulation by releasing norepinephrine from nerve endings.
- Pharmacologic effects:
  - CNS and respiratory stimulation.
  - Vasoconstriction.
  - Mydriasis (pupillary dilation).
  - Contraction of the urinary bladder sphincter.
- Therapeutic Effects:
  - Increased motor activity and mental alertness and decreased fatigue in narcoleptic patients.
  - Increased attention span in ADHD.

PHARMACOKINETICS

Absorption: Well absorbed.

Distribution: Widely distributed; high concentrations in brain and CSF. Crosses the placenta; enters breast milk; potentially embryotoxic.

Metabolism and Excretion: Some metabolism by the liver. Urinary excretion is pH-dependent. Alkaline urine promotes reabsorption and prolongs action.

Half-life: 10–12 hr (6.8 hr in children).

TIME/ACTION PROFILE (CNS stimulation)

ROUTE	ONSET	PEAK	DURATION
PO	1–2 hr	3 hr	2–10 hr
PO-ER	unknown	unknown	up to 24 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- *OB/Lactation:* Pregnancy or lactation; Hyperexcitable states, including hyperthyroidism; Psychotic personalities; Suicidal or homicidal tendencies; Glaucoma.
- Some products contain tartrazine; avoid in patients with known hypersensitivity.

Continued on the following page

Use Cautiously in:
- Cardiovascular disease (sudden death has occurred in children with structural cardiac abnormalities or other serious heart problems).
- Hypertension; Diabetes mellitus.
- History of substance abuse.
- Debilitated patients.
- Continual use (may produce psychological dependence or physical addiction).
- *Geri:* Appears on Beers list. Elderly are at ↑ risk for cardiovascular side effects.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: hyperactivity, insomnia, restlessness, tremor, behavioral disturbances, depression, dizziness, hallucinations, headache, irritability, mania, thought disorder.

CV: SUDDEN DEATH, palpitations, tachycardia, arrhythmias, hypertension.

GI: anorexia, constipation, cramps, diarrhea, dry mouth, metallic taste, nausea, vomiting.

GU: erectile dysfunction, ↑ libido.

Derm: urticaria.

Misc: physical dependence, psychological dependence.

INTERACTIONS

Drug-Drug:
- ↑ adrenergic effects with other **adrenergics**.
- Use with **MAO inhibitors** can result in hypertensive crisis.
- Alkalinizing the urine (**sodium bicarbonate**, **acetazolamide**) prolongs effect.
- Acidification of urine (**ammonium chloride**, large doses of **ascorbic acid**) ↓ effect.
- **Phenothiazines** may ↓ effect of dextroamphetamine.
- May antagonize the response to **antihypertensives**. ↑ risk of cardiovascular side effects with **beta blockers** or **tricyclic antidepressants**.

Drug-Natural:
- **St. John's wort** may ↑ serious side effects, concurrent use is not recommended.
- Use with caffeine-containing herbs (**guarana**, **tea**, **coffee**) ↑ stimulant effect.
- **St. John's wort** may ↑ serious side effects, concurrent use is not recommended.

ROUTE/DOSAGE

Attention-Deficit Hyperactivity Disorder
- **PO (Adults):** 5–40 mg/day in divided doses. Sustained-release capsules should not be used as initial therapy.
- **PO (Children ≥6 yr):** 5 mg 1–2 times daily, ↑ by 5 mg daily at weekly intervals (maximum: 40 mg/day). Sustained-release capsules should not be used as initial therapy.
- **PO (Children 3–5 yr):** 2.5 mg/day, ↑ by 2.5 mg daily at weekly intervals (maximum: 40 mg/day).

Narcolepsy
- **PO (Adults):** 5–60 mg/day single dose or in divided doses. Sustained-release capsules should not be used as initial therapy.
- **PO (Children ≥12 yr):** 10 mg/day, ↑ by 10 mg/day at weekly intervals until response is obtained or 60 mg is reached.
- **PO (Children 6–12 yr):** 5 mg/day, ↑ by 5 mg/day at weekly intervals until response is obtained or 60 mg is reached.

Exogenous obesity
- **PO (Adults and Children >12 yr):** 5–30 mg/day in divided doses of 5–10 mg given 30–60 min before meals.

Continued on the following page

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 5 mg, 10 mg.
- ***Sustained-release capsules:*** 5 mg, 10 mg, 15 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor blood pressure, pulse, and respiration before administering and periodically during therapy. Obtain a history (including assessment of family history of sudden death or ventricular arrhythmia), physical exam to assess for cardiac disease, and further evaluation (ECG and echocardiogram), if indicated. If exertional chest pain, unexplained syncope, or other cardiac symptoms occur, evaluate promptly.
- Has high dependence and abuse potential. Tolerance to medication occurs rapidly; do not increase dose.
- Monitor closely for behavior change.
- *Geri:* Not recommended for use in elderly secondary to risk for hypertension, angina, and MI.
- **ADHD:** Monitor weight biweekly and inform health care professional of significant loss.
- *Pedi:* Monitor height periodically in children; report growth inhibition.
- Assess child's attention span, impulse control, and interactions with others. Therapy may be interrupted at intervals to determine whether symptoms are sufficient to continue therapy.
- **Narcolepsy:** Observe and document frequency of narcoleptic episodes.
- May produce a false sense of euphoria and well-being. Provide frequent rest periods and observe patient for rebound depression after the effects of the medication have worn off.
- *Lab Test Considerations:* May interfere with urinary steroid determinations.
- May cause ↑ plasma corticosteroid concentrations; greatest in evening.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Side Effects)

IMPLEMENTATION

- Do not confuse Adderall (dextroamphetamine/amphetamine) with Inderal (propranolol).
- Therapy should utilize the lowest effective dose.
- **PO:** Sustained-release capsules should be swallowed whole; do not break, crush, or chew.
- **ADHD:** *Pedi:* When symptoms are controlled, dose reduction or interruption of therapy may be possible during summer months or may be given on each of the 5 school days with medication-free weekends and holidays.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication at least 6 hr before bedtime to avoid sleep disturbances. Take missed doses as soon as remembered up to 6 hr before bedtime. Do not double doses. Advise patient and parents to read the *Medication Guide* prior to starting therapy and with each Rx refill. Instruct patient not to alter dose without consulting health care professional. Abrupt cessation of high doses may cause extreme fatigue and mental depression.
- Inform patient that sharing this medication may be dangerous.
- Inform patient that the effects of drug-induced dry mouth can be minimized by rinsing frequently with water or chewing sugarless gum or candies.
- Advise patient to avoid the intake of large amounts of caffeine.
- Medication may impair judgment. Advise patients to use caution when driving or during other activities requiring alertness.
- Advise patient to notify health care professional if nervousness, restlessness, insomnia, dizziness, anorexia, or dry mouth becomes severe.

Continued on the following page

- Pedi: If reduced appetite and weight loss are a problem, advise parents to provide high calorie meals when drug levels are low (at breakfast and/or bedtime).
- Advise patient and/or parents to notify health care professional of behavioral changes.
- Inform patient that periodic holiday from the drug may be ordered to assess progress and decrease dependence.
- Advise patient to notify health care professional if pregnancy is planned or suspected, or if breastfeeding.
- Caution patients to inform health care professional if they have ever abused or been dependent on alcohol or drugs, or if they are now abusing or dependent on alcohol or drugs.
- Emphasize the importance of routine follow-up exams to monitor progress.
- **Home Care Issues:** Advise parents to notify school nurse of medication regimen.

EVALUATION/DESIRED OUTCOMES

- Improved attention span. Therapy should be interrupted and reassessed periodically.
- Decrease in narcoleptic symptoms.

diazepam

(dye-**az**-e-pam)

Apo-Diazepam, Diastat, Diazemuls, Novodipam, PMS-Diazepam, Valium, Vivol

CLASSIFICATION

Therapeutic: *antianxiety agents, anticonvulsants, sedative/hypnotics, skeletal muscle relaxants (centrally acting)*
Pharmacologic: *benzodiazepines*

Schedule IV

Pregnancy Category D

= Genetic implication.
= Canadian drug name.

INDICATIONS

- Adjunct in the management of:
  - Anxiety Disorder.
  - Athetosis.
  - Anxiety relief prior to cardioversion (injection).
  - Stiffman Syndrome.
  - Preoperative sedation.
  - Conscious sedation (provides light anesthesia and anterograde amnesia).
  - Treatment of status epilepticus/uncontrolled seizures (injection).
  - Skeletal muscle relaxant.
  - Management of the symptoms of alcohol withdrawal.
- **Unlabelled Use:**
  - Anxiety associated with acute myocardial infarction, insomnia.

ACTION

- Depresses the CNS, probably by potentiating GABA, an inhibitory neurotransmitter.
- Produces skeletal muscle relaxation by inhibiting spinal polysynaptic afferent pathways.
- Has anticonvulsant properties due to enhanced presynaptic inhibition.
- Therapeutic Effects:
  - Relief of anxiety.
  - Sedation.
  - Amnesia.
  - Skeletal muscle relaxation.
  - Decreased seizure activity.

PHARMACOKINETICS

Absorption: Rapidly absorbed from the GI tract. Absorption from IM sites may be slow and unpredictable. Well absorbed (90%) from rectal mucosa.

Distribution: Widely distributed. Crosses the blood-brain barrier. Crosses the placenta; enters breast milk.

Metabolism and Excretion: Highly metabolized by the hepatic P450 enzymes (CYP2C19 and CYP3A4); the CYP2C19 enzyme system exhibits genetic polymorphism; 15–20% of Asian patients and 3–5% of Caucasian and Black patients

Continued on the following page

may be poor metabolizers and may have significantly ↑ diazepam concentrations and an ↑ risk of adverse effects. Some products of metabolism are active as CNS depressants.

Half-life: Neonates: 50–95 hr; Infants 1 month–2 yr: 40–50 hr; Children 2–12 yr: 15–21 hr; Children 12–16 yr: 18–20 hr; Adults: 20–50 hr (up to 100 hr for metabolites).

TIME/ACTION PROFILE (sedation)

ROUTE	ONSET	PEAK	DURATION
PO	30–60 min	1–2 hr	up to 24 hr
IM	within 20 min	0.5–1.5 hr	unknown
IV	1–5 min	15–30 min	15–60 min†
Rectal	2–10 min	1–2 hr	4–12 hr

†In status epilepticus, anticonvulsant duration is 15–20 min

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Cross-sensitivity with other benzodiazepines may occur.
- Comatose patients.
- Myasthenia gravis.
- Severe pulmonary impairment.
- Sleep apnea.
- Severe hepatic dysfunction.
- Pre-existing CNS depression.
- Uncontrolled severe pain.
- Angle-closure glaucoma.
- Some products contain alcohol, propylene glycol, or tartrazine and should be avoided in patients with known hypersensitivity or intolerance.
- *OB:* ↑ risk of congenital malformations.
- *Pedi:* Children <6 mo (for oral; safety not established).
- *Lactation:* Recommend to discontinue drug or bottle-feed.

Use Cautiously in:

- Severe renal impairment.
- History of suicide attempt or drug dependence.
- Debilitated patients (dose reduction required).
- Patients with low albumin.
- *Pedi:* Metabolites can accumulate in neonates. Injection contains benzyl alcohol which can cause potentially fatal gasping syndrome in neonates.
- *Geri:* Long-acting benzodiazepines cause prolonged sedation in the elderly.
- Appears on *Beers list* and is associated with ↑ risk of falls (↓ dose required or consider short-acting benzodiazepine).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: dizziness, drowsiness, lethargy, depression, hangover, ataxia, slurred speech, headache, paradoxical excitation.

EENT: blurred vision.

Resp: respiratory depression.

CV: hypotension (IV only).

GI: constipation, diarrhea (may be caused by propylene glycol content in oral solution), nausea, vomiting, weight gain.

Derm: rashes.

Local: pain (IM), phlebitis (IV), venous thrombosis.

Misc: physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:

- **Alcohol**, **antidepressants**, **antihistamines**, and **opioid analgesics**—concurrent use results in additive CNS depression.

Continued on the following page

- **Cimetidine**, **hormonal contraceptives**, **disulfiram**, **fluoxetine**, **isoniazid**, **ketoconazole**, **metoprolol**, **propoxyphene**, **propranolol**, or **valproic acid** may ↓ the metabolism of diazepam, enhancing its actions.
- May ↓ the efficacy of **levodopa**.
- **Rifampin** or **barbiturates** may ↑ the metabolism and ↓ effectiveness of diazepam.
- Sedative effects may be ↓ by **theophylline**.
- Concurrent use of **ritonavir** is not recommended.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, or **chamomile** can ↑ CNS depression.

ROUTE/DOSAGE

Antianxiety

- **PO (Adults):** 2–10 mg 2–4 times daily.
- **IM, IV (Adults):** 2–10 mg, may repeat in 3–4 hr as needed.
- **PO (Children >6 mo):** 1–2.5 mg 3–4 times daily.
- **IM, IV (Children >1 mo):** 0.04–0.3 mg/kg/dose q 2–4 hr to a maximum of 0.6 mg/kg within an 8 hr period if necessary.

Precardioversion

- **IV (Adults):** 5–15 mg 5–10 min precardioversion.

Pre-endoscopy

- **IV (Adults):** 2.5–20 mg.
- **IM (Adults):** 5–10 mg 30 min pre-endoscopy.

Pediatric Conscious Sedation for Procedures

- **PO (Children >6 mo):** 0.2–0.3 mg/kg (not to exceed 10 mg/dose) 45–60 min prior to procedure.

Status Epilepticus/Acute Seizure Activity

- **IV (Adults):** 5–10 mg, may repeat q 10–15 min to a total of 30 mg, may repeat regimen again in 2–4 hr (IM route may be used if IV route unavailable); larger doses may be required.
- **IM, IV (Children ≥5 yr):** 0.05–0.3 mg/kg/dose given over 3–5 min q 15–30 min to a total dose of 10 mg, repeat q 2–4 hr.
- **IM, IV (Children 1 mo–5 yr):** 0.05–0.3 mg/kg/dose given over 3–5 min q 15–30 min to maximum dose of 5 mg, repeat in 2–4 hr if needed.
- **IV (Neonates):** 0.1–0.3 mg/kg/dose given over 3–5 min q 15–30 min to maximum dose of 2 mg.
- **Rect (Adults and Children >12 yr):** 0.2 mg/kg; may repeat 4–12 hr later.
- **Rect (Children 6–11 yr):** 0.3 mg/kg; may repeat 4–12 hr later.
- **Rect (Children 2–5 yr):** 0.5 mg/kg; may repeat 4–12 hr later.

Febrile Seizure Prophylaxis

- **PO (Children >1 mo):** 1 mg/kg/day divided q 8 hr at first sign of fever and continue for 24 hr after fever is gone.

Skeletal Muscle Relaxation

- **PO (Adults):** 2–10 mg 3–4 times daily.
- **PO (Geriatric Patients or Debilitated Patients):** 2–2.5 mg 1–2 times daily initially.
- **PO (Children >6 mo):** 1–2.5 mg 3–4 times daily.
- **IM, IV (Adults):** 5–10 mg; may repeat in 2–4 hr (larger doses may be required for tetanus).
- **IM, IV (Geriatric Patients or Debilitated Patients):** 2–5 mg; may repeat in 2–4 hr (larger doses may be required for tetanus).
- **IM, IV (Children ≥5 yr):** *Tetanus*—5–10 mg q 3–4 hr.
- **IM, IV (Children >1 mo):** *Tetanus*—1–2 mg q 3–4 hr.

Alcohol Withdrawal

- **PO (Adults):** 10 mg 3–4 times in first 24 hr, decrease to 5 mg 3–4 times daily.
- **IM, IV (Adults):** 10 mg initially, then 5–10 mg in 3–4 hr as needed; larger or more frequent doses have been used.

Continued on the following page

Psychoneurotic Reactions

- **IM, IV (Adults):** 2–10 mg, may be repeated in 3–4 hr.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 2 mg, 5 mg, 10 mg
  - **Cost:** *Generic–* 2 mg $7.99/30, 5 mg $7.99/30, 10 mg $7.99/30.
- ***Oral solution:*** 1 mg/mL, 5 mg/mL (Intensol).
- ***Solution for injection:*** 5 mg/mL (contains 10% alcohol and 40% propylene glycol).
- ***Rectal gel delivery system:*** 2.5 mg, 10 mg, 20 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor blood pressure, pulse, and respiratory rate prior to and periodically throughout therapy and frequently during IV therapy.
- Assess IV site frequently during administration; diazepam may cause phlebitis and venous thrombosis.
- Prolonged high-dose therapy may lead to psychological or physical dependence. Restrict amount of drug available to patient. Observe depressed patients closely for suicidal tendencies.
- Conduct regular assessment of continued need for treatment.
- *Geri:* Assess risk of falls and institute fall prevention strategies.
- **Anxiety:** Assess mental status (orientation, mood, behavior) and degree of anxiety.
- Assess level of sedation (ataxia, dizziness, slurred speech) prior to and periodically throughout therapy.
- **Seizures:** Observe and record intensity, duration, and location of seizure activity. The initial dose of diazepam offers seizure control for 15–20 min after administration. Institute seizure precautions.
- **Muscle Spasms:** Assess muscle spasm, associated pain, and limitation of movement prior to and during therapy.
- **Alcohol Withdrawal:** Assess patient experiencing alcohol withdrawal for tremors, agitation, delirium, and hallucinations. Protect patient from injury.
- *Lab Test Considerations:* Evaluate hepatic and renal function and CBC periodically during prolonged therapy.
- *Toxicity and Overdose:* Flumazenil is an adjunct in the management of toxicity or overdose. (Flumazenil may induce seizures in patients with a history of seizures disorder or who are on tricyclic antidepressants.)

POTENTIAL NURSING DIAGNOSES

- Anxiety (Indications)
- Impaired physical mobility (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Do not confuse diazepam with lorazepam or ditropan.
- Patient should be kept on bedrest and observed for at least 3 hr following parenteral administration.
- If opioid analgesics are used concurrently with parenteral diazepam, decrease opioid dose by $^1/_3$ and titrate dose to effect.
- Use lowest effective dose. Taper by 2 mg every 3 days to decrease withdrawal symptoms. Some patients may require longer taper periods (mos).
- **PO:** Tablets may be crushed and taken with food or water if patient has difficulty swallowing.
- Mix Intensol preparation with liquid or semisolid food such as water, juices, soda, applesauce, or pudding. Administer entire amount immediately. Do not store.
- **IM:** IM injections are painful and erratically absorbed. If IM route is used, inject deeply into deltoid muscle for maximum absorption.

IV Administration

- **IV:** Resuscitation equipment should be available when diazepam is administered IV.

Continued on the following page

- **Direct IV:** *Diluent:* For IV administration do not dilute or mix with any other drug. If direct IV push is not feasible, administer IV push into tubing as close to insertion site as possible. Continuous infusion is not recommended due to precipitation in IV fluids and absorption of diazepam into infusion bags and tubing. Injection may cause burning and venous irritation; avoid small veins
- *Concentration:* 5 mg/mL.
- *Rate:* Administer slowly at a rate of 5 mg/min in adults. Infants and children should receive 1–2 mg/min. Rapid injection may cause apnea, hypotension, bradycardia, or cardiac arrest.
- **Y-Site Compatibility:** daptomycin, docetaxel, fentanyl, methadone, piperacillin/tazobactam, teniposide.
- **Y-Site Incompatibility:** acyclovir, alfentanil, amikacin, aminophylline, amphotericin B cholesteryl sulfate, amphotericin B colloidal, amphotericin B liposome, ampicillin, ampicillin/sulbactam, anidulafungin, ascorbic acid, atracurium, atropine, azathioprine, aztreonam, bivalirudin, bumetanide, buprenorphine, butorphanol, calcium chloride, calcium gluconate, carboplatin, caspofungin, cefazolin, cefepime, cefonocid, cefoperazone, cefotaxime, cefotetan, cefoxitin, ceftazidime, ceftizoxime, ceftriaxone, cefuroxime, chloramphenicol, chlorpromazine, cimetidine, cisplatin, clindamycin, cyanocobalamin, cyclophosphamide, cyclosporine, cytarabine, dactinomycin, dantrolene, dexamethasone, dexmedetomidine, diazoxide, digoxin, diltiazem, diphenhydramine, dopamine, doripenem, doxacurium, doxorubicin, doxycycline, eftifibatide, enalaprilat, ephedrine, epinephrine, epirubicin, epoetin alfa, erythromycin, esmolol, etoposide, etoposide phosphate, famotidine, fenoldopam, fluconazole, fludarabine, fluorouracil, folic acid, foscarnet, furosemide, ganciclovir, gemcitabine, gentamicin, glycopyrrolate, granisetron, haloperidol, heparin, hetastarch, hydralazine, hydrocortisone, hydroxyzine, idarubicin, ifosfamide, imipenem/cilastatin, inamrinone, indomethacin, insulin, isoproterenol, ketorolac, labetalol, levofloxacin, lidocaine, linezolid, magnesium chloride, mannitol, mechlorethamine, meperidine, meropenem, metaraminol, methotrexate, methoxamine, methyldopate, methylprednisolone, metoclopramide, metoprolol, metronidazole, midazolam, milrinone, mitoxantrone, multivitamin, nalbuphine, naloxone, nesiritide, nitroglycerin, nitroprusside, norepinephrine, octreotide, oxacillin, oxaliplatin, oxytocin, paclitaxel, palonosetron, pancuronium, pantoprazole, papaverine, pemetrexed, penicillin G, pentamidine, pentazocine, pentobarbital, phenobarbital, phentolamine, phenylephrine, phenytoin, phytonadione, potassium chloride, procainamide, prochlorperazine, promethazine, propofol, propranolol, protamine, pyridoxime, quinupristin/dalfopristin, ranitidine, rocuronium, sodium acetate, sodium bicarbonate, streptokinase, succinylcholine, tacrolimus, theophylline, thiamine, thiotepa, ticarcillin/clavulanate, tigecycline, tirofiban, tobramycin, tolazoline, trimetaphan, trimethoprim/sulfamethoxazole, urokinase, vancomycin, vasopressin, vecuronium, verapamil, vincristine, vinorelbine, vitamin B complex with C, voriconazole.
- **Rect:** Do not repeat *Diastat* rectal dose more than 5 times/mo or 1 episode every 5 days. Round dose up to next available dose unit.
- Diazepam injection has been used for rectal administration. Instill via catheter or cannula fitted to the syringe or directly from a 1-mL syringe inserted 4–5 cm into the rectum. A dilution of diazepam injection with propylene glycol containing 1 mg/mL has also been used.
- Do not dilute with other solutions, IV fluids, or medications.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed and not to take more than prescribed or increase dose if less effective after a few weeks without checking with health care professional. Review package insert for Diastat rectal gel with patient/caregiver prior to administration. Abrupt withdrawal

Continued on the following page

of diazepam may cause insomnia, unusual irritability or nervousness, and seizures. Advise patient that sharing of this medication may be dangerous.
- Medication may cause drowsiness, clumsiness, or unsteadiness. Advise patient to avoid driving or other activities requiring alertness until response to medication is known.
- *Geri:* Advise geriatric patients of increased risk for CNS effects and potential for falls.
- Caution patient to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Advise patient to notify health care professional if pregnancy is planned or suspected.
- Emphasize the importance of follow-up examinations to determine effectiveness of the medication.
- **Seizures:** Patients on anticonvulsant therapy should carry identification describing disease process and medication regimen at all times.

EVALUATION/DESIRED OUTCOMES

- Decrease in anxiety level. Full therapeutic antianxiety effects occur after 1–2 wk of therapy.
- Decreased recall of surgical or diagnostic procedures.
- Control of seizures.
- Decrease in muscle spasms.
- Decreased tremulousness and more rational ideation when used for alcohol withdrawal.

doxepin

(**dox**-e-pin)

Sinequan, ✱ Triadapin, Zonalon

CLASSIFICATION

Therapeutic: *antianxiety agents, antidepressants, antihistamines (topical)* ***Pharmacologic:*** *tricyclic antidepressants*

Pregnancy Category C

✱ = Genetic implication.

✱ = Canadian drug name.

INDICATIONS

- **PO:** Depression.
- **Topical:**
  - Short-term control of pruritus associated with: Eczematous dermatitis, Lichen simplex chronicus.
- **Unlabelled Use:**
  - **PO:** Chronic pain syndromes: Pruritus, Dermatitis, Anxiety, Insomnia.

ACTION

- **PO:** Prevents the reuptake of norepinephrine and serotonin by presynaptic neurons; resultant accumulation of neurotransmitters potentiates their activity. Also possesses significant anticholinergic properties.
- **Topical:** Antipruritic action due to antihistaminic properties.
- Therapeutic Effects:
  - **PO:** Relief of depression. Decreased anxiety.
  - **Topical:** Decreased pruritus.

PHARMACOKINETICS

Absorption: Well absorbed from the GI tract, although much is metabolized on first pass through the liver. Some systemic absorption follows topical application.

Distribution: Widely distributed. Enters breast milk; probably crosses the placenta.

Metabolism and Excretion: Metabolized by the liver. Some conversion to active antidepressant compound. May re-enter gastric juice via secretion from enterohepatic circulation, where more absorption may occur.

Half-life: 8–25 hr.

TIME/ACTION PROFILE (antidepressant activity)

ROUTE	ONSET	PEAK	DURATION
PO	2–3 wk	up to 6 wk	days–weeks

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Some products contain bisulfites and should be avoided in patients with known intolerance.
- Untreated angle-closure glaucoma.
- Period immediately after myocardial infarction; history of QTc prolongation, heart failure, cardiac arrhythmia.

Use Cautiously in:

- *Geri:* Pre-existing cardiovascular disease (increased risk of adverse reactions); Prostatic enlargement (more susceptible to urinary retention); Seizures.
- *OB:* Use during pregnancy only if potential maternal benefit outweighs risks to fetus; use during lactation may result in neonatal sedation. Recommend discontinue drug or bottle-feed.
- *Pedi:* May ↑ risk of suicide attempt/ideation especially during dose early treatment or dose adjustment; risk may be greater in children or adolescents.
- *Pedi:* Safety not established in children <12 yr.
- *Geri:* Appears on *Beers list* and is associated with increased falls risk secondary to anticholinergic and sedative effects. Geriatric patients should have initial dosage reduction.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: fatigue, sedation, agitation, confusion, hallucinations.

EENT: blurred vision, increased intraocular pressure.

CV: hypotension, arrhythmias, ECG abnormalities.

GI: constipation, dry mouth, hepatitis, increased appetite, weight gain, nausea, paralytic ileus.

GU: urinary retention, decreased libido.

Derm: photosensitivity, rashes.

Hemat: blood dyscrasias.

Misc: hypersensitivity reactions.

INTERACTIONS

Apply to both topical and oral use

Drug-Drug:

- Doxepin is metabolized in the liver by the cytochrome P450 2D6 enzyme and its action may be affected by drugs that compete for metabolism by this enzyme including other **antidepressants**, **phenothiazines**, **carbamazepine**, **class 1C antiarrhythmics** (**propafenone**, **flecainide**); when used concurrently, dosage ↓ of one or the other or both may be necessary.
- Concurrent use of other drugs that inhibit the activity of the enzyme, including **cimetidine**, **quinidine**, **amiodarone**, and **ritonavir**, may result in ↑ effects of doxepin.
- May cause hypotension, tachycardia, and potentially fatal reactions when used with **MAO inhibitors** (avoid concurrent use—discontinue 2 wk prior to doxepin).
- Concurrent use with **SSRI antidepressants** may result in ↑ toxicity and should be avoided (fluoxetine should be stopped 5 wk before).
- Concurrent use with **clonidine** may result in hypertensive crisis and should be avoided.
- Concurrent use with **levodopa** may result in delayed/↓ absorption of levodopa or hypertension. Blood levels and effects may be ↓ by **rifamycins**.
- ↑ CNS depression with other **CNS depressants** including **alcohol**, **antihistamines**, **clonidine**, **opioid analgesics**, and **sedative/hypnotics**.
- **Barbiturates** may alter blood levels and effects.
- **Adrenergic** and **anticholinergic** side effects may be ↑ with other **agents having these properties**.
- **Phenothiazines** or **hormonal contraceptives** ↑ levels and may cause toxicity.
- **Smoking** may increase metabolism and alter effects.

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Drug-Natural:
- Concomitant use of **kava-kava**, **valerian**, or **chamomile** can increase CNS depression.
- Increased anticholinergic effects with **jimson weed** and **scopolia**.

ROUTE/DOSAGE
- **PO (Adults):** *Antidepressant/antianxiety*—25 mg 3 times daily, may be increased as needed (up to 150 mg/day in outpatients or 300 mg/day in inpatients; some patients may require only 25–50 mg/day). Once stabilized, entire daily dose may be given at bedtime. *Antipruritic*—10 mg at bedtime initially, may be increased up to 25 mg.
- **PO (Geriatric Patients):** *Antidepressant*—25–50 mg/day initially, may be increased as needed.
- **Topical (Adults):** Apply 4 times daily (wait 3–4 hr between applications) for up to 8 days.

AVAILABILITY (GENERIC AVAILABLE)
- ***Capsules:*** 10 mg, 25 mg, 50 mg, 75 mg, 100 mg, 150 mg.
- ***Oral concentrate:*** 10 mg/mL.
- ***Topical cream:*** 5%.

NURSING IMPLICATIONS

ASSESSMENT
- Monitor blood pressure and pulse rate prior to and during initial therapy. Patients taking high doses or with a history of cardiovascular disease should have ECG monitored prior to and periodically during therapy.
- Assess for sexual dysfunction (decreased libido; erectile dysfunction).
- Assess weight and BMI initially and throughout treatment. Obtain FBS and cholesterol levels in overweight/obese individuals.
- *Geri:* Assess falls risk and institute fall prevention strategies. Assess for anticholinergic effects.
- **Depression:** Assess mental status (orientation, mood, behavior) frequently. Confusion, agitation, and hallucinations may occur during initiation of therapy and may require dosage reduction. Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient.
- **Anxiety:** Assess degree and manifestations of anxiety prior to and during therapy.
- **Pain:** Assess the type, location, and severity of pain prior to and periodically during therapy. Use pain scale to assess effectiveness of therapy.
- **Topical:** Assess pruritic area prior to and periodically during therapy.
- *Lab Test Considerations:* Monitor WBC and differential blood counts, hepatic function, and serum glucose periodically. May cause ↑ serum bilirubin and alkaline phosphatase levels. May cause bone marrow depression. Serum glucose may be ↑ or ↓.

POTENTIAL NURSING DIAGNOSES
- Ineffective coping (Indications)
- Risk for injury (Side Effects)
- Sexual dysfunction (Side Effects)

IMPLEMENTATION
- Do not confuse doxepin with doxycycline.
- May be given as a single dose at bedtime to minimize sedation during the day. Dose increases should be made at bedtime because of sedation. Dose titration is a slow process; may take weeks to months.
- To avoid withdrawal, taper by 50% for 3 days, then 50% again for 3 days, then discontinue.
- **PO:** Administer medication with or immediately following a meal to minimize gastric irritation. Capsules may be opened and mixed with foods or fluids if patient has difficulty swallowing.
- Oral concentrate must be diluted in at least 120 mL of water, milk, or fruit juice. Do not mix with carbonated beverages or grape juice. Use calibrated measuring device to ensure accurate amount.

Continued on the following page

- **Topical:** Apply thin film of doxepin cream only to affected areas, and rub in gently. Apply only to affected skin; not for ophthalmic, oral, or intravaginal use.

PATIENT/FAMILY TEACHING

- Inform patient that systemic side effects may occur with oral or topical use.
- May cause drowsiness and blurred vision. Caution patient to avoid driving and other activities requiring alertness until response to the medication is known.
- Orthostatic hypotension, sedation, and confusion are common during early therapy, especially in geriatric patients. Protect patient from falls. Institute fall precautions. Advise patient to change positions slowly.
- Advise patient to avoid alcohol or other CNS depressant drugs during and for at least 3–7 days after therapy has been discontinued.
- Instruct patient to notify health care professional if urinary retention occurs or if dry mouth or constipation persists. Sugarless candy or gum may diminish dry mouth, and an increase in fluid intake or bulk may prevent constipation. If symptoms persist, dose reduction or discontinuation may be necessary. Consult health care professional if dry mouth persists for more than 2 wk.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- **PO:** Instruct patient to take medication as directed. Take missed doses as soon as possible unless almost time for next dose; if regimen is a single dose at bedtime, do not take in the morning because of side effects. Advise patient that drug effects may not be noticed for at least 2 wk. Abrupt discontinuation may cause nausea, vomiting, diarrhea, headache, trouble sleeping with vivid dreams, and irritability.
- Refer appropriate individuals for weight management.
- Caution patient to use sunscreen and protective clothing to prevent photosensitivity reactions.
- Inform patient that urine may turn blue-green in color.
- Inform patient of need to monitor dietary intake. Increase in appetite is possible and may lead to undesired weight gain.
- Therapy for depression is usually prolonged. Emphasize the importance of follow-up exams to monitor effectiveness and side effects.
- Refer patient to psychotherapy to improve coping skills and to local support group.
- **Topical:** Instruct patient to apply a thin film of medication exactly as directed; do not use more medication than directed, apply to a larger area than directed, use more often than directed, or use longer than 8 days.
- Inform patient that topical preparation may cause burning, stinging, swelling, increased itching, or worsening of eczema. Notify health care professional if these symptoms become bothersome.
- Caution patient not to use occlusive dressings; may increase systemic absorption.
- Advise patient to notify health care professional if excessive drowsiness occurs with topical application. Number of applications per day, amount of cream applied, or area of application may be reduced. May require discontinuation of therapy.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings.
- Increased appetite.
- Improved energy level.
- Improved sleep.
- Decrease in anxiety.
- Decrease in chronic pain. Patients may require 2–6 wk of oral therapy before full therapeutic effects of medication are evident.
- Decrease in pruritus associated with eczema.

duloxetine

(do-**lox**-e-teen)

Cymbalta

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *selective serotonin/norepinephrine reuptake inhibitors*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Major depressive disorder.
- Diabetic peripheral neuropathic pain.
- Generalized anxiety disorder.
- Fibromyalgia.
- **Unlabelled Use:**
  - Stress urinary incontinence.

ACTION

- Inhibits serotonin and norepinephrine reuptake in the CNS.
- Both antidepressant and pain inhibition are centrally mediated.
- Therapeutic Effects:
  - Decreased depressive symptomatology.
  - Decreased neuropathic pain.
  - Decreased symptoms of anxiety.
  - Decreased pain.

PHARMACOKINETICS

Absorption: Well absorbed following oral administration.

Distribution: Unknown.

Protein Binding: Highly (>90%) protein-bound.

Metabolism and Excretion: Mostly metabolized, primarily by the CYP2D6 and CYP1A2 enzyme pathways.

Half-life: 12 hr.

TIME/ACTION PROFILE (blood levels)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	6 hr	12 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Concurrent MAO inhibitor therapy.
- Uncontrolled angle-closure glaucoma.
- End-stage renal disease.
- Chronic hepatic impairment or substantial alcohol use (increased risk of hepatitis).
- *Lactation:* May enter breast milk; discontinue or bottle-feed.

Continued on the following page

Use Cautiously in:

- History of suicide attempt or ideation.
- History of mania (may activate mania/hypomania).
- Concurrent use of other centrally acting drugs (↑ risk of adverse reactions).
- History of seizure disorder.
- Controlled angle-closure glaucoma.
- Diabetic patients and those with renal impairment (consider lower initial dose with gradual increase).
- *OB:* Use during 3rd trimester may result in neonatal serotonin syndrome requiring prolonged hospitalization, respiratory and nutritional support.
- *Pedi:* May ↑ risk of suicide attempt/ideation especially during dose early treatment or dose adjustment; risk may be greater in children or adolescents (safe use in children/adolescents not established).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SEIZURES, SUICIDAL THOUGHTS, fatigue, drowsiness, insomnia, activation of mania, dizziness, nightmares.

EENT: blurred vision, ↑ intraocular pressure.

CV: ↑ blood pressure.

GI: HEPATOTOXICITY, ↓ appetite, constipation, dry mouth, nausea, diarrhea, ↑ liver enzymes, gastritis, vomiting.

F and E hyponatremia.

GU: dysuria, abnormal orgasm, erectile dysfunction, ↓ libido, urinary retention.

Derm: ↑ sweating, pruritus, rash.

Neuro: tremor.

Misc: SEROTONIN SYNDROME.

INTERACTIONS

Drug-Drug:

- Concurrent use with **MAO inhibitors** may result in serious potentially fatal reactions (do not use within 14 days of discontinuing MAOI. Wait at least 5 days after stopping duloxetine to start MAOI).
- ↑ risk of hepatotoxicity with chronic **alcohol** abuse.
- Drugs that affect serotonergic neurotransmitter systems, including **linezolid**, **tramadol**, and **triptans** ↑ risk of serotonin syndrome.
- **Drugs that inhibit CYP1A2**, including **fluvoxamine** and some **fluoroquinolones** ↑ levels of duloxetine and should be avoided.
- **Drugs that inhibit CYP2D6**, including **paroxetine**, **fluoxetine** and **quinidine** ↑ levels of duloxetine and may increase the risk of adverse reactions.
- Duloxetine also inhibits CYP2D6 and may ↑ levels of drugs metabolized by CYP2D6, including **tricyclic antidepressants**, **phenothiazines** and **class 1C antiarrhythmics** (**propafenone** and **flecainide**); concurrent use should be undertaken with caution.
- ↑ risk of serious arrhythmias with **thioridazine**; avoid concurrent use. ↑ risk of bleeding with **aspirin**, **NSAIDs**, or **warfarin**.

Drug-Natural:

- Use with **St. John's wort** ↑of serotonin syndrome.

ROUTE/DOSAGE

- **PO (Adults):** *Antidepressant*—20–30 mg twice daily; *Neuropathic pain or generalized anxiety disorder*—60 mg once daily; *Fibromyalgia*-30 mg once daily for 1 wk, then ↑ to 60 mg once daily.

Renal Impairment

- **PO (Adults):** start with lower dose and ↑ gradually.

Continued on the following page

AVAILABILITY

- ***Capsules:*** 20 mg, 30 mg, 60 mg
  - **Cost:** 20 mg $320.96/90, 30 mg $345.99/90, 60 mg $347.98/90.

NURSING IMPLICATIONS

ASSESSMENT

- Assess for sexual dysfunction (erectile dysfunction; decreased libido).
- Monitor blood pressure before and periodically during therapy. Sustained hypertension may be dose related; decrease dose or discontinue therapy if this occurs.
- Monitor appetite and nutritional intake. Weigh weekly. Report continued weight loss. Adjust diet as tolerated to support nutritional status.
- Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression. Risk may be increased in children, adolescents, and adults ≤24 yr.
- **Depression:** Assess mental status (orientation, mood, and behavior). Inform health care professional if patient demonstrates significant increase in anxiety, nervousness, or insomnia.
- Assess suicidal tendencies in both adults and children, especially in early therapy or during dose changes. Restrict amount of drug available to patient.
- **Pain and Fibromyalgia:** Assess intensity, quality, and location of pain periodically during therapy. Use pain scale. May require several weeks for effects to be seen.
- *Lab Test Considerations:* May cause ↑ ALT, AST, bilirubin, CPK, and alkaline phosphatase.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for suicide (Adverse Reactions)
- Chronic pain (Indications)

IMPLEMENTATION

- **PO:** May be administered without regard to meals. Capsules should be swallowed whole. Do not crush, chew, or open and sprinkle contents on food or liquids; may affect enteric coating.

PATIENT/FAMILY TEACHING

- Instruct patient to take duloxetine as directed at the same time each day. Take missed doses as soon as possible unless time for next dose. Do not stop abruptly; must be decreased gradually.
- Encourage patient and family to be alert for emergence of anxiety, agitation, panic attacks, insomnia, irritability, hostility, impulsivity, akathisia, hypomania, mania, worsening of depression and suicidal ideation, especially during early antidepressant therapy. If these symptoms occur, notify health care professional.
- May cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient to consult health care professional prior to taking any Rx, OTC, or herbal products.
- Instruct patient to notify health care professional if signs of serotonin syndrome (mental status changes: agitation, hallucinations, coma; autonomic instability: tachycardia, labile blood pressure, hyperthermia; neuromuscular aberrations: hyperreflexia, incoordination; and/or gastrointestinal symptoms: nausea, vomiting, diarrhea) or liver damage (pruritus, dark urine, jaundice, right upper

Continued on the following page

quadrant tenderness, unexplained "flu-like" symptoms) occur.
- Advise patient to avoid taking alcohol during duloxetine therapy.
- Instruct patient to notify health care professional if pregnancy is planned or suspected or if breastfeeding.
- Refer patient/family to local support group.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings. Need for therapy should be periodically reassessed. Patients may notice improvement within 1–4 wk, but should be advised to continue therapy as directed. Therapy is usually continued for several months.
- Decrease in neuropathic pain associated with diabetic peripheral neuropathy.
- Decrease in pain and soreness associated with fibromyalgia.

escitalopram

(ess-sit-**al**-o-pram)

Lexapro

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *selective serotonin reuptake inhibitors (SSRIs)*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Major depressive disorder.
- Generalized anxiety disorder (GAD).
- **Unlabelled Use:**
  - Panic disorder.
  - Obsessive-compulsive disorder (OCD).
  - Post-traumatic stress disorder (PTSD).
  - Social anxiety discorder (social phobia).
  - Premenstrual dysphoric disorder (PMDD).

ACTION

- Selectively inhibits the reuptake of serotonin in the CNS.
- Therapeutic Effects:
  - Antidepressant action.

PHARMACOKINETICS

Absorption: 80% absorbed following oral administration.

Distribution: Enters breast milk.

Metabolism and Excretion: Mostly metabolized by the liver (primarily CYP3A4 and CYP2C19 isoenzymes); 7% excreted unchanged by kidneys.

Half-life: ↑ in geriatric patients and patients with hepatic impairment.

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
PO	within 1–4 wk	Unknown	Unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Concurrent MAO inhibitor or pimozide therapy.
- Concurrent use of citalopram.

Use Cautiously in:

- History of mania (may activate mania/hypomania).
- History of seizures.
- Patients at risk for suicide;
- Hepatic impairment (dose ↓ recommended).
- Severe renal impairment.

Continued on the following page

- *OB:* Neonates exposed to SSRIs in the 3rd trimester may develop drug discontinuation syndrome manifested by respiratory distress, feeding difficulty, and irritability.
- *Lactation:* May cause adverse effects in infant; consider risk/benefit.
- *Pedi:* May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment; safety not established in children <12 yr.
- *Geri:* ↓ doses recommended due to ↓ drug clearance in older patients.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SUICIDAL THOUGHTS, insomnia, dizziness, drowsiness, fatigue.

GI: diarrhea, nausea, abdominal pain, constipation, dry mouth, indigestion.

GU: anorgasmia, ↓ libido, ejaculatory delay, erectile dysfunction.

Derm: sweating.

Endo: syndrome on inappropriate secretion of antidiuretic hormone (SIADH).

F and E hyponatremia.

Metab: SEROTONIN SYNDROME, ↑ appetite.

INTERACTIONS

Drug-Drug:

- May cause serious, potentially fatal reactions when used with **MAO inhibitors**; allow at least 14 days between escitalopram and **MAO inhibitors**.
- Concurrent use with **pimozide** may result in prolongation of the QTc interval and is contraindicated.
- Use cautiously with other **centrally acting drugs** (including **alcohol**, **antihistamines**, **opioid analgesics**, and **sedative/hypnotics**; concurrent use with **alcohol** is not recommended).
- Drugs that affect serotonergic neurotransmitter systems, including **linezolid**, **tramadol**, and **triptans** ↑ risk of serotonin syndrome.
- **Cimetidine** may ↑ levels. Serotonergic effects may be ↑ by **lithium** (concurrent use should be carefully monitored).
- **Carbamazepine** may ↓ levels. May ↑ levels of **metoprolol**.
- Use cautiously with **tricyclic antidepressants** due to unpredictable effects on serotonin and norepinephrine reuptake.
- ↑ risk of bleeding with **aspirin**, **NSAIDs**, **clopidogrel**, or **warfarin**.

Drug-Natural:

- ↑ risk of serotonin syndrome with **St. John's wort** and **SAMe**.

ROUTE/DOSAGE

- **PO (Adults):** *Depression and GAD*–10 mg once daily, may be ↑ to 20 mg once daily after 1 wk.

Hepatic Impairment

- PO (Adults): 10 mg once daily.
- **PO (Geriatric Patients):** 10 mg once daily.
- **PO (Children ≥12 yr):** *Depression*—10 mg once daily, may be ↑ to 20 mg once daily after 3 wk.

AVAILABILITY

- ***Tablets:*** 5 mg, 10 mg, 20 mg
  - **Cost:** 5 mg $214.97/90, 10 mg $228.97/90, 20 mg $239.97/90.
- ***Oral solution (peppermint):*** 1 mg/mL
  - **Cost:** $131.64/240 mL.

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NURSING IMPLICATIONS

ASSESSMENT

- Monitor mood changes and level of anxiety during therapy.
- Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yr. After starting therapy, children, adolescents, and young adults should be seen by health care professional at least weekly for 4 wk, every 3 wk for next 4 wk, and on advice of health care professional thereafter.
- Assess for sexual dysfunction (erectile dysfunction; decreased libido).
- Assess for serotonin syndrome (mental changes [agitation, hallucinations, coma], autonomic instability [tachycardia, labile blood pressure, hyperthermia], neuromuscular aberrations [hyperreflexia, incoordination], and/or GI symptoms [nausea, vomiting, diarrhea]), especially in patients taking other serotonergic drugs (SSRIs, SNRIs, triptans).

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for injury (Side Effects)
- Sexual dysfunction (Side Effects)

IMPLEMENTATION

- Do not administer escitalopram and citalopram concomitantly. Taper to avoid potential withdrawal reactions.
- Reduce dose by 50% for 3 days, then again by 50% for 3 days, then discontinue.
- **PO:** Administer as a single dose in the morning or evening without regard to meals.

PATIENT/FAMILY TEACHING

- Instruct patient to take escitalopram as directed. Take missed doses on the same day as soon as remembered and consult health care professional. Resume regular dosing schedule next day. Do not double doses. Do not stop abruptly, should be discontinued gradually.
- May cause dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient, family, and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide, new or worse depression or anxiety, agitation or restlessness, panic attacks, insomnia, new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior or if symptoms of serotonin syndrome occur.
- Advise patient to avoid alcohol and other CNS-depressant drugs during therapy and to consult health care professional before taking other Rx, OTC, or herbal products.
- Instruct female patients to notify health care professional if pregnancy is planned or suspected or if they plan to breastfeed. If used during pregnancy, should be tapered during 3rd trimester to avoid neontal serotinin syndrome.
- Caution patients that escitalopram should not be used for at least 14 days after discontinuing MAO inhibitors, and at least 14 days should be allowed after stopping escitalopram before starting an MAO inhibitor.
- Emphasize importance of follow-up exams to monitor progress.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings. May require 1–4 wk of therapy to obtain antidepressant effects. Full antidepressant effects occur in 4–6 wk.
- Decrease in anxiety.

eszopiclone

(es-**zop**-i-klone)

Lunesta

CLASSIFICATION

Therapeutic: *sedative/hypnotics* ***Pharmacologic:*** *cyclopyrrolones*

Schedule IV

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Insomnia.

ACTION

- Interacts with GABA-receptor complexes; not a benzodiazepine.
- Therapeutic Effects:
  - Improved sleep with decreased latency and increased maintenance of sleep.

PHARMACOKINETICS

Absorption: Rapidly absorbed after oral administration.

Distribution: Unknown.

Metabolism and Excretion: Extensively metabolized by the liver (CYP3A4 and CYP2E1 enzyme systems); metabolites are renally excreted, <10% excreted unchanged in urine.

Half-life: 6 hr.

TIME/ACTION PROFILE (blood levels)

ROUTE	ONSET	PEAK	DURATION
PO	rapid	1 hr	6 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.

Use Cautiously in:

- Debilitated patients may have ↓ metabolism or increased sensitivity; use lower initial dose.
- Conditions that may alter metabolic or hemodynamic function.
- Severe hepatic impairment (use lower initial dose).
- *OB/Pedi:* Safety not established in pregnancy or in children < 18 yr.
- *Lactation:* Occasional use while breastfeeding an older infant should pose little risk (NIH).

Continued on the following page

- *Geri:* May impair motor and/or cognitive performance; see dosing guidelines.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: abnormal thinking, behavior changes, depression, hallucinations, headache, sleep-driving.

CV: chest pain, peripheral edema.

GI: dry mouth, unpleasant taste.

Derm: rash.

INTERACTIONS

Drug-Drug:

- ↑ risk of CNS depression with other **CNS depressants** including **antihistamines**, **antidepressants**, **opioids**, **sedative/hypnotics** and **antipsychotics**.
- ↑ levels and risk of CNS depression with **drugs that inhibit the CYP3A4 enzyme system**, including **ketoconazole**, **itraconazole**, **clarithromycin**, **nefazodone**, **ritonavir** and **nelfinavir**.
- Levels and effectiveness may be ↓ by **drugs that induce the CYP3A4 enzyme system**, including **rifampicin**.

ROUTE/DOSAGE

- **PO (Adults):** 2 mg immediately before bedtime, may be raised to 3 mg if needed (3 mg dose is more effective for sleep maintenance); *geriatric patients*—1 mg immediately before bedtime for patients with difficulty falling asleep, 2 mg for patients who difficulty staying asleep.

Hepatic Impairment

- **PO (Adults):** *Severe hepatic impairment*—1 mg immediately before bedtime.
- **PO (Adultsreceiving concurrent CYP3A4 inhibitors):** 1 mg immediately before bedtime, may be raised to 2 mg if needed.

AVAILABILITY

- ***Tablets:*** 1 mg, 2 mg, 3 mg
  - **Cost:** 1 mg $136.69/30, 2 mg $139.97/30, 3 mg $139.98/30.

NURSING IMPLICATIONS

ASSESSMENT

- Assess sleep patterns prior to and during administration. Continued insomnia after 7–10 days of therapy may indicate primary psychiatric or mental illness.
- Assess mental status and potential for abuse prior to administration. Prolonged use of >7–10 days may lead to physical and psychological dependence. Limit amount of drug available to the patient.

POTENTIAL NURSING DIAGNOSES

- (Indications)

IMPLEMENTATION

- **PO:** Onset is rapid. Administer immediately before going to bed or after patient has gone to bed and has experienced difficulty falling asleep, only on nights when patient is able to get 8 or more hours of sleep before being active again.
- Swallow tablet whole; do not break, crush, or chew.
- Eszopiclone is more effective if not taken with or before a high-fat, heavy meal.

PATIENT/FAMILY TEACHING

- Instruct patient to take eszopiclone immediately before going to bed, as directed. Taking prior to going to bed may result in short-term memory impairment, hallucinations, impaired coordination, and dizziness. Do not increase dose or discontinue without notifying health care professional. Dose may need to be decreased gradually to minimize withdrawal symptoms. Rebound insomnia may occur upon discontinuation and usually resolves within 1–2 nights.

Continued on the following page

- May cause daytime drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient to notify health care professional before taking any Rx, OTC, or herbal products with eszopiclone.
- Caution patient to avoid concurrent use of alcohol or other CNS depressants.
- Advise patient to notify health care professional if pregnancy is planned or suspected.

EVALUATION/DESIRED OUTCOMES

- Decreased sleep latency and improved sleep maintenance.

fluoxetine

(floo-**ox**-uh-teen)

Prozac, Prozac Weekly, Sarafem

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *selective serotonin reuptake inhibitors (SSRIs)*

Pregnancy Category B

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Major depressive disorder.
- Obsessive compulsive disorder (OCD). Bulimia nervosa.
- Panic disorder.
- Depressive episodes associated with bipolar I disorder (when used with olanzapine).
- Treatment-resistant depression (when used with olanzapine).
- **Sarafem:**
  - Premenstrual dysphoric disorder (PMDD).
- **Unlabelled Use:**
  - Anorexia nervosa: ADHD, Diabetic neuropathy, Fibromyalgia, Obesity, Raynaud's phenomenon, Social anxiety disorder (social phobia), Post-traumatic stress disorder (PTSD).

ACTION

- Selectively inhibits the reuptake of serotonin in the CNS.
- Therapeutic Effects:
  - Antidepressant action. Decreased behaviors associated with: panic disorder, bulimia. Decreased mood alterations associated with PMDD.

PHARMACOKINETICS

Absorption: Well absorbed after oral administration.

Distribution: Crosses the blood-brain barrier.

Protein Binding: 94.5%.

Metabolism and Excretion: Converted by the liver to norfluoxetine (primarily by CYP2D6 isoenzyme), another antidepressant compound; 🍁 the CYP2D6 enzyme system exhibits genetic polymorphism (<7% of population may be poor metabolizers and may have significantly ↑ fluoxetine concentrations and an ↑ risk of adverse effects). Fluoxetine and norfluoxetine are mostly metabolized by the liver; 12% excreted by kidneys as unchanged fluoxetine, 7% as unchanged norfluoxetine.

Half-life: 1–3 days (norfluoxetine 5–7 days).

Continued on the following page

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
PO	1–4 wk	unknown	2 wk

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Concurrent use or use within 14 days of discontinuing MAO inhibitors (fluoxetine should be discontinued at least 5 wk before MAO therapy is initiated).
- Concurrent use of pimozide.
- Concurrent use of thioridazine (fluoxetine should be discontinued at least 5 wk before thioridazine therapy is initiated).

Use Cautiously in:

- Severe hepatic or renal impairment (lower/less frequent dose may be necessary).
- History of seizures.
- Debilitated patients (↑ risk of seizures).
- Diabetes mellitus.
- Patients with concurrent chronic illness or multiple drug therapy (dose adjustments may be necessary).
- Patients with impaired hepatic function (↓ doses/↑ dosing interval may be necessary).
- May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment.
- *OB:* Use during third trimester may result in neonatal serotonin syndrome requiring prolonged hospitalization, respiratory and nutritional support. May cause sedation in infant.
- *Lactation:* May cause sedation in infant; discontinue drug or bottle-feed.
- *Pedi:* Risk of suicide ideation or attempt may be greater in children or adolescents (safe use in children <8 yr not established).
- *Geri:* Appears on Beers list. Geriatric patients are at ↑ risk for excessive CNS stimulation, sleep disturbances, and agitation.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SEIZURES, SUICIDAL THOUGHTS, anxiety, drowsiness, headache, insomnia, nervousness, abnormal dreams, dizziness, fatigue, hypomania, mania, weakness.

EENT: stuffy nose, visual disturbances.

Resp: cough.

CV: chest pain, palpitations.

GI: diarrhea, abdominal pain, abnormal taste, anorexia, constipation, dry mouth, dyspepsia, nausea, vomiting, weight loss.

GU: sexual dysfunction, urinary frequency.

Derm: ↑ sweating, pruritus, erythema nodusum, flushing, rashes.

Endo: dysmenorrhea.

F and E hyponatremia.

MS: arthralgia, back pain, myalgia.

Neuro: tremor.

Misc: SEROTONIN SYNDROME, allergic reactions, fever, flu-like syndrome, hot flashes, sensitivity reaction.

INTERACTIONS

Drug-Drug:

- Discontinue use of **MAO inhibitors** for 14 days before fluoxetine therapy; combined therapy may result in confusion, agitation, seizures, hypertension, and hyperpyrexia (serotonin syndrome).

Continued on the following page

- Fluoxetine should be discontinued for at least 5 wk before MAO inhibitor therapy is initiated.
- Concurrent use with **pimozide** may ↑ risk of QT interval prolongation.
- ↑ levels of **thioridazine** may ↑ risk of QT interval prolongation (concurrent use contraindicated; fluoxetine should be discontinued for at least 5 wk before thioridazine is initiated).
- Inhibits the activity of cytochrome P450 2D6 enzyme in the liver and ↑ effects of drugs metabolized by this enzyme system.
- **Medications that inhibit the P450 enzyme system** (including **ritonavir**, **saquinavir**, and **efavirenz**) may ↑ risk of developing the serotonin syndrome).
- For concurrent use with **ritonavir** ↓ fluoxetine dose by 70%; if initiating fluoxetine, start with 10 mg/day dose. ↓ metabolism and ↑ effects of **alprazolam** (decrease alprazolam dose by 50%).
- Drugs that affect serotonergic neurotransmitter systems, including **linezolid**, **tramadol**, and **triptans**, ↑ risk of serotonin syndrome.
- ↑ CNS depression with **alcohol**, **antihistamines**, other **antidepressants**, **opioid analgesics**, or **sedative/hypnotics**.
- ↑ risk of side effects and adverse reactions with other **antidepressants**, **risperidone**, or **phenothiazines**.
- May ↑ effectiveness/risk of toxicity from **carbamazepine**, **clozapine**, **digoxin**, **haloperidol**, **phenytoin**, **lithium**, or **warfarin**.
- May ↓ the effects of **buspirone**.
- **Cyproheptadine** may ↓ or reverse effects of fluoxetine.
- May ↑ sensitivity to **adrenergics** and increase the risk of serotonin syndrome.
- May alter the activity of other **drugs that are highly bound to plasma proteins**. ↑ risk of serotonin syndrome with **$5HT_1$ agonists**.
- ↑ risk of bleeding with **NSAIDS**, **aspirin**, **clopidogrel**, or **warfarin**.

Drug-Natural:

- ↑ risk of serotonin syndrome with **St. John's wort** and **SAMe**.

ROUTE/DOSAGE

- **PO (Adults):** *Depression, OCD*—20 mg/day in the morning. After several weeks, may ↑ by 20 mg/day at weekly intervals. Doses greater than 20 mg/day should be given in 2 divided doses, in the morning and at noon (not to exceed 80 mg/day). Patients who have been stabilized on the 20 mg/day dose may be switched over to delayed-release capsules (Prozac Weekly) at dose of 90 mg weekly, initiated 7 days after the last 20–mg dose. *Panic disorder*—10 mg/day initially, may ↑ after 1 week to 20 mg/day (usual dose is 20 mg, but may be ↑ as needed/tolerated up to 60 mg/day). *Bulimia nervosa*—60 mg/day (may need to titrate up to dosage over several days). *PMDD*—20 mg/day (not to exceed 80 mg/day) *or* 20 mg/day starting 14 days prior to expected onset on menses, continued through first full day of menstruation, repeated with each cycle. *Depressive episodes associated with bipolar I disorder*-20 mg/day with olanzapine 5 mg/day (both given in evening); may ↑ fluoxetine dose up to 50 mg/day and olanzapine dose up to 12.5 mg/day; *Treatment-resistant depression*-20 mg/day with olanzapine 5 mg/day (both given in evening); may ↑ fluoxetine dose up to 50 mg/day and olanzapine dose up to 20 mg/day.
- **PO (Geriatric Patients):** *Depression*—10 mg/day in the morning initially, may be ↑ (not to exceed 60 mg/day).
- **PO (Children7–17 yr):** *Adolescents and higher weight children*—10 mg/day may be ↑ after 2 wk to 20 mg/day; additional increases may be made after several more weeks (range 20–60 mg/day); *Lower-weight children*—10 mg/day initially, may be ↑ after several more weeks (range 20–30 mg/day).

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 10 mg, 20 mg
  - **Cost:** *Generic*—10 mg $47.98/90, 20 mg $62.97/90.

Continued on the following page

- ***Capsules:*** 10 mg, 20 mg, 40 mg
  - **Cost:** *Generic*—10 mg $48.97/90, 20 mg $26.99/90, 40 mg $119.97/90.
- ***Delayed-release capsules (Prozac Weekly):*** 90 mg
  - **Cost:** $110.99/4.
- ***Oral solution (mint flavor):*** 20 mg/5 mL
  - **Cost:** *Generic*—$72.98/120 mL.
- ***In combination with:*** olanzapine (Symbyax; see Appendix B).

NURSING IMPLICATIONS

ASSESSMENT

- Monitor mood changes. Inform health care professional if patient demonstrates significant increase in anxiety, nervousness, or insomnia.
- Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yr. After starting therapy, children, adolescents, and young adults should be seen by health care professional at least weekly for 4 wk, every 3 wk for next 4 wk, and on advice of health care professional thereafter.
- Monitor appetite and nutritional intake. Weigh weekly. Notify health care professional of continued weight loss. Adjust diet as tolerated to support nutritional status.
- Assess patient for sensitivity reaction (urticaria, fever, arthralgia, edema, carpal tunnel syndrome, rash, hives, lymphadenopathy, respiratory distress) and notify health care professional if present; symptoms usually resolve by stopping fluoxetine but may require administration of antihistamines or corticosteroids.
- Assess for sexual side effects (erectile dysfunction; decreased libido).
- Assess for serotonin syndrome (mental changes [agitation, hallucinations, coma], autonomic instability [tachycardia, labile blood pressure, hyperthermia], neuromuscular aberrations [hyperreflexia, incoordination], and/or GI symptoms [nausea, vomiting, diarrhea]), especially in patients taking other serotonergic drugs (SSRIs, SNRIs, triptans).
- **OCD:** Assess patient for frequency of obsessive-compulsive behaviors. Note degree to which these thoughts and behaviors interfere with daily functioning.
- **Bulimia Nervosa:** Assess frequency of binge eating and vomiting during therapy.
- **PMDD:** Monitor patient's mood prior to and periodically during therapy.
- *Lab Test Considerations:* Monitor CBC and differential periodically during therapy. Notify health care professional if leukopenia, anemia, thrombocytopenia, or increased bleeding time occurs.
- Proteinuria and mild ↑ in AST may occur during sensitivity reactions.
- May cause ↑ in serum alkaline phosphatase, ALT, BUN, creatine phosphokinase; hypouricemia, hypocalcemia, hypoglycemia or hyperglycemia, and hyponatremia.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for injury (Side Effects)
- Sexual dysfunction (Side Effects)

IMPLEMENTATION

- Do not confuse Sarafem (fluoxetine) with Serophene (clomiphene).
- **PO:** Administer as a single dose in the morning. Some patients may require increased amounts, in divided doses, with a 2nd dose at noon.
- May be administered with food to minimize GI irritation. Do not open or crush ER preparations.

Continued on the following page

PATIENT/FAMILY TEACHING

- Instruct patient to take fluoxetine as directed. If a dose is missed, omit and return to regular schedule. Do not double doses or discontinue without consulting health care professional; discontinuation may cause anxiety, insomnia, nervousness.
- May cause drowsiness, dizziness, impaired judgment, and blurred vision. Caution patient to avoid driving and other activities requiring alertness until response to the drug is known.
- Advise patient, family and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide, new or worse depression or anxiety, agitation or restlessness, panic attacks, insomnia, new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior or if symptoms of serotonin syndrome occur.
- Advise patient to avoid alcohol or other CNS depressant drugs during therapy and to consult health care professional before taking other medications or natural/herbal products with fluoxetine.
- Caution patient to change positions slowly to minimize dizziness.
- Inform patient that frequent mouth rinses, good oral hygiene, and sugarless gum or candy may minimize dry mouth. If dry mouth persists for more than 2 wk, consult health care professional regarding use of saliva substitute.
- Instruct female patients to inform health care professional if pregnancy is planned or suspected.
- Caution patient to wear protective clothing and use sunscreen to prevent photosensitivity reactions.
- Inform patient that medication may cause decreased libido.
- Advise patient to notify health care professional if symptoms of sensitivity reaction occur or if headache, nausea, anorexia, anxiety, or insomnia persists.
- Emphasize the importance of follow-up exams to monitor progress. Encourage patient participation in psychotherapy to improve coping skills.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings. May require 1–4 wk of therapy to obtain antidepressant effects.
- Decrease in obsessive-compulsive behaviors.
- Decrease in binge eating and vomiting in patients with bulimia nervosa.
- Decreased incidence frequency of panic attacks.
- Decreased mood alterations associated with PMDD.

fluphenazine

(floo-**fen**-a-zeen)

Apo-Fluphenazine, Modecate Concentrate, PMS-Fluphenazine, Prolixin, Prolixin Decanoate

CLASSIFICATION

Therapeutic: *antipsychotics* ***Pharmacologic:*** *phenothiazines*

Pregnancy Category C

= Genetic implication.
= Canadian drug name.

INDICATIONS

- Acute and chronic psychoses.

ACTION

- Alters the effects of dopamine in the CNS. Has anticholinergic and alpha-adrenergic blocking activity.
- Therapeutic Effects:
  - Diminished signs and symptoms of psychoses.

PHARMACOKINETICS

Absorption: Well absorbed after PO/IM administration. Decanoate salt in sesame oil has delayed onset and prolonged action because of delayed release from oil vehicle and subsequent delayed release from fatty tissues.

Distribution: Widely distributed. Crosses the blood-brain barrier. Crosses the placenta; enters breast milk.

Protein Binding: ≥90%.

Metabolism and Excretion: Highly metabolized by the liver; undergo enterohepatic recirculation.

Half-life: *Fluphenazine hydrochloride*—33 hr; *fluphenazine decanoate*—6.8–9.6 days.

TIME/ACTION PROFILE (antipsychotic activity)

ROUTE	ONSET	PEAK	DURATION
PO hydrochloride	1 hr	unknown	6–8 hr
IM decanoate	24–72 hr	48–96 hr	≥4 wk

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Cross-sensitivity with other phenothiazines may exist.
- Subcortical brain damage.
- Severe CNS depression.
- Coma.
- Bone marrow depression.
- Liver disease.

Continued on the following page

- Hypersensitivity to sesame oil (decanoate salt).
- Some products contain alcohol or tartrazine and should be avoided in patients with known intolerance.
- Concurrent use of drugs that prolong the QT interval.
- *Pedi:* Safety not established in children <6 mo.

Use Cautiously in:

- Cardiovascular disease.
- Parkinson's disease.
- Angle-closure glaucoma.
- Myasthenia gravis.
- Prostatic hypertrophy.
- Seizure disorders.
- *OB:* Use only if potential benefit justifies potential risk to fetus.
- *Lactation:* Enters breast milk, not recommended.
- *Geri:* Initial dose reduction may be necessary in geriatric or debilitated patients; ↑ risk of mortality in elderly patients treated for dementia-related psychosis.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, extrapyramidal reactions, sedation, tardive dyskinesia.

EENT: blurred vision, dry eyes.

CV: hypertension, hypotension, tachycardia.

GI: anorexia, constipation, drug-induced hepatitis, dry mouth, ileus, nausea, weight gain.

GU: urinary retention.

Derm: photosensitivity, pigment changes, rashes.

Endo: galactorrhea.

Hemat: AGRANULOCYTOSIS, leukopenia, thrombocytopenia.

Misc: allergic reactions.

INTERACTIONS

Drug-Drug:

- Concurrent use with drugs that prolong the QT interval, including **antiarrhythmics**, **pimozide**, **erythromycin**, **clarithromycin**, **fluoroquinolones**, **methadone**, and **tricyclic antidepressants** may ↑ the risk for arrhythmias; concurrent use should be avoided.
- Additive hypotension with **antihypertensives**.
- Additive CNS depression with other **CNS depressants**, including **alcohol**, **antidepressants**, **antihistamines**, **opioids**, **sedative/hypnotics**, or **general anesthetics**.
- **Phenobarbital** may increase metabolism and decrease effectiveness of fluphenazine.
- May ↑ the risk of **lithium** toxicity.
- **Aluminum-containing antacids** may decrease oral absorption of fluphenazine.
- May decrease anti-Parkinson activity of **levodopa** and **bromocriptine**.
- May decrease the vasopressor response to **epinephrine** and **norepinephrine**.
- **Beta blockers**, **chlorpromazine**, **chloroquine**, **delavirdine**, **fluoxetine**, **paroxetine**, **quinidine**, **quinine**, **ritonavir**, and **ropinirole** may ↑ the effects of fluphenazine.
- Increased risk of anticholinergic effects with other **agents having anticholinergic properties**, including **antihistamines**, **tricyclic antidepressants**, **disopyramide**, or **quinidine**.
- **Metoclopramide** may ↑ the risk of extrapyramidal reactions.

ROUTE/DOSAGE

Fluphenazine Decanoate

- **IM (Adults):** 12.5–25 mg initially; may be repeated q 3 wk. Dose may be slowly increased as needed (not to exceed 100 mg/dose).

Continued on the following page

Fluphenazine Hydrochloride

- **PO (Adults):** 0.5–10 mg/day in divided doses q 6–8 hr (maximum dose = 40 mg/day).
- **PO (Geriatric Patients or Debilitated Patients):** 1–2.5 mg/day initially; increase dose every 4–7 days by 1–2.5 mg/day as needed (max dose = 20 mg/day).
- **IM (Adults):** 1.25–2.5 mg q 6–8 hr.

AVAILABILITY (GENERIC AVAILABLE)

- ***Fluphenazine decanoate injection:*** 25 mg/mL, 100 mg/mL.
- ***Fluphenazine hydrochloride tablets:*** 1 mg, 2.5 mg, 5 mg, 10 mg.
- ***Fluphenazine hydrochloride elixir (orange flavor):*** 2.5 mg/5 mL.
- ***Fluphenazine hydrochloride concentrate:*** 5 mg/mL.
- ***Fluphenazine hydrochloride injection:*** 2.5 mg/mL.

NURSING IMPLICATIONS

ASSESSMENT

- Assess patient's mental status (orientation, mood, behavior) before and periodically during therapy.
- Monitor blood pressure (sitting, standing, lying), ECG, pulse, and respiratory rate before and frequently during the period of dose adjustment. May cause Q-wave and T-wave changes in ECG.
- Observe patient carefully when administering oral medication to ensure that medication is actually taken and not hoarded.
- Assess fluid intake and bowel function. Increased bulk and fluids in the diet help minimize constipation.
- Monitor patient for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill rolling, mask-like face, shuffling gait, rigidity, tremors; *dystonic*—muscle spasms, twisting motions, twitching, inability to move eyes, weakness of arms or legs) every 2 mo during therapy and 8–12 wk after therapy has been discontinued. Reduction in dose or discontinuation of medication may be necessary. Benztropine or diphenhydramine may be used to control these symptoms.
- Monitor for tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities; lip smacking or puckering; puffing of cheeks; uncontrolled chewing; rapid or worm-like movements of tongue). Report immediately; may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, arrhythmias, hypertension or hypotension, pallor, tiredness, severe muscle stiffness, loss of bladder control). Report immediately.
- *Lab Test Considerations:* Evaluate CBC, liver function tests, and ocular examinations periodically during therapy. May cause ↓ hematocrit, hemoglobin, leukocytes, granulocytes, and platelets. May cause ↑ bilirubin, AST, ALT, and alkaline phosphatase. Agranulocytosis may occur after 4–10 wk of therapy with recovery 1–2 wk after discontinuation. May recur if medication is restarted. Liver function abnormalities may require discontinuation of therapy.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Indications)
- Noncompliance (Patient/Family Teaching)

IMPLEMENTATION

- Slight yellow to amber color does not alter potency.
- To prevent contact dermatitis, avoid getting liquid preparations on hands and wash hands thoroughly if spillage occurs.
- Injectable forms must be drawn up with a dry syringe and dry 21-gauge needle to prevent clouding of the solution.
- **PO:** Dilute concentrate just before administration in 120–240 mL of water, milk, carbonated beverage, soup, or tomato or

Continued on the following page

fruit juice. Do not mix with beverages containing caffeine (cola, coffee), tannics (tea), or pectinates (apple juice).

- **Subcut:** Fluphenazine decanoate is dissolved in sesame oil for long duration of action. It may be administered subcut or IM. 12.5 mg of fluphenazine decanoate given every 3 wk is approximately equivalent to 10 mg/day orally of fluphenazine hydrochloride.
- **IM:** IM dose of fluphenazine hydrochloride is usually 30–50% of oral dose. Because fluphenazine hydrochloride has a shorter duration of action, it is used initially to determine the patient's response to the drug and to treat the acutely agitated patient.
- Administer deep IM, using a dry syringe and 21-gauge needle, into dorsal gluteal site. Instruct patient to remain recumbent for 30 min to prevent hypotension.
- **Syringe Compatibility:** Fluphenazine hydrocholride is compatible in syringe with. benztropine, diphenhydramine, hydroxyzine.

PATIENT/FAMILY TEACHING

- Advise patient to take medication as directed and not to skip doses or double up on missed doses. If a dose is missed, take within 1 hr or skip dose and return to regular schedule if taking more than 1 dose/day; take as soon as possible unless almost time for next dose if taking 1 dose/day. Abrupt withdrawal may lead to gastritis, nausea, vomiting, dizziness, headache, tachycardia, and insomnia.
- Inform patient of possibility of extrapyramidal symptoms and tardive dyskinesia. Caution patient to report these symptoms immediately to health care professional.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- Medication may cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Caution patient to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Advise patient to use sunscreen and protective clothing when exposed to the sun. Exposed surfaces may develop a blue-gray pigmentation, which may fade after discontinuation of the medication. Extremes of temperature should also be avoided because this drug impairs body temperature regulation.
- Advise patient that good oral hygiene, frequent rinsing of mouth with water, and sugarless gum or candy may help relieve dry mouth. Health care professional should be notified if dry mouth persists beyond 2 wk.
- Instruct patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, rash, weakness, tremors, visual disturbances, dark-colored urine, or clay-colored stools occur.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Emphasize the importance of routine follow-up exams, including ocular exams, with long-term therapy and continued participation in psychotherapy.

EVALUATION/DESIRED OUTCOMES

- Decrease in excitable, paranoic, or withdrawn behavior.

flurazepam

(flur-**az**-e-pam)

Apo-Flurazepam, Dalmane, Novoflupam, Somnol

CLASSIFICATION

Therapeutic: *sedative/hypnotics* ***Pharmacologic:*** *benzodiazepines*

Schedule IV

Pregnancy Category UK

= Genetic implication.
= Canadian drug name.

INDICATIONS

- Short-term management of insomnia (<4 wk).

ACTION

- Depresses the CNS, probably by potentiating GABA, an inhibitory neurotransmitter.
- Therapeutic Effects:
  - Relief of insomnia.

PHARMACOKINETICS

Absorption: Well absorbed after oral administration.

Distribution: Widely distributed; crosses blood-brain barrier. Probably crosses the placenta and enters breast milk. Accumulation of drug occurs with chronic dosing.

Protein Binding: 97% (one of the active metabolites).

Metabolism and Excretion: Metabolized by the liver; some metabolites have hypnotic activity.

Half-life: 2.3 hr (half-life of active metabolite may be 30–200 hr).

TIME/ACTION PROFILE (hypnotic activity)

ROUTE	ONSET	PEAK	DURATION
PO	15–45 min	0.5–1 hr	7–8 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Impaired repiratory function.
- Impaired repiratory function.
- Sleep apnea.
- Hypersensitivity.
- Cross-sensitivity with other benzodiazepines may exist.
- Pre-existing CNS depression.
- Severe uncontrolled pain; Angle-closure glaucoma.
- *OB:* Chronic use during pregnancy may cause withdrawal effects in neonates.
- *Lactation:* Enters breast milk; discontinue or bottle-feed.

Continued on the following page

Use Cautiously in:
- Hepatic dysfunction (dosage reduction may be necessary).
- History of suicide attempt or drug dependence.
- Debilitated patients (initial dose reduction may be necessary).
- *Pedi:* Safety not established in children <15 yr.
- *Geri:* Appears on Beer's list and is associated with increased falls risk in geriatric patients.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: abnormal thinking, behavior changes, confusion, daytime drowsiness, decreased concentration, dizziness, hallucinations, headache, lethargy, mental depression, paradoxical excitation, sleep—driving.

EENT: blurred vision.

GI: constipation, diarrhea, nausea, vomiting.

Derm: rashes.

Neuro: ataxia.

Misc: physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:
- Concurrent use with **alcohol**, **antidepressants**, **antihistamines**, and **opioids** may result in additive CNS depression.
- **Cimetidine**, **hormonal contraceptives**, **disulfiram**, **fluoxetine**, **isoniazid**, **ketoconazole**, **metoprolol**, **propoxyphene**, **propranolol**, or **valproic acid** may ↓ metabolism of flurazepam, enhancing its actions.
- May ↓ efficacy of **levodopa**.
- **Rifampin** or **barbiturates** may ↑ metabolism and decrease ↓ effectiveness of flurazepam.
- Sedative effects may be ↓ by **theophylline**.

Drug-Natural:
- Concomitant use of **kava-kava**, **valerian**, **chamomile**, or **hops** can ↑ CNS depression.

ROUTE/DOSAGE

- **PO (Adults):** 15–30 mg at bedtime.
- **PO (Geriatric Patients or Debilitated Patients):** 15 mg initially, may be increased.

AVAILABILITY (GENERIC AVAILABLE)

- ***Capsules:*** 15 mg, 30 mg.
- ***Tablets:*** 15 mg, 30 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Assess sleep patterns before and periodically throughout therapy.
- Assess mental status (orientation, mood, behavior) and potential for abuse prior to administering medication.
- Prolonged use may lead to psychological or physical dependence. Restrict amount of drug available to patient, especially if patient is depressed, suicidal, or has a history of addiction.
- *Geri:* Assess fall risk and institute prevention strategies.

POTENTIAL NURSING DIAGNOSES

- (Indications)
- Ineffective coping (Indications)

Continued on the following page

- Sleep deprivation (Indications)
- Risk for falls (Side Effects)
- Acute confusion (Side Effects)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Do not confuse flurazepam with temazepam.
- Supervise ambulation and transfer of patients after administration. Remove cigarettes. Two side rails should be raised and call bell within reach at all times.
- When discontinuing, taper to decrease chance of withdrawal effects (may take months in some patients).
- **PO:** Capsules may be opened and mixed with food or fluids for patients having difficulty swallowing.

PATIENT/FAMILY TEACHING

- Advise patient to take medication exactly as directed.
- Teach sleep hygiene techniques (dark room, quiet, bedtime ritual, limit daytime napping, avoidance of nictotine and caffeine).
- Maximum hypnotic properties are apparent 2–3 nights after initiating therapy and may last 1–2 nights after therapy is discontinued.
- Medication may cause daytime drowsiness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.
- Caution patient to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Refer for psychotherapy if ineffective coping is basis for sleep pattern disturbance.
- *OB:* Instruct patient to contact health care professional immediately if pregnancy is planned or suspected.
- *Geri:* Caution patient or family to institute fall prevention strategies at home.
- Instruct patient to contact health care professional immediately if pregnancy is planned or suspected.

EVALUATION/DESIRED OUTCOMES

- Improvement in sleep patterns (decreased number of night time awakenings, improved sleep onset, and increased total sleep time).

fluvoxamine

(floo-**voks**-a-meen)

Luvox, Luvox CR

CLASSIFICATION

Therapeutic: *antidepressants, antiobsessive agents* ***Pharmacologic:*** *selective serotonin reuptake inhibitors (SSRIs)*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Obsessive-compulsive disorder (OCD) (immediate and controlled-release).
- Social anxiety disorder (SAD) (controlled-release only).
- **Unlabelled Use:**
  - Depression. Generalized anxiety disorder (GAD).
  - Post-traumatic stress disorder (PSTD).

ACTION

- Inhibits the reuptake of serotonin in the CNS.
- Therapeutic Effects:
  - Decrease in obsessive-compulsive behaviors.
  - Decrease in symptoms of social anxiety disorder.

PHARMACOKINETICS

Absorption: 53% absorbed after oral administration.

Distribution: Excreted in breast milk; enters the CNS. Remainder of distribution not known.

Metabolism and Excretion: Eliminated mostly by the kidneys.

Half-life: 13.6–15.6 hr.

TIME/ACTION PROFILE (improvement on obsessive-compulsive behaviors)

ROUTE	ONSET	PEAK	DURATION
PO	within 2–3 wk	several mo	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity to fluvoxamine or other SSRIs.
- Concurrent use or use within 14 days of discontinuing MAOIs, alosetron, pimozide, thioridazine, or tizanidine.

Use Cautiously in:

- Impaired hepatic function.
- May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment; risk may be greater in children or adolescents.
- *OB:* Neonates exposed to SSRI in third trimester may develop drug discontinuation syndrome including respiratory distress, feeding difficulty, and irritability.

Continued on the following page

- *Lactation:* Discontinue drug or bottle-feed.
- *Pedi:* Safety not established in children <8 yr (for immediate-release).
- *Geri:* May have ↑ sensitivity; recommend lower initial dose and slower dosage titration.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SUICIDAL THOUGHTS, sedation, dizziness, drowsiness, headache, insomnia, nervousness, weakness, agitation, anxiety, apathy, emotional lability, manic reactions, mental depression, psychotic reactions, syncope.

EENT: sinusitis.

Resp: cough, dyspnea.

CV: edema, hypertension, palpitations, postural hypotension, tachycardia, vasodilation.

GI: constipation, diarrhea, dry mouth, dyspepsia, nausea, anorexia, dysphagia, ↑ liver enzymes, flatulence, weight gain (unusual), vomiting.

GU: ↓ libido/sexual dysfunction.

Derm: ↑ sweating.

Metab: weight gain, weight loss.

MS: hypertonia, myoclonus/twitching.

Neuro: hypokinesia/hyperkinesia, tremor.

Misc: SEROTONIN SYNDROME, allergic reactions, chills, flu-like symptoms, tooth disorder/caries, yawning.

INTERACTIONS

Drug-Drug:

- Serious, potentially fatal reactions (serotonin syndrome) may occur with **MAO inhibitors**.
- **Smoking** may ↓ effectiveness of fluvoxamine.
- Concurrent use with **tricyclic antidepressants** may ↑ plasma levels of fluvoxamine.
- Drugs that affect serotonergic neurotransmitter systems, including **linezolid**, **tramadol**, and **triptans,** ↑ risk of serotonin syndrome.
- ↓ metabolism and may ↑ effects of some **beta blockers** (**propranolol**), **alosetron** (avoid concurrent use), some **benzodiazepines** (avoid concurrent **diazepam**), **carbamazepine**, **methadone**, **lithium**, **theophylline** (↓ dose to 33% of usual dose), **ramelteon** (avoid concurrent use), **warfarin**, and **L-tryptophan**. ↑ risk of bleeding with **NSAIDS**, **aspirin**, **clopidogrel**, or **warfarin**.
- ↑ blood levels and risk of toxicity from **clozapine** (dosage adjustments may be necessary).

ROUTE/DOSAGE

- **PO (Adults):** *Immediate release (OCD only)*–50 mg daily at bedtime; ↑ by 50 mg q 4–7 days until desired effect is achieved. If daily dose >100 mg, give in two equally divided doses or give a larger dose at bedtime (not to exceed 300 mg/day); *Controlled release (OCD and SAD)*–100 mg at bedtime; ↑ by 50 mg q 7 days until desired effect is achieved, not to exceed 300 mg/day.
- **PO (Children 8–17 yr):** *Immediate release (OCD only)*–25 mg at bedtime, may ↑ by 25 mg/day q 4–7 days (not to exceed 200 mg/day; daily doses >50 mg should be given in divided doses with a larger dose at bedtime).

Hepatic Impairment

- **PO (Adults):** 25 mg daily at bedtime initially, slower titration and longer dosing intervals should be used.

Continued on the following page

AVAILABILITY

- ***Tablets:*** 25 mg, 50 mg, 100 mg.
- ***Controlled-release capsules:*** 100 mg, 150 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor mood changes. Assess patient for frequency of obsessive-compulsive behaviors. Note degree to which these thoughts and behaviors interfere with daily functioning. Inform health care professional if patient demonstrates significant increase in anxiety, nervousness, or insomnia.
- Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yrs. After starting therapy, children, adolescents, and young adults should be seen by health care professional at least weekly for 4 wk, every 3 wk for next 4 wk, and on advice of health care professional thereafter.
- Monitor appetite and nutritional intake. Weigh weekly. Report significant changes in weight. Adjust diet as tolerated to support nutritional status.
- Assess for serotonin syndrome (mental changes [agitation, hallucinations, coma], autonomic instability [tachycardia, labile blood pressure, hyperthermia], neuromuscular aberations [hyperreflexia, incoordination], and/or GI symptoms [nausea, vomiting, diarrhea]), especially in patients taking other serotonergic drugs (SSRIs, SNRIs, triptans).
- *Toxicity and Overdose:* Common symptoms of toxicity include drowsiness, vomiting, diarrhea, and dizziness. Coma, tachycardia, bradycardia, hypotension, ECG abnormalities, liver function abnormalities, and convulsions may also occur. Treatment is symptomatic and supportive.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Taper to avoid withdrawal effects. Reduce dose by 50% for 3 days, then reduce by 50% for 3 days, then discontinue.
- **PO:** Initial therapy is administered as a single bedtime dose. May be increased every 4–7 days as tolerated.
- Fluvoxamine may be given without regard to meals. Do not open, break, crush, or chew controlled-release capsules.

PATIENT/FAMILY TEACHING

- Instruct patient to take fluvoxamine as directed. Do not skip or double up on missed doses. Improvement in symptoms may be noticed in 2–3 wk, but medication should be continued as directed.
- May cause drowsiness and dizziness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.
- Advise patient, family, and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide, new or worse depression or anxiety, agitation or restlessness, panic attacks, insomnia, new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior or if symptoms of serotonin syndrome occur.
- Advise patient to avoid alcohol or other CNS depressants during therapy and to consult health care professional before taking other medications with fluvoxamine.
- Instruct female patients to notify health care professional if breastfeeding or if pregnancy is planned or suspected.
- Advise patient to notify health care professional if rash or hives occur or if headache, nausea, anorexia, anxiety, or insomnia persists.
- Advise patient to avoid use of caffeine (chocolate, tea, cola).
- Emphasize the importance of follow-up exams to monitor progress.

EVALUATION/DESIRED OUTCOMES

- Decrease in symptoms of obsessive-compulsive disorder.
- Decrease in symptoms of social anxiety disorder.

gabapentin

(ga-ba-pen-tin)

Neurontin

CLASSIFICATION

Therapeutic: *analgesic adjuncts, therapeutic, anticonvulsants, mood stabilizers*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Partial seizures (adjunct treatment).
- Post-herpetic neuralgia.
- **Unlabelled Use:**
  - Neuropathic pain.
  - Prevention of migraine headache.
  - Bipolar disorder.
  - Anxiety.
  - Diabetic peripheral neuropathy.

ACTION

- Mechanism of action is not known.
- May affect transport of amino acids across and stabilize neuronal membranes.
- Therapeutic Effects:
  - Decreased incidence of seizures.
  - Decreased post-herpetic pain.

PHARMACOKINETICS

Absorption: Well absorbed after oral administration by active transport. At larger doses, transport becomes saturated and absorption decreases (bioavailability ranges from 60% for a 300-mg dose to 35% for a 1600-mg dose).

Distribution: Crosses blood-brain barrier; enters breast milk.

Metabolism and Excretion: Eliminated mostly by renal excretion of unchanged drug.

Half-life: *Adults*–5–7 hr (normal renal function); up to 132 hr in anuria; *Children*—4.7 hr.

TIME/ACTION PROFILE (blood levels)

ROUTE	ONSET	PEAK	DURATION
PO	rapid	2–4 hr	8 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.

Use Cautiously in:

- All patients (may ↑ risk of suicidal thoughts/behaviors).
- Renal insufficiency (↓ dose and/or ↓ dosing interval if CCr ≤60 mL/min).

Continued on the following page

- *OB/Pedi:* Safety not established for children <3 yr and pregnant women
- *Lactation:* Discontinue drug or bottle-feed.
- *Geri:* May be more susceptible to toxicity due to age-related in renal function.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SUICIDAL THOUGHTS, confusion, , depression, drowsiness, sedation, anxiety, concentration difficulties (children), dizziness, emotional lability (children), hostility, hyperkinesia (children), malaise, vertigo, weakness.

EENT: abnormal vision, nystagmus.

CV: hypertension.

GI: weight gain, anorexia, flatulence, gingivitis.

MS: arthralgia.

Neuro: ataxia, altered reflexes, hyperkinesia, paresthesia.

Misc: facial edema.

INTERACTIONS

Drug-Drug:

- **Antacids** may ↓ absorption of gabapentin. ↑ risk of CNS depression with other **CNS depressants**, including **alcohol**, **antihistamines**, **opioids**, and **sedative/hypnotics**.
- **Morphine** ↑ gabapentin levels and may ↑ risk of toxicity, dosage adjustments may be required.

Drug-Natural:

- **Kava-kava**, **valerian**, or **chamomile** can ↑ CNS depression.

ROUTE/DOSAGE

Epilepsy

- **PO (Adults and Children >12 yr):** 300 mg 3 times daily initially. Titration may be continued until desired (range is 900–1800 mg/day in 3 divided doses; doses should not be more than 12 hr apart). Doses up to 2400–3600 mg/day have been well tolerated.
- **PO (Children ≥ 5–12 yr):** 10–15 mg/kg/day in 3 divided doses initially titrated upward over 3 days to 25–35 mg/kg/day in 3 divided doses; dosage interval should not exceed12 hr (doses up to 50 mg/kg/day have been used).
- **PO (Children 3–4 yrs):** 10–15 mg/kg/day in 3 divided doses initially titrated upward over 3 days to 40 mg/kg/day in 3 divided doses; dosage interval should not exceed 12 hr (doses up to 50 mg/kg/day have been used).

Neuropathic Pain

- **PO (Adults):** 100 mg 3 times daily initially. Titrate weekly by 300 mg/day up to 900–2400 mg/day (maximum: 3600 mg/day).
- **PO (Children):** 5 mg/kg/dose at bedtime initially then increase to 5 mg/kg BID on day 2 and 5 mg/kg TID on day 3. Titrate to effect up to 8–35 mg/kg/day in 3 divided doses.

Renal Impairment

- **PO (Adults and Children >12 yr):** *CCr 30–60 mL/min*—300 mg 2 times daily; *CCr 15–30 mL/min*—300 mg once daily; *CCr < 15 mL/min*—300 mg once every other day; further adjustments are based on clinical response.

Post-Herpetic Neuralgia

- **PO (Adults):** 300 mg once daily on first day, 300 mg 2 times daily on second day, then 300 mg 3 times/day on day 3, may then be titrated upward as needed up to 600 mg 3 times/day.

AVAILABILITY (GENERIC AVAILABLE)

- *Capsules:* 100 mg, 300 mg, 400 mg
  - **Cost:** *Generic*— 100 mg $64.96/270, 300 mg $169.97/270, 400 mg $209.98/270.

Continued on the following page

- ***Tablets:*** 100 mg, 300 mg, 400 mg, 600 mg, 800 mg
  - **Cost:** *Generic*— 600 mg $229.96/270, 800 mg $199.96/270.
- ***Oral solution (cool strawberry anise flavor):*** 250 mg/5 mL
  - **Cost:** $130.10/470 mL.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression.
- **Seizures:** Assess location, duration, and characteristics of seizure activity.
- **Post-herpetic Neuralgia & Neuropathic Pain:** Assess location, characteristics, and intensity of pain periodically during therapy.
- **Migraine Prophylaxis:** Monitor frequecy and intensity of pain on pain scale.
- *Lab Test Considerations:* May cause false-positive readings when testing for urinary protein with *Ames N-Multistix SG* dipstick test; use sulfosalicylic acid precipitation procedure.
- May cause leukopenia.

POTENTIAL NURSING DIAGNOSES

- Risk for injury (Side Effects)
- Chronic pain (Indications)
- Ineffective coping (Indications)

IMPLEMENTATION

- **PO:** May be administered without regard to meals.
- 600 mg and 800 mg tablets are scored and can be broken to administer a half-tablet. If half-tablet is used, administer other half at the next dose. Discard half-tablets not used within several days.
- Gabapentin should be discontinued gradually over at least 1 wk. Abrupt discontinuation may cause increase in seizure frequency.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication exactly as directed. Patients on tid dosing should not exceed 12 hr between doses. Take missed doses as soon as possible; if less than 2 hr until next dose, take dose immediately and take next dose 1–2 hr later, then resume regular dosing schedule. Do not double dose. Do not discontinue abruptly; may cause increase in frequency of seizures. Instruct patient to read the *Medication Guide* before starting and with each Rx refill, changes may occur.
- Advise patient not to take gabapentin within 2 hr of an antacid.
- Gabapentin may cause dizziness and drowsiness. Caution patient to avoid driving or activities requiring alertness until response to medication is known. Seizure patients should not resume driving until physician gives clearance based on control of seizure disorder.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking, other unusual changes in behavior or mood occur.
- Advise female patient to notify health care professional if pregnancy is planned or suspected or if breastfeeding.
- Instruct patient to notify health care professional of medication regimen before treatment or surgery.
- Advise patient to carry identification describing disease process and medication regimen at all times.

EVALUATION/DESIRED OUTCOMES

- Decreased frequency of or cessation of seizures.
- Decreased post-herpetic neuralgia pain.
- Decreased intensity of neuropathic pain.
- Decreased frequency of migraine headaches.
- Increased mood stability.

guanfacine

(**gwahn**-fa-seen)
Intuniv, Tenex

CLASSIFICATION

Therapeutic: *antihypertensives* ***Pharmacologic:*** *centrally acting antiadrenergics*

Pregnancy Category B

🍁 = Genetic implication.
🍁 = Canadian drug name.

INDICATIONS

- Hypertension (with thiazide-type diuretics) (immediate-release).
- Attention-deficit hyperactivity disorder (ADHD) (extended-release).

ACTION

- Stimulates CNS alpha$_2$-adrenergic receptors, producing a decrease in sympathetic outflow to heart, kidneys, and blood vessels.
- Result is decreased blood pressure and peripheral resistance, a slight decrease in heart rate, and no change in cardiac output.
- Mechanism of action in ADHD is unknown.
- Therapeutic Effects:
  - Lowering of blood pressure in hypertension.
  - Increased attention span in ADHD.

PHARMACOKINETICS

Absorption: Immediate-release is well absorbed (80%); extended-release has lower rate and extent of absorption (↑ absorption with high-fat meals).

Distribution: Appears to be widely distributed.

Metabolism and Excretion: 50% metabolized by the liver, 50% excreted unchanged by the kidneys.

Half-life: 17 hr.

TIME/ACTION PROFILE (antihypertensive effect)

ROUTE	ONSET	PEAK	DURATION
PO (single dose)	unknown	8–12 hr	24 hr
PO (multiple doses)	within 1 wk	1–3 mo	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.

Use Cautiously in:

- Severe coronary artery disease or recent myocardial infarction.

Continued on the following page

- *Geri:* May have ↑ sensitivity, especially those with hepatic, cardiac, or renal dysfunction; Cerebrovascular disease; Severe renal or liver disease; History of hypotension, heart block, bradycardia, or cardiovascular disease.
- *OB/Lactation/Pedi:* Pregnancy, lactation, or children <6 yr (safety not established).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: drowsiness, headache, weakness, depression, dizziness, fatigue, insomnia, irritability.

EENT: tinnitus.

Resp: dyspnea.

CV: bradycardia, chest pain, hypotension, palpitations, rebound hypertension.

GI: constipation, dry mouth, abdominal pain, nausea.

GU: erectile dysfunction .

INTERACTIONS

Drug-Drug:

- ↑ hypotension with other **antihypertensives**, **nitrates**, and acute ingestion of **alcohol**.
- ↑ CNS depression may occur with other **CNS depressants**, including **alcohol**, **antihistamines**, **opioid analgesics**, **tricyclic antidepressants**, and **sedative/hypnotics**.
- **NSAIDs** may ↓ effectiveness.
- **Adrenergics** may ↓ effectiveness. ↑ risk of hypotension and bradycardia with strong **CYP3A4 inhibitors**, including **ketoconazole**.
- Strong **CYP3A4 inducers**, including **rifampin** may ↓ effects (an ↑ in dose of guanfacine may be needed).
- May ↑ levels of **valproic acid**.

ROUTE/DOSAGE

Immediate-release and extended-release tablets should not be interchanged.

Hypertension

- **PO (Adults):** 1 mg daily given at bedtime, may be ↑ if necessary at 3–4 wk intervals up to 2 mg/day; may also be given in 2 divided doses.

ADHD

- **PO (Adults and Children≥6 yr):** 1 mg daily in morning; may be ↑ by 1 mg/day at weekly intervals to achieve dose of 1–4 mg/day.

AVAILABILITY (GENERIC AVAILABLE)

- ***Immediate-release tablets (Tenex):*** 1 mg, 2 mg.
- ***Extended-release tablets (Intuniv):*** 1 mg, 2 mg, 3 mg, 4 mg.

NURSING IMPLICATIONS

Assessment

- **Hypertension:** Monitor blood pressure (lying and standing) and pulse frequently during initial dose adjustment and periodically during therapy. Report significant changes.
- Monitor frequency of prescription refills to determine adherence.
- **ADHD:** Assess attention span, impulse control, and interactions with others.
- *Lab Test Considerations:* May cause temporary, clinically insignificant ↑ in plasma growth hormone levels.
- May cause ↓ in urinary catecholamines and vanillylmandelic acid levels.

Continued on the following page

POTENTIAL NURSING DIAGNOSES

- Risk for injury (Side Effects)
- Noncompliance (Patient/Family Teaching)

IMPLEMENTATION

- Do not substitute for extended-release tablets for immediate-release tablets on a mg-mg basis. Doses are not the same.
- **PO:** *For hypertension:* Administer daily dose at bedtime to minimize daytime sedation.
- *For ADHD:* Administer once daily. Swallow extended-release tablets whole; do not crush, break or chew. Do not administer with high fat meals, due to increased exposure.

PATIENT/FAMILY TEACHING

- Advise patient to consult health care professional before taking any OTC medications or herbal products, especially cough, cold, or allergy remedies.
- Caution patient to avoid alcohol and other CNS depressants while taking guanfacine.
- Advise patient to notify health care professional if dry mouth or constipation persists. Frequent mouth rinses, good oral hygiene, and sugarless gum or candy may minimize dry mouth. Increase in fluid and fiber intake and exercise may decrease constipation.
- Instruct patient to notify health care professional of medication regimen prior to treatment or surgery.
- Advise patient to notify health care professional if dizziness, prolonged drowsiness, fatigue, weakness, depression, headache, sexual dysfunction, mental depression, or sleep pattern disturbance occurs. Discontinuation may be required if drug-related mental depression occurs.
- Advise female patients to notify health care professional if pregnancy is planned or suspected or if breastfeeding.
- Emphasize the importance of follow-up exams to evaluate effectiveness of medication.
- **Hypertension:** Emphasize the importance of continuing to take medication as directed, even if feeling well. Medication controls but does not cure hypertension. Instruct patient to take medication at the same time each day. Take missed doses as soon as remembered; do not double doses. If 2 or more doses are missed, consult health care professional. Do not discontinue abruptly; may cause sympathetic overstimulation (nervousness, anxiety, rebound hypertension, chest pain, tachycardia, increased salivation, nausea, trembling, stomach cramps, sweating, difficulty sleeping). These effects may occur 2–7 days after discontinuation, although rebound hypertension is rare and more likely to occur with high doses.
- Advise patient to make sure enough medication is available for weekends, holidays, and vacations. A written prescription may be kept in wallet in case of emergency.
- Encourage patient to comply with additional interventions for hypertension (weight reduction, low-sodium diet, smoking cessation, moderation of alcohol consumption, regular exercise, and stress management).
- Instruct patient and family on proper technique for blood pressure monitoring. Advise them to check blood pressure at least weekly and to report significant changes.
- May cause drowsiness or dizziness. Advise patient to avoid driving or other activities requiring alertness until response to the medication is known.
- **ADHD:** Instruct patient to take medication as directed. Take missed doses as soon as possible, but should not take more than the total daily amount in any 24-hr period. Advise patient and parents to read the *Medication Guide* prior to starting therapy and with each Rx refill.
- Inform patient that sharing this medication may be dangerous.
- *Pedi:* Advise parents to notify school nurse of medication regimen.

EVALUATION/DESIRED OUTCOMES

- Decrease in blood pressure without excessive side effects.
- Improved attention span and social interactions in ADHD. Re-evaluate use if used for >9 wks.

haloperidol

(ha-loe-**per**-i-dole)
♣ Apo-Haloperidol, Haldol, Haldol Decanoate,
♣ Haldol LA, ♣ Novo-Peridol, ♣ Peridol, ♣ PMS Haloperidol

CLASSIFICATION

Therapeutic: *antipsychotics* ***Pharmacologic:*** *butyrophenones*

Pregnancy Category C

♣ = Genetic implication.
♣ = Canadian drug name.

INDICATIONS

- Acute and chronic psychotic disorders including: schizophrenia, manic states, drug-induced psychoses.
- Schizophrenic patients who require long-term parenteral (IM) antipsychotic therapy. Also useful in managing aggressive or agitated patients.
- Tourette's syndrome.
- Severe behavioral problems in children which may be accompanied by: unprovoked, combative, explosive hyperexcitability, hyperactivity accompanied by conduct disorders (short-term use when other modalities have failed).
- Considered second-line treatment after failure with atypical antipsychotic.
- **Unlabelled Use:**
  - Nausea and vomiting from surgery or chemotherapy.

ACTION

- Alters the effects of dopamine in the CNS. Also has anticholinergic and alpha-adrenergic blocking activity.
- Therapeutic Effects:
  - Diminished signs and symptoms of psychoses.
  - Improved behavior in children with Tourette's syndrome or other behavioral problems.

PHARMACOKINETICS

Absorption: Well absorbed following PO/IM administration. Decanoate salt is slowly absorbed and has a long duration of action.

Distribution: Concentrates in liver. Crosses placenta; enters breast milk.

Protein Binding: 90%.

Metabolism and Excretion: Mostly metabolized by the liver.

Half-life: 21–24 hr.

TIME/ACTION PROFILE (antipsychotic activity)

ROUTE	ONSET	PEAK	DURATION
PO	2 hr	2–6 hr	8–12 hr
IM	20–30 min	30–45 min	4–8 hr†
IM (decanoate)	3–9 days	unknown	1 mo

†Effect may persist for several days

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Angle-closure glaucoma.
- Bone marrow depression
- CNS depression.
- Severe liver or cardiovascular disease (QT interval prolonging conditions).
- Some products contain tartrazine, sesame oil, or benzyl alcohol and should be avoided in patients with known intolerance or hypersensitivity.

Use Cautiously in:

- Debilitated patients (dose ↓ required).
- Cardiac disease.
- Diabetes.
- Respiratory insufficiency.
- Prostatic hyperplasia.
- CNS tumors
- Intestinal obstruction.
- Seizures.
- *OB:* Safety not established.
- *Lactation:* Discontinue drug or bottle-feed.
- *Geri:* Dose ↓ required due to ↑ sensitivity.
- ↑ risk of mortality in elderly patients treated for dementia-related psychosis.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SEIZURES, extrapyramidal reactions, confusion, drowsiness, restlessness, tardive dyskinesia.

EENT: blurred vision, dry eyes.

Resp: respiratory depression.

CV: hypotension, tachycardia.

GI: constipation, dry mouth, anorexia, drug-induced hepatitis, ileus, weight gain.

GU: impotence, urinary retention.

Derm: diaphoresis, photosensitivity, rashes.

Endo: amenorrhea, galactorrhea, gynecomastia.

Hemat: AGRANULOCYTOSIS, anemia, leukopenia, neutropenia.

Metab: hyperpyrexia.

Misc: NEUROLEPTIC MALIGNANT SYNDROME, hypersensitivity reactions.

INTERACTIONS

Drug-Drug:

- ↑ hypotension with **antihypertensives**, **nitrates**, or acute ingestion of **alcohol**.
- ↑ anticholinergic effects with **drugs having anticholinergic properties**, including **antihistamines**, **antidepressants**, **atropine**, **phenothiazines**, **quinidine**, and **disopyramide**.
- ↑ CNS depression with other **CNS depressants**, including **alcohol**, **antihistamines**, **opioid analgesics**, and **sedative/hypnotics**.
- Concurrent use with **epinephrine** may result in severe hypotension and tachycardia.
- May ↓ therapeutic effects of **levodopa**.
- Acute encephalopathic syndrome may occur when used with **lithium**.
- Dementia may occur with **methyldopa**.

Drug-Natural:

- **Kava-kava**, **valerian**, or **chamomile** can ↑ CNS depression.

ROUTE/DOSAGE

Haloperidol

- **PO (Adults):** 0.5–5 mg 2–3 times daily. Patients with severe symptoms may require up to 100 mg/day.

Continued on the following page

- **PO (Geriatric Patients or Debilitated Patients):** 0.5–2 mg twice daily initially; may be gradually ↑ as needed.
- **PO (Children 3–12 yr or 15–40 kg):** 50 mcg/kg/day in 2–3 divided doses; may ↑ by 500 mcg (0.5 mg)/day q 5–7 days as needed (up to 75 mcg/kg/day for nonpsychotic disorders or Tourette's syndrome or 150 mcg/kg/day for psychoses).
- **IM (Adults):** 2–5 mg q 1–8 hr (not to exceed 100 mg/day).
- **IV (Adults):** 0.5–5 mg, may be repeated q 30 min (unlabeled).

Haloperidol Decanoate

- **IM (Adults):** 10–15 times the previous daily PO dose but not to exceed 100 mg initially, given monthly (not to exceed 300 mg/mo).

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 0.5 mg, 1 mg, 2 mg, 5 mg, 10 mg, 20 mg.
- ***Oral concentrate:*** 2 mg/mL.
- ***Haloperidol injection:*** 5 mg/mL.
- ***Haloperidol decanoate injection:*** 50 mg/mL, 100 mg/mL.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status (orientation, mood, behavior) prior to and periodically during therapy.
- Assess positive (hallucination, delusions) and negative (social isolation) symptoms of schizophrenia.
- Monitor blood pressure (sitting, standing, lying) and pulse prior to and frequently during the period of dose adjustment. May cause QT interval changes on ECG.
- Observe patient carefully when administering medication, to ensure that medication is actually taken and not hoarded.
- Monitor intake and output ratios and daily weight. Assess patient for signs and symptoms of dehydration (decreased thirst, lethargy, hemoconcentration), especially in geriatric patients.
- Assess fluid intake and bowel function. Increased bulk and fluids in the diet help minimize constipating effects.
- Monitor patient for onset of akathisia (restlessness or desire to keep moving), which may appear within 6 hr of 1st dose and may be difficult to distinguish from psychotic agitation. Benztropine may be used to differentiate agitation from akathisia. Observe closely for extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill rolling of hands, mask-like face, shuffling gait, rigidity, tremors; and *dystonic*—muscle spasms, twisting motions, twitching, inability to move eyes, weakness of arms or legs). Trihexyphenidyl or Benzotropine may be used to control these symptoms. Benzodiazepines may alleviate akathisia.
- Monitor for tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities; lip smacking or puckering; puffing of cheeks; uncontrolled chewing; rapid or worm-like movements of tongue, excessive eye blinking). Report immediately; may be irreversible.
- Monitor for symptoms related to hyperprolactinemia (menstrual abnormalities, galactorrhea, sexual dysfunction).
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness, severe muscle stiffness, loss of bladder control). Report symptoms immediately. May also cause leukocytosis, elevated liver function tests, elevated CPK.
- *Lab Test Considerations:* Monitor CBC with differential and liver function tests periodically during therapy.
- Monitor serum prolactin prior to and periodically during therapy. May cause ↑ serum prolactin levels.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Indications)
- Disturbed sensory perception (specify: visual, auditory, kinesthetic, gustatory, tactile, olfactory) (Indications)

Continued on the following page

IMPLEMENTATION

- Avoid skin contact with oral solution; may cause contact dermatitis.
- **PO:** Administer with food or full glass of water or milk to minimize GI irritation.
- Use calibrated measuring device for accurate dosage. Do not dilute concentrate with coffee or tea; may cause precipitation. May be given undiluted or mixed with water or juice.
- **IM:** Inject slowly, using 2-in., 21-gauge needle into well-developed muscle via Z-track technique. Do not exceed 3 mL per injection site. Slight yellow color does not indicate altered potency. Keep patient recumbent for at least 30 min following injection to minimize hypotensive effects.

IV Administration

- **IV:** Haloperidol decanoate should not be administered IV.
- **Direct IV:** *Diluent:* May be administered undiluted for rapid control of acute psychosis or delirium *Concentration:* 5 mg/mL. *Rate:* Administer at a rate of 5 mg/min.
- **Intermittent Infusion:** *Diluent:* May be diluted in 30–50 mL of D5W. *Rate:* Infuse over 30 min.
- **Y-Site Compatibility:** amifostine, amphotericin B liposome, amsacrine, bivalirudin, carboplatin, caspofungin, cisatracurium, cisplatin, cladribine, cyclophospamide, cytarabine, dactinomycin, daptomycin, dexmedetomidine, diltiazem, docetaxel, doxacurium, doxorubicin hydrochloride, doxorubicin liposome, epirubicin, ertapenem, etoposide, etoposide phosphate, fenoldopam, filgrastim, fludarabine, gemcitabine, granisetron, hetastarch, hydromorphone, ifosfamide, levofloxacin, linezolid, lorazepam, mechlorethamine, melphalan, methadone, metronidazole, milrinone, mitoxantrone, nesiritide, octreotided, oxaliplatin, paclitaxel, palonosetron, pemetrexed, propofol, quinupristin/dalfopristin, remifentanil, rituximab, rocuronium, sodium acetate, tacrolimus, teniposide, thiotepa, tigecycline, tirofiban, trastuzumab, vecuronium, vincristine, vinorelbine, voriconazole.
- **Y-Site Incompatibility:** acyclovir, allopurinol, aminophylline, amphotericin B cholesteryl, amphotericin B colloidal, ampicillin, ampicillin/sulbactam, azathioprine, bumetanide, calcium chloride, cefazolin, cefepime, cefonocid, cefoperazone, cefotaxime, cefotetan, cefoxitin, ceftazidime, ceftizoxime, ceftriaxone, cefuroxime, chloramphenicol, clindamycin, dantrolene, dexamethasone sodium phosphate, diazepam, diazoxide, epoetin alfa, fluorouracil, folic acid, foscarnet, furosemide, ganciclovir, heparin, hydralazine, hydrocortisone, imipenem/cilastatin, indomethacin, ketorolac, magnesium sulfate, methylprednisolone sodium succinate, nafcillin, oxacillin, pantoprazole, penicillin G potassium, pentobarbital, phenobarbital, phenytoin, piperacillin/tazobactam, potassium chloride, sargramostim, sodium bicarbonate, ticarcillin/clavulanate, trimethoprim/sulfamethoxazole.

PATIENT/FAMILY TEACHING

- Advise patient to take medication as directed. Take missed doses as soon as remembered, with remaining doses evenly spaced throughout the day. May require several weeks to obtain desired effects. Do not increase dose or discontinue medication without consulting health care professional. Abrupt withdrawal may cause dizziness; nausea; vomiting; GI upset; trembling; or uncontrolled movements of mouth, tongue, or jaw.
- Inform patient of possibility of extrapyramidal symptoms and tardive dyskinesia. Caution patient to report symptoms immediately.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- May cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Caution patient to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Advise patient to use sunscreen and protective clothing when

Continued on the following page

exposed to the sun to prevent photosensitivity reactions. Extremes of temperature should also be avoided, because this drug impairs body temperature regulation.
- Instruct patient to use frequent mouth rinses, good oral hygiene, and sugarless gum or candy to minimize dry mouth.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Instruct patient to notify health care professional promptly if weakness, tremors, visual disturbances, dark-colored urine or clay-colored stools, sore throat, fever, menstrual abnormalities, galactorrhea or sexual dysfunction occur.
- Emphasize the importance of routine follow-up exams to monitor response to medication and detect side effects.

EVALUATION/DESIRED OUTCOMES

- Decrease in hallucinations, insomnia, agitation, hostility, and delusions.
- Decreased tics and vocalization in Tourette's syndrome.
- Improved behavior in children with severe behavioral problems. If no therapeutic effects are seen in 2–4 wk, dosage may be increased.

iloperidone

(eye-loe-**per**-i-done)

Fanapt

CLASSIFICATION

Therapeutic: *antipsychotics* ***Pharmacologic:*** *benzisoxazoles*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Acute management of schizophrenia.

ACTION

- May act by antagonizing dopamine and serotonin in the CNS.
- Therapeutic Effects:
  - Decreased symptoms of schizophrenia.

PHARMACOKINETICS

Absorption: Well absorbed (96%) following oral administration.

Distribution: Unknown.

Metabolism and Excretion: Extensively metabolized, primarily by CYP3A4 and CYP2D6 enzyme systems, with individual variability in metabolism (extensive metabolizers [EM] and poor metabolizers [PM] and some in-between; poor metabolizers account for less than 10% of the population). Two major metabolites (P88 and P95) may be partially responsible for pharmacologic activity. 58% excreted in urine as metabolites in EM and 45% in PM; respectively, with feces accounting 20% elimination for EM and 22.1% for PM.

Half-life: *Extensive metabolizers*—iloperidone–18 hr, P88–26 hr, P95–23 hr; *poor metabolizers*—iloperidone–33 hr, P88–37 hr, P95–31 hr.

TIME/ACTION PROFILE (antipsychotic effect)

ROUTE	ONSET	PEAK	DURATION
PO	2–4 wk	2–4 hr†	unknown

†Blood level

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Concurrent use of drugs known to prolong QTc interval.
- Bradycardia, recent MI or uncompensated heart failure (↑ risk of serious arrhythmias).

Continued on the following page

- Congenital long QT syndrome, QTc >500 ms or history of cardiac arrhythmias.
- Hepatic impairment.
- *Geri:* Elderly patients with dementia-related psychoses (↑ risk of death, CVA or TIA).
- *Lactation:* Breastfeeding should be avoided.

Use Cautiously in:

- Known cardiovascular disease including heart failure, history of MI/ischemia, conduction abnormalities, cerebrovascular disease, or other conditions known to predispose to hypotension including dehydration, hypovolemia, concurrent antihypertensive therapy (↑ risk of orthostatic hypotension).
- Electrolyte abnormalities, especially hypomagnesemia or hypokalemia (correct prior to therapy).
- Concurrent use of inhibitors of the CYP3A4 or CYP2D6 enzyme systems.
- Known ↓ WBC or history of drug-induced leukopenia/neutropenia.
- Circumstances that may result in ↑ body temperature, including strenuous exercise, exposure to extreme heat, concurrent anticholinergic activity, or dehydration (may impair thermoregulation).
- Patients at risk for aspiration.
- *Geri:* May have ↑ sensitivity and risk of adverse reactions.
- *OB:* Use during pregnancy only if potential maternal benefit justifies potential fetal risk.
- *Pedi:* Safe and effective use in children/adolescents has not been established.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, dizziness, drowsiness, fatigue, agitation, delusion, restlessness, extrapyramidal disorders.

EENT: nasal congestion.

CV: orthostatic hypotension, tachycardia, palpitations, QTc prolongation.

GI: dry mouth, nausea, abdominal discomfort, diarrhea.

GU: priapism, urinary incontinence.

Endo: hyperglycemia, hyperprolactinemia.

Neuro: tardive dyskinesia.

Metab: weight gain, weight loss.

MS: ↓ bone density, musculoskeletal stiffness.

INTERACTIONS

Drug-Drug:

- Avoid use of drugs known to prolong QTc including the **antiarrhythmics quinidine**, **procainamide**, **amiodarone**, and **sotalol**; **antipsychotics** including **chlorpromazine** and **thioridazine**, the **antibiotics gatifloxacin**, **moxifloxacin**, or any other **medications known to prolong the QTc interval** including **pentamidine**, **levomethadyl**, and **methadone**; concurrent use may result in serious, life-threatening arrhythmias.
- Concurrent use of **CYP2D6 inhibitors** including **fluoxetine** and **paroxetine** ↑ levels and the risk of toxicity; dose reduction is required. A similar effect occurs with **CYP3A4 inhibitors** including **ketoconazole** and **clarithromycin**; dosage reduction is required.
- Concurrent use of **antihypertensives** including **diuretics** may ↑ risk of orthostatic hypotension.
- Concurrent **anticholinergics** may ↑ risk of impaired thermoregulation.

ROUTE/DOSAGE

- **PO (Adults):** Initiate treatment with 1 mg twice daily on the first day, then 2 mg twice daily the second day, then increase by 2 mg/day every day until a target dose of 12–24 mg/day given in two divided doses is reached; *Concurrent CYP2D6 or*

Continued on the following page

CYP3A4 inhibitors—decrease dose by one-half, if inhibitor is withdrawn increase dose to previous amount. Re-titration is required if iloperidone is discontinued >3 days.

AVAILABILITY

- ***Tablets:*** 1 mg, 2 mg, 4 mg, 6 mg, 8 mg, 10 mg, 12 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor patient's mental status (delusions, hallucinations, and behavior) before and periodically during therapy.
- Monitor mood changes. Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient.
- Monitor blood pressure (sitting, standing, lying down) and pulse before and periodically during therapy. May cause prolonged QT interval, tachycardia, and orthostatic hypotension.
- Observe patient when administering medication to ensure that medication is actually swallowed and not hoarded.
- Monitor patient for onset of extrapyramidal side effects (*akathisia*—restlessness; *dystonia*—muscle spasms and twisting motions; or *pseudoparkinsonism*—mask-like face, rigidity, tremors, drooling, shuffling gait, dysphagia). Report these symptoms; reduction of dose or discontinuation of medication may be necessary.
- Monitor for tardive dyskinesia (involuntary rhythmic movement of mouth, face, and extremities). Report immediately and discontinue therapy; may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness). Discontinue iloperidone and notify health care professional immediately if these symptoms occur.
- Monitor for symptoms related to hyperprolactinemia (menstrual abnormalities, galactorrhea, sexual dysfunction).
- *Lab Test Considerations:* Monitor fasting blood glucose before and periodically during therapy in diabetic patients.
- Monitor CBC frequently during initial months of therapy in patients with pre-existing or history of low WBC. May cause leukopenia, neutropenia, or agranulocytosis. Discontinue therapy if this occurs.
- Monitor serum potassium and magnesium levels in patients at risk for electrolyte disturbances.
- Monitor serum prolactin prior to and periodically during therapy. May cause ↑ serum prolactin levels.

POTENTIAL NURSING DIAGNOSES

- Risk for self-directed violence (Indications)
- Disturbed thought process (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- **PO:** Administer twice daily without regard to food.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication exactly as directed. Advise patient that appearance of tablets in stool is normal and not of concern.
- Inform patient of the possibility of extrapyramidal symptoms. Instruct patient to report these symptoms immediately to health care professional.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- May cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Extremes in temperature should also be avoided; this drug impairs body temperature regulation.

Continued on the following page

- Caution patient to avoid concurrent use of alcohol, other CNS depressants, and Rx, OTC, or herbal products without consulting health care professional.
- Advise female patients to notify health care professional if pregnancy is planned or suspected or if they are breastfeeding or planning to breastfeed.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Instruct patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, rash, tremors, palpitations, fainting, menstrual abnormalities, galactorrhea or sexual dysfunction occur.
- Emphasize the need for continued follow-up for psychotherapy and monitoring for side effects.

EVALUATION/DESIRED OUTCOMES

- Decrease in excited, paranoid, or withdrawn behavior.

imipramine

(im-**ip**-ra-meen)

Apo-Imipramine, Impril, Norfranil, Novopramine, Tipramine, Tofranil, Tofranil PM

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *tricyclic antidepressants*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Various forms of depression.
- Enuresis in children.
- **Unlabelled Use:**
  - Adjunct in the management of chronic pain, incontinence (in adults), vascular headache prophylaxis, cluster headache, insomnia.

ACTION

- Potentiates the effect of serotonin and norepinephrine.
- Has significant anticholinergic properties.
- Therapeutic Effects:
  - Antidepressant action that develops slowly over several weeks.

PHARMACOKINETICS

Absorption: Well absorbed from the GI tract.

Distribution: Widely distributed. Probably crosses the placenta and enters breast milk.

Protein Binding: 89–95%.

Metabolism and Excretion: Extensively metabolized by the liver, mostly on first pass; some conversion to active compounds. Undergoes enterohepatic recirculation and secretion into gastric juices.

Half-life: 8–16 hr.

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
PO, IM	hours	2–6 wk	weeks

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity
- Cross-sensitivity with other antidepressants may occur.
- Angle-closure glaucoma.
- Hypersensitivity to tartrazine or sulfites (in some preparations).
- Recent MI, known history of QTc prolongation, heart failure.

Continued on the following page

Use Cautiously in:

- Pre-existing cardiovascular disease.
- Seizures or history of seizure disorder.
- May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment.
- *OB:* Drug is present in breast milk; discontinue imipramine or bottle feed.
- *Pedi:* Suicide risk may be greater in children or adolescents. Safety not established in children <6 yr.
- *Geri:* Geriatric patients (more susceptible to adverse reactions). Geriatric males with prostatic hyperplasia are more susceptible to urinary retention.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: drowsiness, fatigue, agitation, confusion, hallucinations, insomnia.

EENT: blurred vision, dry eyes.

CV: ARRHYTHMIAS, hypotension, ECG changes.

GI: constipation, dry mouth, nausea, paralytic ileus, weight gain.

GU: urinary retention, decreased libido.

Derm: photosensitivity.

Endo: gynecomastia.

Hemat: blood dyscrasias.

INTERACTIONS

Drug-Drug:

- May cause hypotension, tachycardia, and potentially fatal reactions when used with **MAO inhibitors** (avoid concurrent use—discontinue 2 wk prior to imipramine).
- Concurrent use with **SSRI antidepressants** may result in increased toxicity and should be avoided (**fluoxetine** should be stopped 5 wk before).
- Concurrent use with **clonidine** may result in hypertensive crisis and should be avoided.
- Imipramine is metabolized in the liver by the **cytochrome P450 2D6 enzyme** and its action may be affected by drugs that compete for metabolism by this enzyme including **other antidepressants**, **phenothiazines**, **carbamazepine**, **class 1C antiarrhythmics** (**propafenone**, **flecainide**); when used concurrently, dose reduction of one or the other or both may be necessary. Concurrent use of other drugs that inhibit the activity of the enzyme, including **cimetidine**, **quinidine**, **amiodarone**, and **ritonavir**, may result in ↑ effects of imipramine.
- Concurrent use with **levodopa** may result in delayed/↓ absorption of levodopa or hypertension.
- Blood levels and effects may be ↓ by **rifamycins**. ↑ CNS depression with other CNS **depressants** including **alcohol**, **antihistamines**, **clonidine**, **opioids**, and **sedative/hypnotics**.
- **Barbiturates** may alter blood levels and effects.
- **Adrenergic** and **anticholinergic** side effects may be ↑ with other **agents having these properties**.
- **Phenothiazines** or **hormonal contraceptives** ↑ levels and may cause toxicity.
- **Cigarette smoking** (**nicotine**) may increase metabolism and alter effects.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, or **chamomile** can increase CNS depression.
- ↑ anticholinergic effects with **jimson weed** and **scopolia**.

ROUTE/DOSAGE

- **PO (Adults):** 25–50 mg 3–4 times daily (not to exceed 300 mg/day); total daily dose may be given at bedtime.
- **PO (Geriatric Patients):** 25 mg at bedtime initially, up to 100 mg/day in divided doses.
- **PO (Children >12 yr):** *Antidepressant*—25–50 mg/day in divided doses (not to exceed 100 mg/day).

Continued on the following page

- **PO (Children 6–12 yr):** *Antidepressant*—10–30 mg/day in 2 divided doses.
- **PO (Children ≥6 yr):** *Enuresis*—25 mg once daily 1 hr before bedtime; increase if necessary by 25 mg at weekly intervals to 50 mg in children <12 yr, up to 75 mg in children >12 yr.
- **IM (Adults):** Up to 100 mg/day in divided doses (not to exceed 300 mg/day).

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 10 mg, 25 mg, 50 mg, ✦ 75 mg.
- ***Capsules:*** 75 mg, 100 mg, 125 mg, 150 mg.
- ***Injection:*** 12.5 mg/mL.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor blood pressure and pulse rate prior to and during initial therapy.
- Monitor plasma levels in treatment-resisant patients.
- Monitor weight and BMI initially and periodically throughout therapy.
- For overweight/obese individuals, obtain FBS and cholesterol levels. Refer as appropriate for nutrition/weight management and medical management.
- Obtain weight and BMI initially and regularly throughout therapy.
- Assess for sexual dysfunction (decreased libido; erectile dysfunction).
- *Pedi/Geri:* Monitor baseline and periodic ECGs in elderly patients or patients with heart disease and before increasing dose with children treated for enuresis. May cause prolonged PR and QT intervals and may flatten T waves.
- **Depression:** Assess mental status (orientation, mood, behavior) frequently. Confusion, agitation, and hallucinations may occur during initiation of therapy and may require dosage reduction. Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient.
- **Enuresis:** Assess frequency of bedwetting during therapy. Ask patient or caretaker to maintain diary.
- **Pain:** Assess location, duration, and severity of pain periodically during therapy. Use pain scale to monitor effectiveness of therapy.
- *Lab Test Considerations:* Assess leukocyte and differential blood counts and renal and hepatic functions prior to and periodically during prolonged or high-dose therapy.
- Serum levels may be monitored in patients who fail to respond to usual therapeutic dose. Therapeutic plasma concentration range for depression is 150–300 ng/mL.
- May cause alterations in blood glucose levels.
- *Toxicity and Overdose:* Symptoms of acute overdose include disturbed concentration, confusion, restlessness, agitation, seizures, drowsiness, mydriasis, arrhythmias, fever, hallucinations, vomiting, and dyspnea.
- Treatment of overdose includes gastric lavage, activated charcoal, and a stimulant cathartic. Maintain respiratory and cardiac function (monitor ECG for at least 5 days) and temperature. Medications may include digoxin for CHF, antiarrhythmics, and anticonvulsants.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Chronic pain (Indications)
- Impaired urinary elimination (Indications, Side Effects)
- Sexual dysfunction (Side Effects)

IMPLEMENTATION

- Do not confuse imipramine with desipramine.
- Dose increases should be made at bedtime because of sedation. Dose titration is a slow process; may take weeks to months. May be given as a single dose at bedtime to minimize sedation during the day.

Continued on the following page

- Taper to avoid withdrawal effects. Reduce by 50% for 3 days, then reduce by 50% for 3 days, then discontinue.
- **PO:** Administer medication with or immediately following a meal to minimize gastric irritation.
- **IM:** May be slightly yellow or red in color. Crystals may develop if solution is cool; place ampule under warm running water for 1 min to dissolve.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed. Take missed doses as soon as possible unless almost time for next dose; if regimen is a single dose at bedtime, do not take in the morning because of side effects. Advise patient that drug effects may not be noticed for at least 2 wk. Abrupt discontinuation may cause nausea, vomiting, diarrhea, headache, trouble sleeping with vivid dreams, and irritability.
- May cause drowsiness and blurred vision. Caution patient to avoid driving and other activities requiring alertness until response to drug is known.
- Instruct patient to notify health care professional if visual changes occur. Inform patient that periodic glaucoma testing may be needed during long-term therapy.
- Caution patient to change positions slowly to minimize orthostatic hypotension.
- Advise patient to avoid alcohol or other CNS depressant drugs during therapy and for at least 3–7 days after therapy has been discontinued.
- Instruct patient to notify health care professional if urinary retention, dry mouth, or constipation persists. Sugarless candy or gum may diminish dry mouth and an increase in fluid intake or bulk may prevent constipation. If symptoms persist, dose reduction or discontinuation may be necessary. Consult health care professional if dry mouth persists for more than 2 wk.
- Caution patient to use sunscreen and protective clothing to prevent photosensitivity reactions.
- Alert patient that urine may turn blue-green in color.
- Inform patient of need to monitor dietary intake, as possible increase in appetite may lead to undesired weight gain. Inform patient that increased amounts of riboflavin in the diet may be required; consult health care professional.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Therapy for depression is usually prolonged. Emphasize the importance of follow-up exams to evaluate progress and improve coping skills.
- *Pedi:* Inform parents that the side effects most likely to occur include nervousness, insomnia, unusual tiredness, and mild nausea and vomiting. Notify health care professional if these symptoms become pronounced.
- Advise parents to keep medication out of reach of children to prevent inadvertent overdose.
- Refer to local support group.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings.
- Increased appetite.
- Improved energy level.
- Pain relief.
- Diminished incidence of enuresis.
- Improved sleep in patients treated for depression. Patient may require 2–6 wk of therapy before full therapeutic effects of medication are noticeable.
- Control of bedwetting in children >6 yr.
- Decrease in chronic neurogenic pain.

lamotrigine

(la-**moe**-tri-jeen)

Lamictal

CLASSIFICATION

Therapeutic: *anticonvulsants*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Adjunct treatment of partial seizures in adults with epilepsy (immediate-release, extended-release, chewable, and orally disintegrating tablets).
- Lennox-Gastaut syndrome (immediate-release, chewable, and orally disintegrating tablets only).
- Primary generalized tonic-clonic seizures in adults and children ≥2 yr (immediate-release, chewable, and orally disintegrating tablets only).
- Conversion to monotherapy in adults with partial seizures receiving a single enzyme-inducing antiepileptic drug (immediate-release, chewable, and orally disintegrating tablets only).
- Maintenance treatment of bipolar disorder (immediate-release, chewable, and orally disintegrating tablets only).

ACTION

- Stabilizes neuronal membranes by inhibiting sodium transport.
- Therapeutic Effects:
  - Decreased incidence of seizures.
  - Delayed time to recurrence of mood episodes.

PHARMACOKINETICS

Absorption: 98% absorbed following oral administration.

Distribution: Enters breast milk. Highly bound to melanin-containing tissues (eyes, pigmented skin).

Metabolism and Excretion: Mostly metabolized by the liver to inactive metabolites; 10% excreted unchanged by the kidneys.

Half-life: Children taking enzyme–inducing antiepileptic drugs (AEDs): 7–10 hr; Children taking enzyme inducers and valproic acid : 15–27 hr; Children taking valproic acid: 44–94 hr; Adults: 25.4 hr (during chronic therapy of lamotrigine alone).

TIME/ACTION PROFILE (blood levels)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	1.4–4.8 hr; 4–10 hr (XR)	unknown

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CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- *Lactation:* Lactation.

Use Cautiously in:

- All patients (may ↑ risk of suicidal thoughts/behaviors).
- Patients with renal dysfunction, impaired cardiac function, and hepatic dysfunction (lower maintenance doses may be required).
- Prior history of rash to lamotrigine.
- *OB:* Exposure during first trimester may ↑ risk of cleft lip/palate.
- *Pedi:* Immediate-release, chewable, and orally disintegrating tablets not safe for children <2 yr; extended-release tablets not approved for use in children <13 yr.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SUICIDAL THOUGHTS, ataxia, dizziness, headache, behavior changes, depression, drowsiness, insomnia, tremor.

EENT: blurred vision, double vision, rhinitis.

GI: nausea, vomiting.

GU: vaginitis.

Derm: photosensitivity, rash (higher incidence in children, patients taking valproic acid, high initial doses, or rapid dose increases).

MS: arthralgia.

Misc: STEVENS-JOHNSON SYNDROME.

INTERACTIONS

Drug-Drug:

- Concurrent use with **carbamazepine** may result in ↓ levels of lamotrigine and ↑ levels of an active metabolite of carbamazepine. Lamotrigine levels are ↓ by concurrent use of **phenobarbital**, **phenytoin**, or **primidone**.
- Concurrent use with **valproic acid** results in a twofold ↑ in lamotrigine levels, ↑ incidence of rash, and a ↓ in valproic acid level (lamotrigine dose should be ↓ by at least 50%).
- **Oral contraceptives** may ↓ serum levels of lamotrigine (dose adjustments may be necessary when starting and stopping oral contraceptives).

ROUTE/DOSAGE

Epilepsy

In Combination with Other Antiepileptic Agents

- **PO (Adults and Children > 12 yr; Immediate-release, chewable, or orally disintegrating tablets):** *Patients taking anti-epileptic drugs other than carbamazepine, phenobarbital, phenytoin, primidone, or valproate*—25 mg daily for first 2 wk, then 50 mg daily for next 2 wk; then ↑ by 50 mg/day every 1–2 wk to maintenance dose of 225–375 mg/day (in 2 divided doses); *Patients taking carbamazepine, phenobarbital, phenytoin, or primidone (and not valproate)*—50 mg daily for first 2 wk, then 50 mg twice daily for next 2 wk; then ↑ by 100 mg/day every 1–2 wk to maintenance dose of 300–500 mg/day (in 2 divided doses); *Patients taking regimen containing valproate*—25 mg every other day for first 2 wk, then 25 mg daily for next 2 wk; then ↑ by 25–50 mg/day every 1–2 wk to maintenance dose of 100–400 mg/day (in 1–2 divided doses) (maintenance dose of 100–200 mg/day if receiving valproate alone).
- **PO (Adults and Children > 12 yr; Extended-release tablets):** *Patients taking anti-epileptic drugs other than carbamazepine, phenobarbital, phenytoin, primidone, or valproate* -25 mg daily for first 2 wk, then 50 mg daily for next 2 wk; then 100 mg daily for 1 wk, then 150 mg daily for 1 wk, then 200 mg/day for 1 wk, then ↑ by 100 mg/day every week to maintenance dose of 300–400 mg daily; *Patients taking carbamazepine, phenobarbital, phenytoin, or primidone (and not valproate)*—50 mg daily for first 2 wk, then 100 mg daily for next 2 wk,

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then 200 mg daily for 1 wk, then 300 mg daily for 1 wk, then 400 mg daily for 1 wk, then ↑ by 100 mg/day every week to maintenance dose of 400–600 mg daily; *Patients taking regimen containing valproate*—25 mg every other day for first 2 wk, then 25 mg daily for next 2 wk, then 50 mg daily for 1e wk, then 100 mg daily for 1 wk, then 150 mg daily for 1 wk, then maintenance dose of 200–250 mg daily.

- **PO (Children 2–12 yr; Immediate-release, chewable, or orally disintegrating tablets):** *Patients taking anti-epileptic drugs other than carbamazepine, phenobarbital, phenytoin, primidone, or valproate* —0.3 mg/kg/day in 1–2 divided doses (rounded down to nearest whole tablet) for first 2 wk, then 0.6 mg/kg/day in 2 divided doses (rounded down to nearest whole tablet) for next 2 wk; then ↑ by 0.6 mg/kg/day (rounded down to nearest whole tablet) every 1–2 wk to maintenance dose of 4.5-7.5 mg/kg/day (not to exceed 300 mg/day in 2 divided doses); *Patients taking carbamazepine, phenobarbital, phenytoin, or primidone (and not valproate)*—0.6 mg/kg/day in 2 divided doses (rounded down to nearest whole tablet) for first 2 wk, then 1.2 mg/kg/day in 2 divided doses (rounded down to nearest whole tablet) for next 2 wk; then ↑ by 1.2 mg/kg/day (rounded down to nearest whole tablet) every 1–2 wk to maintenance dose of 5–15 mg/kg/day (not to exceed 400 mg/day in 2 divided doses). *Patients taking regimen containing valproate*—0.15 mg/kg/day in 1–2 divided doses (rounded down to nearest whole tablet) for first 2 wk, then 0.3 mg/kg in 1–2 divided doses (rounded down to nearest whole tablet) for next 2 wk; then ↑ by 0.3 mg/kg/day (rounded down to nearest whole tablet) every 1–2 wk to maintenance dose of 1–5 mg/kg/day (not to exceed 200 mg/day in 1–2 divided doses) (maintenance dose of 1–3 mg/kg/day if receiving valproate alone).

Conversion to Monotherapy

- **PO (Adults ≥ 16 yr):** 50 mg/day for 2 wk, then 50 mg twice daily for 2 wk, then ↑ by 100 mg/day q 1–2 wk to maintenance dose of 300–500 mg/day in 2 divided doses; when target level is reached, ↓ other antiepileptics by 20% weekly over 4 wk.

Bipolar Disorder

Escalation Regimen

- **PO (Adults):** *Patients not taking cabamazepine, phenobarbital, phenytoin, primidone, rifampin, or valproate*—25 mg daily for first 2 wk, then 50 mg daily for next 2 wk, then 100 mg daily for 1 wk, then 200 mg daily; *Patients taking valproate*—25 mg every other day for first 2 wk, then 25 mg daily for next 2 wk, then 50 mg daily for 1 wk, then 100 mg daily; *Patients taking carbamazepine, phenobarbital, phenytoin, primidone, or rifampin (and not valproate)* 50 mg daily for first 2 wk, then 100 mg/day (in divided doses) for next 2 wk, then 200 mg/day (in divided doses) for one wk, then 300 mg/day (in divided doses) for 1 wk, then up to 400 mg/day (in divided doses).

Dosage Adjustment Following Discontinuation of Other Psychotropics

- **PO (Adults):** *Following discontinuation of valproate (if current dose 100 mg/day)*—↑ to 150 mg/day for 1 wk, then 200 mg/day; *Following discontinuation of carbamazepine, phenobarbital, phenytoin, primidone, or rifampin (if current dose 400 mg/day)*—400 mg/day for 1 wk, then 300 mg/day for 1 wk, then 200 mg/day; *Following discontinuation of other psychotropics*—maintain previous dose.

AVAILABILITY (GENERIC AVAILABLE)

- ***Immediate-release tablets:*** 25 mg, 100 mg, 150 mg, 200 mg
  - **Cost:** 25 mg $668.97/180, 100 mg $708.97/180, 150 mg $819.90/180, 200 mg $905.89/180.

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- ***Chewable dispersible tablets:*** 2 mg, 5 mg, 25 mg
  - **Cost:** *Generic*—5 mg $453.96/180, 25 mg $489.92/180.
- ***Orally disintegrating tablets:*** 25 mg, 50 mg, 100 mg, 200 mg.
- ***Extended-release tablets:*** 25 mg, 50 mg, 100 mg, 200 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression.
- Assess patient for skin rash frequently during therapy. Discontinue lamotrigine at first sign of rash; may be life-threatening. Stevens-Johnson syndrome or toxic epidermal necrolysis may develop. Rash usually occurs during the initial 2–8 wk of therapy and is more frequent in patients taking multiple antiepileptic agents, especially valproic acid, and much more frequent in patients <16 yr.
- Monitor for hypersensitivity reactions (fever, lymphadenopathy with or without rash) If cause cannot be determined, discontinue lamotrigine immediately.
- **Seizures:** Assess location, duration, and characteristics of seizure activity.
- **Bipolar disorders:** Assess mood, ideation, and behaviors frequently. Initiate suicide precautions if indicated.
- *Lab Test Considerations:* Lamotrigine plasma concentrations may be monitored periodically during therapy, especially in patients concurrently taking other anticonvulsants. Therapeutic plasma concentration range has not been established, proposed therapeutic range: 1–5 mcg/mL.

POTENTIAL NURSING DIAGNOSES

- Risk for impaired skin integrity (Adverse Reactions)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Do not confuse lamotrigine (Lamictal) with terbinafine (Lamisil), diphenoxylate/atropine (Lomotil), or lamivudine (Epivir).
- When converting from immediate-release to XR form, initial dose of XR should match the total daily dose of immediate-release lamotrigine; monitor closely and adjust and needed.
- **PO:** May be administered without regard to meals. Swallow XR tablets whole; do not break, crush, or chew.
- Lamotrigine should be discontinued gradually over at least 2 wk, unless safety concerns require a more rapid withdrawal. Abrupt discontinuation may cause increase in seizure frequency.
- **Orally Disintegrating Tablets:** Place on the tongue and move around the mouth. Tablet will rapidly disintegrate, can be swallowed with or without water, and can be taken with or without food.
- **Chewable/Dispersible Tablets:** May be swallowed whole, chewed, or dispersed in water or dispersed in fruit juice. If chewed, follow with water or fruit juice to aid in swallowing. Only use whole tablets, do not attempt to administer partial quantities of dispersible tablets.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication exactly as directed. Take missed doses as soon as possible unless almost time for next dose. Do not double doses. Do not discontinue abruptly; may cause increase in frequency of seizures. Instruct patient to read the *Medication Guide* before starting and with each Rx refill, changes may occur.
- Advise patient to notify health care professional immediately if skin rash, fever, or swollen lymph glands occur or if frequency of seizures increases.
- May cause dizziness, drowsiness, and blurred vision. Caution patient to avoid driving or activities requiring alertness until response to medication is known. Do not resume driving until physician gives clearance based on control of seizure disorder.

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- Caution patient to wear sunscreen and protective clothing to prevent photosensitivity reactions.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking; other unusual changes in behavior or mood occur.
- Advise patient to notify health care professional if pregnancy is planned or suspected or if breastfeeding.
- Instruct patient to notify health care professional of medication regimen prior to treatment or surgery.
- Advise patient to carry identification at all times describing disease process and medication regimen.

EVALUATION/DESIRED OUTCOMES

- Decrease in the frequency of or cessation of seizures.
- Decreased incidence of mood swings in bipolar disorders.

lisdexamfetamine

(lis-dex-am-**fet**-a-meen)

Vyvanse

CLASSIFICATION

Therapeutic: *central nervous system stimulants* ***Pharmacologic:*** *sympathomimetics*

Schedule II

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Management of attention deficit hyperactivity disorder (ADHD) (in adults and children).

ACTION

- Blocks reuptake and increases release of norepinephrine and dopamine resulting in increased levels in extaneuronal space.
- Therapeutic Effects:
  - Improved attention span in ADHD.

PHARMACOKINETICS

Absorption: Rapidly absorbed and converted to dextroamphetamine, the active drug.

Distribution: Unknown.

Metabolism and Excretion: 42% excreted in urine as amphetamine.

Half-life: less than 1 hr for lisdexamfetamine.

TIME/ACTION PROFILE

ROUTE	ONSET	PEAK	DURATION
PO	rapid	1 hr	24 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity to lisdexamfetamine or other sympathomimetic amines.
- Advanced arteriosclerosis.
- Symptomatic cardiovascular disease including known structural cardiac abnormalities (may ↑ the risk of sudden death).
- Moderate to severe hypertension; Glaucoma; Agitation.
- *Lactation:* Lactation.
- History of substance abuse.
- During or within 14 days of MAO inhibitor therapy.

Continued on the following page

Use Cautiously in:
- History of pre-existing psychosis, bipolar disorder, aggression, tics, Tourette's syndrome or seizures (may exacerbate condition).
- *OB:* Use in pregnancy only if maternal benefit outweighs fetal risk.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: behavioral disturbances, dizziness, hallucinations, insomnia, irritability, mania, psychomotor hyperactivity, thought disorder, tics.

CV: SUDDEN DEATH..

EENT: blurred vision, poor accommodation.

GI: abdominal pain, ↓ appetite, dry mouth, nausea, vomiting.

Derm: rash.

Metab: ↓ weight.

Misc: long-term growth suppression.

INTERACTIONS

Drug-Drug:
- Serious adverse reactions including hyperpyrexia and hypertension may occur with **monamine oxidase inhibitors**; avoid use within 14 days.
- Concurrent use of other **sympathomimetic amines** may result in additive effects and ↑ risk of adverse reactions.
- **Urinary acidifying agents** including **ammonium chloride** and **sodium acid phosphate** ↑ excretion and ↓ blood levels and may result in ↓ effectiveness.
- May ↓ effectiveness of **adrenergic blockers**. ↑ risk of adverse cardiovascular reactions with **tricyclic antidepressants**.
- May ↓ sedating effects of **antihistamines**. May ↓ effectiveness of **antihypertensives.**
- Effects may be ↓ by **haloperidol**, **lithium**, or **chlorpromazine**.
- May ↓ absorption of **phenobarbital** or **phenytoin**.

ROUTE/DOSAGE

- **PO (Adults and Children 6–12 yr):** 30 mg daily; may ↓ by 10↑20 mg/day at weekly intervals, up to 70 mg/day.

AVAILABILITY

- ***Capsules:*** 20 mg, 30 mg, 40 mg, 50 mg, 60 mg, 70 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Assess child's attention span, impulse control, and interactions with others. Therapy may be interrupted at intervals to determine whether symptoms are sufficient to continue therapy.
- Monitor blood pressure, pulse, and respiration before administering and periodically during therapy. Obtain a history (including assessment of family history of sudden death or ventricular arrhythmia), physical exam to assess for cardiac disease, and further evaluation (ECG and echocardiogram), if indicated. If exertional chest pain, unexplained syncope, or other cardiac symptoms occur, evaluate promptly.
- Monitor growth, both height and weight, in children on long-term therapy.
- Monitor closely for behavior change.
- Lisdexamfetamine has the potential for dependence and abuse. Prolonged abuse may result in tolerance.
- *Lab Test Considerations:* May cause ↑ plasma corticosteroid levels interfering with urinary steroid determinations.

Continued on the following page

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Side Effects)

IMPLEMENTATION

- **PO:** Administer in the morning without regard to meals Afternoon doses should be avoided due to potential for insomnia.
- Capsules may be swallowed whole or opened and the entire contents dissolved in a glass of water.
- If solution method is used, consume immediately; do not store for future use.
- Do not divide capsules or take less than one capsule per day.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication exactly as directed. Advise patient and parents to read *Medication Guide* prior to initiation of therapy and with each renewal of Rx refill. If more than prescribed amount is taken notify health care professional immediately. Instruct patient not to alter dose without consulting health care professional.
- Inform patient that sharing this medication may be dangerous.
- Advise patient to check weight 2–3 times weekly and report weight loss to health care professional.
- *Pedi:* If reduced appetite and weight loss are a problem, advise parents to provide high calorie meals when drug levels are low (at breakfast and or bedtime).
- Advise parents to notify health care professional immediately if child has signs of heart problems (chest pain, shortness of breath, fainting) or if new or worsening mental symptoms or problems, especially seeing or hearing things that are not real, believing things that are not real, or are suspicious occur.
- May cause dizziness or blurred vision. Caution patient to avoid driving or activities requiring alertness until response to medication is known.
- Advise patient to notify health care professional if nervousness, restlessness, insomnia, dizziness, anorexia, or dry mouth becomes severe.
- Advise patient to consult with health care professional prior to taking other Rx, OTC, or herbal products concurrently with lisdexamfetamine.
- Inform patient that health care professional may order periodic holidays from the drug to assess progress and to decrease dependence.
- Advise patient and/or parents to notify health care professional of behavioral changes.
- Advise patient to notify health care professional if pregnancy is planned or suspected, or if breastfeeding.
- Caution patients to inform health care professional if they have ever abused or been dependent on alcohol or drugs, or if they are now abusing or dependent on alcohol or drugs.
- Emphasize the importance of routine follow-up exams to monitor progress.
- **Home Care Issues:** Advise parents to notify school nurse of medication regimen.

EVALUATION/DESIRED OUTCOMES

- Improved attention span, decreased impulsiveness and hyperactivity in ADHD.

lithium

(**lith**-ee-um)

Carbolith, Duralith, Eskalith, Lithizine, Lithobid

CLASSIFICATION

Therapeutic: *mood stabilizers*

Pregnancy Category D

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Manic episodes of manic depressive illness (treatment, maintenance, prophylaxis).

ACTION

- Alters cation transport in nerve and muscle.
- May also influence reuptake of neurotransmitters.
- Therapeutic Effects:
  - Prevents/decreases incidence of acute manic episodes.

PHARMACOKINETICS

Absorption: Completely absorbed after oral administration.

Distribution: Widely distributed into many tissues and fluids; CSF levels are 50% of plasma levels. Crosses the placenta; enters breast milk.

Metabolism and Excretion: Excreted almost entirely unchanged by the kidneys.

Half-life: 20–27 hr.

TIME/ACTION PROFILE (antimanic effects)

ROUTE	ONSET	PEAK	DURATION
PO, PO–ER	5–7 days	10–21 days	days

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Severe cardiovascular or renal disease.
- Dehydrated or debilitated patients.
- Should be used only where therapy, including blood levels, may be closely monitored.
- Some products contain alcohol or tartrazine and should be avoided in patients with known hypersensitivity or intolerance.
- *Lactation:* Lactation.

Continued on the following page

Use Cautiously in:

- Any degree of cardiac, renal, or thyroid disease.
- Diabetes mellitus.
- *OB:* Fetal cardiac anomalies are associated with lithium use; however, potential maternal benefit may warrant use in some pregnant women.
- *Geri:* Initial dosage ↓ recommended.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SEIZURES, fatigue, headache, impaired memory, ataxia, sedation, confusion, dizziness, drowsiness, psychomotor retardation, restlessness, stupor.

EENT: aphasia, blurred vision, dysarthria, tinnitus.

CV: ARRHYTHMIAS, ECG changes, edema, hypotension.

GI: abdominal pain, anorexia, bloating, diarrhea, nausea, dry mouth, metallic taste.

GU: polyuria, glycosuria, nephrogenic diabetes insipidus, renal toxicity.

Derm: acneiform eruption, folliculitis, alopecia, diminished sensation, pruritus.

Endo: hypothyroidism, goiter, hyperglycemia, hyperthyroidism.

F and E hyponatremia.

Hemat: leukocytosis.

Metab: weight gain.

MS: muscle weakness, hyperirritability, rigidity.

Neuro: tremors.

INTERACTIONS

Drug-Drug:

- May prolong the action of **neuromuscular blocking agents**.
- ↑ risk of neurologic toxicity with **haloperidol** or **molindone**.
- **Diuretics**, **methyldopa**, **probenecid**, **fluoxetine**, and **NSAIDs** may ↑ risk of toxicity. Blood levels may be ↑ by **ACE inhibitors**.
- Lithium may ↓ effects of **chlorpromazine**.
- **Chlorpromazine** may mask early signs of lithium toxicity.
- Hypothyroid effects may be additive with **potassium iodide** or **antithyroid agents**.
- **Aminophylline**, **phenothiazines**, and **drugs containing large amounts of sodium** ↓ renal elimination and ↓ effectiveness.
- **Psyllium** can ↓ **lithium** levels.

Drug-Natural:

- Caffeine-containing herbs (**cola nut**, **guarana**, **mate**, **tea**, **coffee**) may ↓ **lithium** serum levels and efficacy.

Drug-Food:

- Large changes in **sodium** intake may alter the renal elimination of lithium.
- ↑ sodium intake will ↑ renal excretion.

ROUTE/DOSAGE

- Precise dosing is based on serum lithium levels. 300 mg lithium carbonate contains 8–12 mEq lithium.
- **PO (Adults and children ≥12 yr):** *Tablets/capsules*—300–600 mg 3 times daily initially; usual maintenance dose is 300 mg 3–4 times daily. *Slow-release capsules*—200–300 mg 3 times daily initially; increased up to 1800 mg/day in divided doses. Usual maintenance dose is 300–400 mg 3 times daily. *Extended-release tablets*—450–900 mg twice daily *or* 300–600 mg 3 times daily initially; usual maintenance dose is 450 mg twice daily *or* 300 mg 3 times daily.
- **PO (Children <12 yr):** 15–20 mg (0.4–0.5 mEq)/kg/day in 2–3 divided doses; dosage may be adjusted weekly.

Continued on the following page

AVAILABILITY (GENERIC AVAILABLE)

- ***Capsules:*** 150 mg, 300 mg, 600 mg
  - **Cost:** *Generic*—150 mg $18.88/100, 300 mg $17.77/100, 600 mg $42.30/100—$0.
- ***Tablets:*** 300 mg.
- ***Controlled-release tablets:*** 300 mg, 450 mg
  - **Cost:** *Generic*—300 mg $39.97/100, 450 mg $48.32/100.
- ***Slow-release tablets:*** 300 mg.
- ***Syrup:*** 300 mg (8 mEq lithium)/5 mL
  - **Cost:** $60.00/500 mL.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status (orientation, mood, behavior) initially and periodically. Assess manic symptoms with Young Mania Rating Scale (YMRS) at baseline and periodically through treatment in patients with mania. Initiate suicide precautions if indicated.
- Monitor intake and output ratios. Report significant changes in totals. Unless contraindicated, fluid intake of at least 2000–3000 mL/day should be maintained. Weight should also be monitored at least every 3 mo.
- *Lab Test Considerations:* Evaluate renal and thyroid function, WBC with differential, serum electrolytes, and glucose periodically during therapy.
- *Toxicity and Overdose:* Monitor serum lithium levels twice weekly during initiation of therapy and every 2–3 mo during chronic therapy. Draw blood samples in the morning immediately before next dose. Therapeutic levels range from 0.5 to 1.5 mEq/L.
- Assess patient for signs and symptoms of lithium toxicity (vomiting, diarrhea, slurred speech, decreased coordination, drowsiness, muscle weakness, or twitching). If these occur, report before administering next dose.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Indications)
- Ineffective coping (Indications)
- Imbalanced nutrition: risk for more than body requirements (Side Effects)

IMPLEMENTATION

- Do not confuse Lithobid (lithium) with Levbid (hyoscyamine).
- **PO:** Administer with food or milk to minimize GI irritation.
- Extended-release preparations should be swallowed whole; do not break, crush, or chew.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed, even if feeling well. Take missed doses as soon as remembered unless within 2 hr of next dose (6 hr if extended release).
- Lithium may cause dizziness or drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient that psychotherapy is beneficial in improving coping skills.
- Low sodium levels may predispose patient to toxicity. Advise patient to drink 2000–3000 mL fluid each day and eat a diet with consistent and moderate sodium intake. Excessive amounts of coffee, tea, and cola should be avoided because of diuretic effect. Avoid activities that cause excess sodium loss (heavy exertion, exercise in hot weather, saunas). Notify health care professional of fever, vomiting, and diarrhea, which also cause sodium loss.
- Advise patient that weight gain may occur. Review principles of a low-calorie diet.
- Instruct patient to consult health care professional before taking OTC medications or herbal products concurrently with this therapy.
- Advise patient to use contraception and to consult health care professional if pregnancy is suspected.

Continued on the following page

- Review side effects and symptoms of toxicity with patient. Instruct patient to stop medication and report signs of toxicity to health care professional promptly.
- Explain to patients with cardiovascular disease or over 40 yr of age the need for ECG evaluation before and periodically during therapy. Patient should inform health care professional if fainting, irregular pulse, or difficulty breathing occurs.
- Emphasize the importance of periodic lab tests to monitor for lithium toxicity.

EVALUATION/DESIRED OUTCOMES

- Resolution of the symptoms of mania (hyperactivity, pressured speech, poor judgment, need for little sleep).
- Decreased incidence of mood swings in bipolar disorders.
- Improved affect in unipolar disorders. Improvement in condition may require 1–3 wk.
- Remission of depressive symptoms.

lorazepam

(lor-**az**-e-pam)

Apo-Lorazepam, Ativan, Novo-Lorazem, Nu-Loraz

CLASSIFICATION

Therapeutic: *analgesic adjuncts, antianxiety agents, sedative/hypnotics* ***Pharmacologic:*** *benzodiazepines*

Schedule IV

Pregnancy Category D

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Anxiety disorder (oral).
- Preoperative sedation (injection).
- Decreases preoperative anxiety and provides amnesia.
- **Unlabelled Use:**
  - **IV:** Antiemetic prior to chemotherapy.
  - Insomnia, panic disorder, as an adjunct with acute mania or acute psychosis.

ACTION

- Depresses the CNS, probably by potentiating GABA, an inhibitory neurotransmitter.
- Therapeutic Effects:
  - Sedation.
  - Decreased anxiety.
  - Decreased seizures.

PHARMACOKINETICS

Absorption: Well absorbed following oral administration. Rapidly and completely absorbed following IM administration. Sublingual absorption is more rapid than oral and is similar to IM.

Distribution: Widely distributed. Crosses the blood-brain barrier. Crosses the placenta; enters breast milk.

Metabolism and Excretion: Highly metabolized by the liver.

Half-life: Full-term neonates: 18–73 hr; Older children: 6–17 hr; Adults: 10–16 hr.

TIME/ACTION PROFILE (sedation)

ROUTE	ONSET	PEAK	DURATION
PO	15–60 min	1–6 hr	8–12 hr
IM	30–60 min	1–2 hr†	8–12 hr
IV	15–30 min	15–20 min	8–12 hr

†Amnestic response

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Cross-sensitivity with other benzodiazepines may exist.
- Comatose patients or those with pre-existing CNS depression.
- Uncontrolled severe pain; Angle-closure glaucoma.
- Severe hypotension.
- Sleep apnea.
- *OB:* Use in pregnancy and lactation may cause CNS depression, flaccidity, feeding difficulties, hypothermia, seizures, and respiratory problems in the neonate.
- *Lactation:* Recommend to discontinue drug or bottle-feed.

Use Cautiously in:

- Severe hepatic/renal/pulmonary impairment.
- Myasthenia gravis.
- Depression.
- Psychosis.
- History of suicide attempt or drug abuse.
- COPD.
- Sleep apnea.
- *Pedi:* Use cautiously in children under 12 yr. In ↑ doses, benzyl alcohol in injection may cause potentially fatal "gasping syndrome" in neonates.
- *Geri:* Lower doses recommended for geriatric or debilitated patients; Hypnotic use should be short-term.
- **OVERDOSE:** Administer Flumazenil (do not use with patients with seizure disorder. May induce seizures).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: dizziness, drowsiness, lethargy, hangover, headache, ataxia, slurred speech, forgetfulness, confusion, mental depression, rhythmic myoclonic jerking in pre-term infants, paradoxical excitation.

EENT: blurred vision.

Resp: respiratory depression.

CV: rapid IV use only: APNEA, CARDIAC ARREST, bradycardia, hypotension.

GI: constipation, diarrhea, nausea, vomiting, weight gain (unusual).

Derm: rashes.

Misc: physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:

- Additive CNS depression with other **CNS depressants** including **alcohol**, **antihistamines**, **antidepressants**, **opioid analgesics**, **clozapine**, and other **sedative/hypnotics** including other benzodiazepines.
- May ↓ the efficacy of **levodopa**.
- **Smoking** may ↑ metabolism and ↓ effectiveness.
- **Valproate** can ↑ serum concentrations and ↓ clearance (↓ dose by 50%).
- **Probenecid** may ↓ metabolism of lorazepam, enhancing its actions (↓ dose by 50%).
- **Oral contraceptives** may increase clearance and decrease concentration of lorazepam.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian,** or **chamomile** can ↑ CNS depression.

ROUTE/DOSAGE

- **PO (Adults):** *Anxiety*—1–3 mg 2–3 times daily (up to 10 mg/day). *Insomnia*—2–4 mg at bedtime.
- **PO (Geriatric Patients or Debilitated Patients):** *Anxiety*—0.5–2 mg/day in divided doses initially. *Insomnia*—0.25–1 mg initially, increased as needed.

Continued on the following page

- **PO (Children):** *Anxiety/sedation*—0.02–0.1 mg/kg/dose (not to exceed 2 mg) q 4–8 hr. *Preoperative sedation*—0.02–0.09 mg/kg/dose.
- **PO (Infants):** *Anxiety/sedation*—0.02–0.1 mg/kg/dose (not to exceed 2 mg) q 4–8 hr. *Preoperative sedation*—0.02–0.09 mg/kg/dose.
- **SL (Adultsand adolescents >18 yr):** *Anxiety*—2–3 mg/day in divided doses, not to exceed 6 mg/day; *preoperative sedation*—0.05 mg/kg, up to 4 mg total given 1–2 hr before surgery.
- **SL (Geriatric Patientsand debilitated patients):** 0.5 mg/day, dose may be adjusted as necessary.
- **IM (Adults):** *Preoperative sedation*—50 mcg (0.05 mg)/kg 2 hr before surgery (not to exceed 4 mg).
- **IM (Children):** *Preoperative sedation*—0.02–0.09 mg/kg/dose.
- **IM (Infants):** *Preoperative sedation*—0.02–0.09 mg/kg/dose.
- **IV (Adults):** *Preoperative sedation*—44 mcg (0.044 mg)/kg (not to exceed 2 mg) 15–20 min before surgery. *Operative amnestic effect*—up to 50 mcg/kg (not to exceed 4 mg). *Antiemetic*—2 mg 30 min prior to chemotherapy; may be repeated q 4 hr as needed (unlabeled). *Anticonvulsant*—50 mcg (0.05 mg)/kg, up to 4 mg; may be repeated after 10–15 min (not to exceed 8 mg/12 hr; unlabeled).
- **IV (Children):** *Preoperative sedation*—0.02–0.09 mg/kg/dose; may use smaller doses (0.01–0.03 mg/kg) and repeat q 20 min. *Antiemetic*—Single dose: 0.04–0.08 mg/kg/dose prior to chemotherapy (not to exceed 4 mg). Multiple doses: 0.02–0.05 mg/kg/dose q 6 hr prn (not to exceed 2 mg). *Anxiety/sedation*—0.02–0.1 mg/kg (not to exceed 2 mg) q 4–8 hr. *Status epilepticus*-0.1 mg/kg over 2–5 min (not to exceed 4 mg); may repeat with 0.05 mg/kg if needed.
- **IV (Infants):** *Preoperative sedation:*—0.02–0.09 mg/kg/dose; may use smaller doses (0.01–0.03 mg/kg) and repeat q 20 min. *Anxiety/sedation*—0.02–0.1 mg/kg/dose (not to exceed 2 mg) q 4–8 hr. *Status epilepticus*—0.1 mg/kg over 2–5 min (not to exceed 4 mg); may repeat with 0.05 mg/kg if needed.
- **IV (Neonates):** *Status epilepticus*—0.05 mg/kg over 2–5 min; may repeat in 10–15 min.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 0.5 mg, 1 mg, 2 mg.
- ***Concentrated oral solution:*** 0.5 mg/5 mL, 2 mg/mL.
- ***Sublingual tablets:*** 0.5 mg, 1 mg, 2 mg.
- ***Injection:*** 2 mg/mL, 4 mg/mL.

NURSING IMPLICATIONS

ASSESSMENT

- Conduct regular assessment of continued need for treatment.
- *Pedi:* Assess neonates for prolonged CNS depression related to inability to metabolize lorazepam.
- *Geri:* Assess geriatric patients carefully for CNS reactions as they are more sensitive to these effects. Assess falls risk.
- **Anxiety:** Assess degree and manifestations of anxiety and mental status (orientation, mood, behavior) prior to and periodically throughout therapy.
- Prolonged high-dose therapy may lead to psychological or physical dependence. Restrict amount of drug available to patient.
- **Status Epilepticus:** Assess location, duration, characteristics, and frequency of seizures. Institute seizure precautions.
- *Lab Test Considerations:* Patients on high-dose therapy should receive routine evaluation of renal, hepatic, and hematologic function.

POTENTIAL NURSING DIAGNOSES

- Anxiety (Indications)
- Risk for injury (Indications, Side Effects)

Continued on the following page

IMPLEMENTATION

- Do not confuse Ativan (lorazepam) with Atarax (hydroxyzine).
- Following parenteral administration, keep patient supine for at least 8 hr and observe closely.
- **PO:** Tablet may also be given sublingually (unlabeled) for more rapid onset.
- Take concentrated liquid solution with water, soda, pudding, or applesauce.
- **IM:** Administer IM doses deep into muscle mass at least 2 hr before surgery for optimum effect.

IV Administration

- **Direct IV:** *Diluent:* Dilute immediately before use with an equal amount of sterile water for injection, D5W, or 0.9% NaCl for injection.
- *Pedi:* To decrease the amount of benzyl alcohol delivered to neonates, dilute the 4 mg/mL injection with preservative-free sterile water for injection to make a 0.4 mg/mL dilution for IV use. Do not use if solution is colored or contains a precipitate. *Rate:* Administer at a rate not to exceed 2 mg/min or 0.05 mg/kg over 2–5 min. Rapid IV administration may result in apnea, hypotension, bradycardia, or cardiac arrest.
- **Y-Site Compatibility:** acyclovir, albumin, allopurinol, amifostine, amikacin, amiodarone, amphotericin B cholesteryl sulfate complex, amsacrine, anakinra, argatroban, atracurium, bivalirudin, bumetanide, calcium chloride, calcium gluconate, cefazolin, cefepime, cefotaxime, cefoxitin, ceftazidime, ceftizoxime, ceftriaxone, cefuroxime, chloramphenicol, cimetidine, ciprofloxacin, cisatracurium, clindamycin, cyclosporine, clindamycin, cladribine, clonidine, cyclophosphamide, cytarabine, daptomycin, dexamethasone sodium phosphate, dexmedetomidine, diltiazem, diphenhydramine, dobutamine, docetaxel, dopamine, doxorubicin, doxorubicin liposome, doxycycline, droperidol, enalaprilat, epinephrine, ertapenem, erythromycin lactobionate, esmolol, etomidate, etoposide phosphate, famotidine, fenoldopam, fentanyl, filgrastim, fluconazole, fludarabine, fosphenytoin, furosemide, gemcitabine, gentamicin, granisetron, haloperidol, heparin, hydrocortisone sodium succinate, hydromorphone, hydroxyzine, insulin, isoproterenol, ketorolac, labetalol, levofloxacin, linezolid, magnesium sulfate, melphalan, meropenem, methadone, methotrexate, methylprednisolone sodium succinate, metoclopramide, metoprolol, metronidazole, micafungin, midazolam, milrinone, morphine, nafcillin, nicardipine, nitroglycerin, nitroprusside, norepinephrine, oxaliplatin, paclitaxel, palonosetron, pancuronium, pemetrexed, phenylephrine, piperacillin/tazobactam, potassium chloride, procainamide, prochlorperazine, promethazine, propofol, propranolol, quinupristin/dalfopristin, ranitidine, remifentanil, sodium bicarbonate, tacrolimus, teniposide, thiotepa, ticarcillin/clavulanate, tirofiban, tobramycin, trimethoprim/sulfamethoxazole, vancomycin, vasopressin, vecuronium, verapamil, vinorelbine, voriconazole, zidovudine.
- **Y-Site Incompatibility:** aldesleukin, ampicillin, ampicillin/sulbactam, aztreonam, caspofungin, hydralazine, idarubicin, imipenem/cilastatin, lansoprazole, omeprazole, ondansetron, pantoprazole, phenytoin, potassium phosphate, sargramostim, sufentanil.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication exactly as directed and not to skip or double up on missed doses. If medication is less effective after a few weeks, check with health care professional; do not increase dose.
- Advise patient that lorazepam is usually prescribed for short-term use and does not cure underlying problem.
- Advise patient to taper lorazepam by 0.05 mg q 3 days to decrease withdrawal symptoms; abrupt withdrawal may cause tremors, nausea, vomiting, and abdominal and muscle cramps.

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- Teach other methods to decrease anxiety, such as increased exercise, support groups, relaxation techniques. Emphasize that psychotherapy is beneficial in addressing source of anxiety and improving coping skills.
- May cause drowsiness or dizziness. Advise patient to avoid driving or other activities requiring alertness until response to medication is known.
- Caution patient to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Instruct patient to contact health care professional immediately if pregnancy is planned or suspected.
- Emphasize the importance of follow-up exams to determine effectiveness of the medication.

EVALUATION/DESIRED OUTCOMES

- Increase in sense of well-being.
- Decrease in subjective feelings of anxiety without excessive sedation.
- Reduction of preoperative anxiety.
- Postoperative amnesia.
- Improvement in sleep patterns.

lurasidone

(loo-**ras**-i-done)

Latuda

CLASSIFICATION

Therapeutic: *antipsychotics* ***Pharmacologic:*** *benzoisothiazole*

Pregnancy Category B

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Treatment of schizophrenia

ACTION

- Effect may mediated via effects on central dopamine Type 2 (D_2) and serotonin Type 2 ($5HT_{2A}$) receptor antagonism
- **Therapeutic Effects:**
  - ↓ schizophrenic behavior

PHARMACOKINETICS

Absorption: 9–19% absorbed following oral administration.

Distribution: Unknown

Protein Binding: >99%

Metabolism and Excretion: Mostly metabolized by the CYP3A4 enzyme system. Two metabolites are pharmacologically active; 80% eliminated in feces, 8% in urine primarily as metabolites

Half-life: 18 hr

TIME/ACTION PROFILE

ROUTE	ONSET	PEAK	DURATION
PO	unknown	1–3 hr*	24 hr

*Blood level.

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.

Use Cautiously in:

- Renal/hepatic impairment (dose adjustment recommended for CCr of 10 mL/min–<50 mL/min or Child-Pugh Class B and C)
- History of suicide attempt
- Diabetes mellitus
- Overheating/dehydration (may ↑ risk of serious adverse reactions)
- History of leukopenia or previous drug-induced leukopenia/neutropenia

Continued on the following page

- *Geri:* ↑ risk of seizures; elderly patients with dementia-related psychoses (↑ risk of cerebrovascular adverse reactions); use cautiously in elderly females (↑ risk of tardive dyskinesia)
- *OB:* Use in pregnancy only if potential benefit justifies potential risk to fetus
- *Lactation:* breastfeeding should only be considered if potential benefit justifies risk to child
- *Pedi:* Safe and effective use in children has not been established.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SEIZURES, akathisia, drowsiness, parkinsonism, agitation, anxiety, cognitive/motor impairment, dizziness, dystonia, tardive dyskinesia.

EENT: blurred vision.

CV: bradycardia, orthostatic hypotension, syncope, tachycardia.

GI: nausea, esophageal dysmotility.

Derm: pruritus, rash.

Endo: hyperglycemia, hyperprolactinemia.

Hemat: AGRANULOCYTOSIS, anemia, leukopenia.

Metab: dyslipidemia, weight gain

INTERACTIONS

Drug-Drug:

- **Strong inhibitors of the CYP3A4 enyzme system**, including **ketoconazole**; ↑ blood levels and risk of adverse reactions; concurrent use should be avoided
- **Moderate inhibitors of the CYP3A4 enzyme system**, including **diltiazem**, ↑ blood levels; if used concurrently dose of lurasidone should not exceed 40 mg/day
- **Strong inducers of the CYP3A4 enzyme system**, including **rifampin** ↓ blood levels and effectiveness; concurrent use should be avoided↑ sedation may occur with other **CNS depressants**, including **alcohol**, **sedative/hypnotics**, **opioids**, some **antidepressants** and **antihistamines**

ROUTE/DOSAGE

- **PO (Adults):** 40 mg once daily, not to exceed 80 mg once daily *Concurrent use of moderate CYP3A4 inhibitors* —dose should not exceed 40 mg once daily.

RENAL IMPAIRMENT

- **PO (Adults):** *CCr of 10 mL/min–<50 mL/min*—dose should not exceed 40 mg once daily.

HEPATIC IMPAIRMENT

- **PO (Adults):** *Child-Pugh Class B and C*—dose should not exceed 40 mg once daily.

AVAILABILITY

- ***Tablets:*** 40 mg 80 mg

NURSING IMPLICATIONS

ASSESSMENT

- Monitor patient's mental status (orientation, mood, behavior) before and periodically during therapy
- Assess weight and BMI initially and throughout therapy
- Monitor mood changes. Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient

Continued on the following page

- Monitor blood pressure (sitting, standing, lying down) and pulse before and frequently during initial dose titration. May cause tachycardia and orthostatic hypotension. If hypotension occurs, dose may need to be ↓
- Observe patient when administering medication to ensure medication is swallowed and not hoarded or cheeked
- Monitor patient for onset of extrapyramidal side effects (*akathisia*—restlessness; *dystonia*—muscle spasms and twisting motions; or *pseudoparkinsonism*—mask-like face, rigidity, tremors, drooling, shuffling gait, dysphagia). Report these symptoms; reduction of dose or discontinuation may be necessary. Trihexyphenidyl or benztropine may be used to control symptoms
- Monitor for tardive dyskinesia (involuntary rhythmic movement of mouth, face, and extremities). Report immediately; may be irreversible
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness). Notify health care professional immediately if these symptoms occur
- Monitor for symptoms of hyperglycemia (polydipsia, polyuria, polyphagia, weakness) periodically during therapy
- ***Lab Test Considerations:*** May cause ↑ serum prolactin levels
- May cause ↑ CPK.
- Obtain fasting blood glucose and cholesterol levels initially and periodically during therapy.
- Monitor CBC frequently during initial mo of therapy in patients with pre-existing or history of low WBC. May cause leukopenia, neutropenia, or agranulocytosis. Discontinue therapy if this occurs

POTENTIAL NURSING DIAGNOSES

- Risk for self-directed violence (Indications)
- Disturbed thought process (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- **PO:** Administer once daily with food

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed
- Inform patient of the possibility of extrapyramidal symptoms. Instruct patient to report these symptoms immediately to health care professional
- Advise patient to change positions slowly to minimize orthostatic hypotension
- May cause drowsiness and cognitive and motor impairment. Caution patient to avoid driving or other activities requiring alertness until response to medication is known
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme ↑ in activity and talking, other unusual changes in behavior or mood occur
- Advise patient to avoid extremes in temperature; this drug impairs body temperature regulation
- Caution patient to avoid concurrent use of alcohol, other CNS depressants, and OTC medications or herbal products without consulting health care professional
- Advise female patients to notify health care professional if pregnancy is planned or suspected, or if breastfeeding or planning to breastfeed
- Advise patient to notify health care professional of medication regimen before treatment or surgery
- Instruct patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, rash, or tremors occur
- Emphasize the importance of routine follow up exams to monitor side effects and continued participation in psychotherapy to improve coping skills

EVALUATION/DESIRED OUTCOMES

- ↓ in symptoms of schizophrenia (delusions, hallucinations, social withdrawal, flat, blunted affects)

methylphenidate (oral)

(meth-ill-**fen**-i-date)

Concerta, Metadate CD, Metadate ER, Methylin, Methylin ER, PMS-Methylphenidate, Riphenidate, Ritalin, Ritalin LA, Ritalin-SR

methylphenidate (transdermal)

Daytrana

CLASSIFICATION

Therapeutic: *central nervous system stimulants*

Schedule II

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Treatment of ADHD (adjunct).
  - **Oral:** Symptomatic treatment of narcolepsy.
- **Unlabelled Use:**
  - Management of some forms of refractory depression.

ACTION

- Produces CNS and respiratory stimulation with weak sympathomimetic activity.
- Therapeutic Effects:
  - Increased attention span in ADHD.
  - Increased motor activity, mental alertness, and diminished fatigue in narcoleptic patients.

PHARMACOKINETICS

Absorption: Slow and incomplete after oral administration; absorption of sustained or extended-release tablet (SR) is delayed and provides continuous release; well absorbed from skin. *Metadate CD*, *Concerta*, *Ritalin LA*—provides initial rapid release followed by a second continuous release (biphasic release).

Distribution: Unknown.

Metabolism and Excretion: Mostly metabolized (80%) by the liver.

Half-life: 2–4 hr.

Continued on the following page

TIME/ACTION PROFILE (CNS stimulation)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	1–3 hr	4–6 hr
PO-ER	unknown	4–7 hr	3–12 hr†
Transdermal	unknown	unknown	12 hr

†Depends on formulation

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Hyperexcitable states.
- Hyperthyroidism.
- Patients with psychotic personalities or suicidal or homicidal tendencies.
- Personal or family history of Tourette's syndrome.
- Glaucoma.
- Motor tics.
- Concurrent use or use within 14 days of MAO inhibitors.
- Fructose intolerance, glucose-galactose malabsorption, or sucrose-isomaltase insufficiency.
- Surgery.

Use Cautiously in:

- History of cardiovascular disease (sudden death has occurred in children with structural cardiac abnormalities or other serious heart problems).
- Hypertension.
- Diabetes mellitus.
- History of contact sensitization with transdermal product (may be at ↑ risk for systemic sensitization reactions with oral products).
- *Geri:* Geriatric or debilitated patients.
- Continual use (may result in psychological or physical dependence).
- Seizure disorders (may lower seizure threshold).
- Concerta product should be used cautiously in patients with esophageal motility disorders or severe GI narrowing (may ↑ the risk of obstruction).
- *OB/Lactation:* Safety not established.
- *Pedi:* Growth suppression may occur in children with long term use; children <6 yr (transdermal only).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: hyperactivity, insomnia, restlessness, tremor, behavioral disturbances, dizziness, hallucinations, headache, irritability, mania, thought disorder.

EENT: blurred vision.

CV: SUDDEN DEATH, hypertension, palpitations, tachycardia, hypotension.

GI: anorexia, constipation, cramps, diarrhea, dry mouth, metallic taste, nausea, vomiting.

Derm: erythema, rashes.

Metab: growth suppression, weight loss (may occur with prolonged use).

Neuro: akathisia, dyskinesia, tics.

Misc: fever, hypersensitivity reactions, physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:

- ↑ sympathomimetic effects with other **adrenergics**, including **vasoconstrictors**, **decongestants**, and **halogenated anesthetics**.
- Use with **MAO inhibitors** or **vasopressors** may result in hypertensive crisis (concurrent use or use within 14 days of MAO inhibitors is contraindicated).

Continued on the following page

- Metabolism of **warfarin**, **phenytoin**, **phenobarbital, primidone, phenylbutazone, selective serotonin reuptake inhibitors,** and **tricyclic antidepressants** may be ↓ and effects ↑.
- Avoid concurrent use with **pimozide** (may mask cause of tics). Concurrent use with **clonidine** may result in serious ECG abnormalities (a 40% dose ↓ of oral methylphenidate is necessary).

Drug-Natural:

- Use with caffeine-containing herbs (**guarana**, **tea**, **coffee**) ↑ stimulant effect.
- **St. John's wort** may ↑ serious side effects (concurrent use is NOT recommended).

Drug-Food:

- Excessive use of **caffeine**-containing foods or beverages (**coffee**, **cola**, **tea**) may cause ↑ CNS stimulation.

ROUTE/DOSAGE

- **PO (Adults):** *ADHD*—5–20 mg 2–3 times daily as prompt-release tablets. When maintenance dose is determined, may change to extended-release formulation. *Narcolepsy*—10 mg 2–3 times/day; maximum dose 60 mg/day.
- **PO (Children >6 yr):** *Prompt release tablets*—0.3 mg/kg/dose or 2.5–5 mg before breakfast and lunch; ↑ by 0.1 mg/kg/dose or by 5–10 mg/day at weekly intervals (not to exceed 60 mg/day or 2 mg/kg/day). When maintenance dose is determined, may change to extended-release formulation. *Ritalin SR*, *Metadate ER*—may be used in place of the prompt-release tablets when the 8-hour dosage corresponds to the titrated 8-hour dosage of the prompt-release tablets; *Ritalin LA*—can be used in place of twice daily regimen given once daily at same total dose, or in place of SR product at same dose; *Concerta (patients who have not taken methylphenidate previously)*—18 mg once daily in the morning initially, may be titrated as needed up to 54 mg/day. *Concerta (patients are currently taking other forms of methylphenidate)*—18 mg once daily in the morning if previous dose was 5 mg 2–3 times daily or 20 mg daily as SR product, 36 mg once daily in the morning if previous dose was 10 mg 2–3 times daily or 40 mg daily as SR product, 54 mg once daily in the morning if previous dose was 15 mg 2–3 times daily or 60 mg once daily as SR product. *Metadate CD*—20 mg once daily. Dosage may be adjusted in weekly 20-mg increments to a maximum of 60 mg/day taken once daily in the morning.
- **Transdermal (Children >6 yr):** Apply one 10-mg patch initially (should be applied 2 hr before desired effect and removed 9 hr after application); may be titrated based on response and tolerability; may ↑ to 15-mg patch after 1 week, and then to 20-mg patch after another week, and then to 30-mg patch after another week.

AVAILABILITY (GENERIC AVAILABLE)

- **Immediate-release tablets:** 5 mg, 10 mg, 20 mg
  - **Cost:** *Generic*—5 mg $37.90/100, 10 mg $52.90/100, 20 mg $74.90/100.
- ***Extended-release tablets (Metadate ER, Methylin ER):*** 10 mg, 20 mg.
- ***Extended-release tablets (Concerta):*** 18 mg, 27 mg, 36 mg, 54 mg
  - **Cost:** 18 mg $359.96/90, 27 mg $359.98/90, 36 mg $374.96/90, 54 mg $404.96/90.
- ***Sustained-release tablets (Ritalin SR):*** 20 mg
  - **Cost:** $173.96/90.
- ***Extended-release capsules (Metadate CD):*** 10 mg, 20 mg, 30 mg
  - **Cost:** 10 mg $236.97/90, 20 mg $299.99/90, 30 mg $299.95/90$34.68/30.
- ***Extended-release capsules (Ritalin LA):*** 10 mg, 20 mg, 30 mg, 40 mg
  - **Cost:** 10 mg $299.97/90, 20 mg $299.97/90, 30 mg $299.95/90, 40 mg $299.95/90.

Continued on the following page

- ***Chewable tablets (Methylin) (grape flavor):*** 2.5 mg, 5 mg, 10 mg.
- ***Oral solution (Methylin) (grape flavor):*** 5 mg/5 mL, 10 mg/5 mL.
- ***Transdermal system:*** releases 10 mg/9 hr, releases 15 mg/9 hr, releases 20 mg/9 hr, releases 30 mg/9 hr.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor blood pressure, pulse, and respiration before administering and periodically during therapy. Obtain a history (including assessment of family history of sudden death or ventricular arrhythmia), physical exam to assess for cardiac disease, and further evaluation (ECG and echocardiogram), if indicated. If exertional chest pain, unexplained syncope, or other cardiac symptoms occur, evaluate promptly.
- Monitor closely for behavior change.
- *Pedi:* Monitor growth, both height and weight, in children on long-term therapy.
- May produce a false sense of euphoria and well-being. Provide frequent rest periods and observe patient for rebound depression after the effects of the medication have worn off.
- Methylphenidate has high dependence and abuse potential. Tolerance to abuse of medication occurs rapidly; do not increase dose.
- **ADHD:** Assess children for attention span, impulse control, and interactions with others. Therapy may be interrupted at intervals to determine whether symptoms are sufficient to continue therapy.
- **Narcolepsy:** Observe and document frequency of episodes.
- **Transdermal:** Assess skin for signs of contact sensitization (erythema with edema, papules, or vesicles that does not improve within 48 hr or spreads beyond patch site) during therapy. May lead to systemic sensitization to other forms of methylphenidate (flare-up of previous dermatitis or prior positive patch-test sites, generalized skin eruptions, headache, fever, malaise, arthralgia, diarrhea, vomiting). If contact sensitization develops and oral methylphenidate is instituted, monitor closely.
- *Lab Test Considerations:* Monitor CBC, differential, and platelet count periodically in patients receiving prolonged therapy.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Side Effects)

IMPLEMENTATION

- **PO:** Immediate and sustained-release tablets should be administered on an empty stomach (30–45 min before a meal). Sustained-release tablets should be swallowed whole; do not break, crush, or chew. Medate CD and Ritalin LA capsules may be opened and sprinkled on cool applesauce; entire mixture should be ingested immediately and followed by a drink of water. Do not store for future use. Concerta may be administered without regard to food, but must be taken with water, milk, or juice.
- **Transdermal:** Apply patch to a clean, dry site on the hip which is not oily, damaged, or irritated; do not apply to waistline where tight clothing may rub it. Press firmly in place with palm of hand for 30 seconds to make sure of good contact with skin, especially around edges. Alternate site daily. Apply patch 2 hr before desired effect and remove 9 hr after applied; effects last several more hours. Do not apply or reapply with dressings, tape, or other adhesives. Do not cut patches.
- If difficulty in separating patch from release liner, tearing, or other damage occurs during removal from liner, discard patch and apply a new patch. Inspect release liner to ensure no adhesive containing medication has transferred to liner; if transfer has occurred, discard patch. Avoid touching

Continued on the following page

adhesive during application; wash hands immediately after application.
- If patch does not fully adhere or partially detaches, remove and replace with another patch. Wear patched for a total of 9 hr, regardless of number used. Exposure to water during bathing, swimming, or showering may affect patch adherence.
- Patches may be removed earlier before decreasing dose if an unacceptable loss of appetite or insomnia occurs.
- Store patches at room temperature in a safe place to prevent abuse and misuse; do not refrigerate or freeze.
- To remove patch, peel off slowly. An oil-based product (petroleum jelly, olive oil, mineral oil) may be applied gently to facilitate removal. Upon removal, fold so that adhesive side of patch adheres to itself and flush down toilet or dispose of in an appropriate lidded container.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed. If an oral dose is missed, take the remaining doses for that day at regularly spaced intervals; do not double doses. Take the last dose before 6 PM to minimize the risk of insomnia. Instruct patient not to alter dose without consulting health care professional. Abrupt cessation of high doses may cause extreme fatigue and mental depression. Instruct parent/caregiver to read the Medication Guide prior to use and with each Rx refill; new information may be available.
- Advise patient to check weight 2–3 times weekly and report weight loss to health care professional.
- May cause dizziness or blurred vision. Caution patient to avoid driving or activities requiring alertness until response to medication is known.
- Inform patient and/or parents that shell of *Concerta* tablet may appear in the stool. This is no cause for concern.
- Advise patient to avoid using caffeine-containing beverages concurrently with this therapy.
- Advise patient to notify health care professional if nervousness, insomnia, palpitations, vomiting, skin rash, or fever occurs.
- Advise patient and/or parents to notify health care professional of behavioral changes.
- Inform patient that health care professional may order periodic holidays from the drug to assess progress and to decrease dependence.
- Emphasize the importance of routine follow-up exams to monitor progress.
- **Transdermal:** Encourage parent or caregiver to use the administration chart included in package to monitor application and removal time and disposal method.
- Caution patient to avoid exposing patch to direct external heat sources (hair dryers, heating pads, electric blankets, heated water beds, etc). May increase rate and extent of absorption.
- Inform parent/caregiver that skin redness, itching and small bumps on the skin are common. If swelling or blistering occurs, the patch should not be worn and health care professional notified. Caution parent/caregiver not to apply hydrocortisone or other solutions, creams, ointments, or emollients prior to application.
- **Home Care Issues:** *Pedi:* Advise parents to notify school nurse of medication regimen.

EVALUATION/DESIRED OUTCOMES

- Improved attention span and social interactions in ADHD.
- Decreased frequency of narcoleptic symptoms.

mirtazapine

(meer-**taz**-a-peen)

Remeron, Remeron Soltabs

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *tetracyclic antidepressants*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Major Depressive Disorder.
- **Unlabelled Use:**
  - Panic Disorder.
  - Generalized Anxiety Disorder (GAD).
  - Post-traumatic Stress Disorder (PTSD).

ACTION

- Potentiates the effects of norepinephrine and serotonin.
- Therapeutic Effects:
  - Antidepressant action, which may develop only after several weeks.

PHARMACOKINETICS

Absorption: Well absorbed but rapidly metabolized, resulting in 50% bioavailability.

Distribution: Unknown.

Protein Binding: 85%.

Metabolism and Excretion: Extensively metabolized by the liver (P450 2D6, 1A2 and 3A enzymes involved); metabolites excreted in urine (75%) and feces (15%).

Half-life: 20–40 hr.

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
PO	1–2 wk	6 wk or more	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Concurrent MAO inhibitor therapy.

Use Cautiously in:

- History of seizures.
- History of suicide attempt.
- May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment.
- History of mania/hypomania.
- Patients with hepatic or renal impairment.
- *OB:* Safety not established.
- *Lactation:* Discontinue drug or bottle-feed.
- *Pedi:* Safety not established. Suicide risk may be greater in children or adolscents.

Continued on the following page

- *Geri:* ↑ sensitivity to CNS effects and oversedation. Begin at lower doses and titrate carefully.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: drowsiness, abnormal dreams, abnormal thinking, agitation, anxiety, apathy, confusion, dizziness, malaise, weakness.

EENT: sinusitis.

Resp: dyspnea, increased cough.

CV: edema, hypotension, vasodilation.

GI: constipation, dry mouth, increased appetite, abdominal pain, anorexia, elevated liver enzymes, nausea, vomiting.

GU: urinary frequency.

Derm: pruritus, rash.

F and E increased thirst.

Hemat: AGRANULOCYTOSIS.

Metab: weight gain, hypercholesterolemia, increased triglycerides.

MS: arthralgia, back pain, myalgia.

Neuro: hyperkinesia, hypesthesia, twitching.

Misc: flu-like syndrome.

INTERACTIONS

Drug-Drug:

- May cause hypertension, seizures, and death when used with **MAO inhibitors**; do not use within 14 days of MAO inhibitor therapy.
- ↑ CNS depression with other **CNS depressants**, including **alcohol** and **benzodiazepines**.
- **Drugs affecting P450 enzymes**, **CYP2D6**, **CYP1A2**, and **CYP3A4** may alter the effects of mirtazapine.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, **skullcap**, **chamomile**, or **hops** can ↑ CNS depression.
- ↑ risk of serotinergic side effects including serotonin syndrome with **St. John's wort** and **SAMe**.

ROUTE/DOSAGE

- **PO (Adults):** 15 mg/day as a single bedtime dose initially; may be increased q 1–2 wk up to 45 mg/day.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 15 mg, 30 mg, 45 mg
  - **Cost:** *Generic*—15 mg $50.00/30, 30 mg $45.99/30, 45 mg $45.99/30.
- ***Orally disintegrating tablets (orange flavor):*** 15 mg, 30 mg, 45 mg
  - **Cost:** *Generic*—15 mg $70.38/30, 30 mg $65.99/30, 45 mg $71.49/30.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status (orientation, mood, behavior) frequently. Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient.
- Assess weight and BMI initially and throughout therapy.
- Monitor blood pressure and pulse rate periodically during initial therapy. Report significant changes.
- For overweight/obese individuals, obtain BFS and cholesterol levels. Refer as appropriate for nutritional/weight management and medical management.
- Monitor for seizure activity in patients with a history of seizures or alcohol abuse. Institute seizure precautions.
- *Lab Test Considerations:* Assess CBC and hepatic function before and periodically during therapy.

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POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Anxiety (Indications)
- Imbalanced nutrition: risk for more than body requirements (Side Effects)

IMPLEMENTATION

- May be given as a single dose at bedtime to minimize excessive drowsiness or dizziness.
- May be taken without regard to food.
- For *orally disintegrating tablets*, do not attempt to push through foil backing; with dry hands, peal back backing and remove tablet. Immediately place tablet on tongue; tablet will dissolve in seconds, then swallow with saliva. Administration with liquid is not necessary.

PATIENT/FAMILY TEACHING

- Instruct patient to take mirtazapine as directed. Take missed doses as soon as remembered; if almost time for next dose, skip missed dose and return to regular schedule. If single bedtime dose regimen is used, do not take missed dose in morning, but consult health care professional. Do not discontinue abruptly; gradual dose reduction may be required.
- May cause drowsiness and dizziness. Caution patient to avoid driving and other activities requiring alertness until response to drug is known.
- Caution patient to change positions slowly to minimize orthostatic hypotension.
- Advise patient to avoid alcohol or other CNS depressant drugs during and for at least 3–7 days after therapy has been discontinued.
- Advise patient to notify health care professional if dry mouth, urinary retention, or constipation occurs. Frequent rinses, good oral hygiene, and sugarless candy or gum may diminish dry mouth. An increase in fluid intake, fiber, and exercise may prevent constipation.
- Inform patient of need to monitor dietary intake. Increase in appetite may lead to undesired weight gain.
- Advise patient to consult health care professional before taking any OTC cold remedies or herbal products with this medication.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Therapy for depression may be prolonged. Emphasize the importance of follow-up exam to monitor effectiveness and side effects.

EVALUATION/DESIRED OUTCOMES

- Resolution of the symptoms of depression.
- Increased sense of well-being.
- Renewed interest in surroundings.
- Increased appetite.
- Improved energy level.
- Improved sleep.
- Therapeutic effects may be seen within 1 wk, although several wk are usually necessary before improvement is observed.

monoamine oxidase (MAO) inhibitors

isocarboxazid (eye-soe-kar-**boks**-a-zid)

Marplan

phenelzine (**fen**-el-zeen)

Nardil

tranylcypromine (tran-ill-**sip**-roe-meen)

Parnate

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *monamine oxidase (MAO) inhibitors*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Depression in patients who have failed other modes of therapy (tricyclic antidepressants, SSRIs, SSNRIs or electroconvulsive therapy).
- **Unlabelled Use:**
  - Treatment-resistant depression, panic disorder, social anxiety disorder (social phobia).

ACTION

- Inhibit the enzyme monoamine oxidase, resulting in an accumulation of various neurotransmitters (dopamine, epinephrine, norepinephrine, and serotonin) in the body.
- Therapeutic Effects:
  - Improved mood in depressed patients.

PHARMACOKINETICS

Absorption: *Phenelzine*—well absorbed from the GI tract; *isocarboxazid* and *tranylcypromine*—unknown.

Distribution: *Phenelzine* and *tranylcypromine*—cross the placenta and enter breast milk; *isocarboxazid*—unknown.

Metabolism and Excretion: *Phenelzine*—metabolized by the liver and excreted in urine as metabolites and unchanged drug; *isocarboxazid* and *tranylcypromine*-unknown.

Half-life: *Phenelzine*—12 hr; *tranylcypromine*—90–190 min; *isocarboxazid*—unknown.

Continued on the following page

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
Isocarboxazid	unknown	3–6 wk	unknown
Phenelzine	2–4 wk	3–6 wk	2 wk
Tranylcypromine	2 days–3 wk	2–3 wk	3–5 days

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Liver disease.
- Severe renal disease.
- Cardiovascular disease.
- Uncontrolled hypertension.
- Cerebrovascular disease.
- Pheochromocytoma.
- CHF.
- History of severe or frequent headache.
- Patients undergoing elective surgery requiring anesthesia (should be discontinued at least days before surgery).
- Concurrent meperidine, SSRI antidepressants, SSNRI antidepressants, tricyclic antidepressants, tetracyclic antidepressants, nefazodone, trazodone, procarbazine, selegilene, linezolid, carbamazepine, cyclobenzaprine, bupropion, buspirone, sympathomimetics, dextromethorphan, narcotics, alcohol, anesthetics, diuretics, tryptophan, or antihistamines.
- Excessive consumption of caffeine.
- Concurrent use of food containing high concentrations of tyramine (see Appendix M).
- *Lactation:* Lactation.

Use Cautiously in:

- Patients who may be suicidal or have a history of drug dependency.
- Schizophrenia.
- Bipolar disorder.
- Diabetes mellitus (↑ risk of hypoglycemia).
- Hyperthyroidism.
- Seizure disorders.
- *OB:* Safety not established.
- *Pedi:* Safe use in children/adolescents not established. May ↑ risk of suicide attempt/ideation especially during first early treatment or dose adjustments; risk may be greater in children or adolescents.
- *Geri:* ↑ risk of adverse reactions; begin therapy at lower end of dosage ranges.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SEIZURES, dizziness, headache, anxiety, ataxia, confusion, drowsiness, euphoria, insomnia, restlessness, tremor, weakness.

EENT: blurred vision, glaucoma, nystagmus.

CV: HYPERTENSIVE CRISIS, arrhythmias, edema, orthostatic hypotension.

GI: diarrhea, weight gain, abdominal pain, anorexia, constipation, dry mouth, ↑ liver function tests, nausea, vomiting.

GU: dysuria, sexual dysfunction, urinary incontinence, urinary retention.

Derm: pruritis, rashes.

Endo: hypoglycemia.

MS: arthralgia.

Neuro: paresthesia.

Continued on the following page

INTERACTIONS

Drug-Drug:

- Serious, potentially fatal adverse reactions may occur with concurrent use of other **antidepressants (SSRIs, SSNRIs, buproprion, tricyclics, tetracyclics, nefazodone, trazodone), carbamazepine, cyclobenzaprine, sibutramine, linezolid, procarbazine**, or **selegiline**.
- Avoid using within 2 wk of each other (wait 5 wk from end of **fluoxetine** therapy).
- Hypertensive crisis may occur with **amphetamines, methyldopa, levodopa, dopamine, epinephrine, norepinephrine, methylphenidate, reserpine**, or **vasoconstrictors**.
- Hypertension or hypotension, coma, seizures, respiratory depression, and death may occur with meperidine (avoid using within 2–3 wk of MAO inhibitor therapy).
- Concurrent use with **dextromethorphan** may produce psychosis or bizarre behavior.
- Hypertension may occur with concurrent use of **buspirone**; avoid using within 10 days of each other.
- Additive hypotension may occur with **antihypertensives**, **spinal anesthesia**, **opioids**, or **barbiturates**.
- Additive hypoglycemia may occur with **insulins** or **oral hypoglycemic agents**. Risk of seizures may be ↑ with **tramadol**.

Drug-Natural:

- Serious, potentially fatal adverse effects (serotonin syndrome) may occur with concomitant use of **St. John's wort** and **SAMe**.
- Hypertensive crises may occur with large amounts of **caffeine-containing herbs** (**cola nut**, **guarana**, **malt**, **coffee**, **tea**).
- Insomnia, headache, tremor, hypomania may occur with **ginseng**.
- Hypertensive crises, disorientation, and memory impairment may occur with **tryptophan** or supplements containing **tyrosine** or **phenylalanine**.

Drug-Food:

- Hypertensive crisis may occur with ingestion of foods containing high concentrations of **tyramine** (see Appendix M).
- Consumption of foods or beverages with high **caffeine** content ↑ the risk of hypertension and arrhythmias.

ROUTE/DOSAGE

Isocarboxazid

- **PO (Adults and Children ≥16 yr):** 10 mg twice daily; may be ↑ every 2–4 days by 10 mg, up to 40 mg/day by the end of the first wk, then may ↑ by up to 20 mg every wk, up to 60 mg/day in 2–4 divided doses. After optimal response is obtained, dose should be slowly decreased to lowest effective amount (40 mg/day or less).

Phenelzine

- **PO (Adults):** 15 mg 3 times daily; ↑ to 60–90 mg/day in divided doses; after maximal benefit achieved, gradually reduce to smallest effective dose (15 mg/day or every other day).

Tranylcypromine

- **PO (Adults):** 30 mg/day in 2 divided doses (morning and afternoon); after 2 wk can ↑ by 10 mg/day, at 1–3 wk intervals, up to 60 mg/day.

AVAILABILITY

Isocarboxazid

- ***Tablets:*** 10 mg.

Phenelzine

- ***Tablets:*** 15 mg.

Tranylcypromine

- ***Tablets:*** 10 mg.

Continued on the following page

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status (orientation, mood, behavior) and anxiety level frequently. Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient.
- Monitor blood pressure and pulse before and frequently during therapy. Report significant changes promptly. Headache is often first symptom of a hypertensive crisis.
- Monitor intake and output ratios and daily weight. Assess patient for urinary retention.
- Monitor weight and BMI initially and throughout treatment.
- For overweight/obese individuals, moitor fasting blood sugar and cholesterol levels.
- *Lab Test Considerations:* Assess hepatic function periodically during prolonged or high-dose therapy.
- Monitor serum glucose closely in diabetic patients; hypoglycemia may occur.
- ***Toxicity and Overdose:*** Concurrent ingestion of tyramine-rich foods and many medications may result in a life-threatening hypertensive crisis. Signs and symptoms of hypertensive crisis include chest pain, tachycardia, severe headache, nausea, vomiting, photosensitivity, neck stiffness, sweating, and enlarged pupils. Treatment includes IV phentolamine or a single dose of oral calcium channel blocker (nifedipine).
- Symptoms of overdose include anxiety, irritability, tachycardia, hypertension or hypotension, respiratory distress, dizziness, drowsiness, hallucinations, confusion, seizures, sluggish reflexes, fever, and diaphoresis. Treatment includes induction of vomiting or gastric lavage and supportive therapy as symptoms arise.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Ineffective therapeutic regimen management (Patient/Family Teaching)
- Risk for falls (Side Effects)
- Imbalanced nutrition: more than body requirements (Side Effects)
- Sexual dysfunction (Side Effects)
- Impairedoral mucous membrane (Side Effects)

IMPLEMENTATION

- Do not administer these medications in the evening because the psychomotor stimulating effects may cause insomnia or other sleep disturbances.
- **PO:** Tablets may be crushed and mixed with food or fluids for patients with difficulty swallowing.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed. Take missed doses if remembered within 2 hr; otherwise, omit and return to regular dosage schedule. Do not discontinue abruptly as withdrawal symptoms (nausea, vomiting, malaise, nightmares, agitation, psychosis, seizures) may occur.
- Caution patient to avoid alcohol, CNS depressants, OTC drugs, and foods or beverages containing tyramine (see Appendix M) or excessive caffeine during and for at least 2 wk after therapy has been discontinued; they may precipitate a hypertensive crisis. Instruct patient to notify health care professional immediately if symptoms of hypertensive crisis (e.g., severe headache, palpitations, chest or throat tightness, sweating, dizziness, neck stiffness, nausea, or vomiting) develop.
- Instruct patient and caregivers to contact health care professional if child exhibits any suicidal thoughts or behaviors (e.g., worsening depression, new or worsening anxiety, agitation, panic attacks, insomnia, new or worsening irritability, violent behavior, impulsive actions, excessive talking, unusual changes in mood or behavior).
- May cause dizziness or drowsiness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.

Continued on the following page

- Caution patient to change positions slowly to minimize orthostatic hypotension. Geriatric patients are at increased risk for this side effect.
- Instruct patient to consult with health care professional before taking any new Rx, OTC, or herbal product.
- Advise patient to notify health care professional if dry mouth, urinary retention, or constipation occurs. Frequent rinses, good oral hygiene, and sugarless candy or gum may diminish dry mouth. An increase in fluid intake, fiber, and exercise may prevent constipation.
- Advise patient to notify health care professional of medication regimen before treatment or surgery. If possible, therapy should be discontinued at least 2 wk before surgery.
- Instruct patient to carry identification describing medication regimen at all times.
- Emphasize the importance of participation in psychotherapy to improve coping skills. Refer for ophthalmic testing periodically during long-term therapy.
- Advise patient of possibility of weight gain and cholesterol elevation and recommend appropriate nutritional, weight, or medical management.
- Refer patient/family to local support group.

EVALUATION/DESIRED OUTCOMES

- Improved mood in depressed patients.
- Increased sense of well-being.
- Decreased anxiety.
- Increased appetite.
- Improved energy level.
- Improved sleep.
- Patients may require 3–6 wk of therapy before therapeutic effects of medication are seen.

nefazodone

(neff-**a**-zoe-done)

CLASSIFICATION

Therapeutic: *antidepressants*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Major depression.
- **Unlabelled Use:**
  - Panic disorder, post-traumatic stress disorder (PTSD).

ACTION

- Inhibits the reuptake of serotonin and norepinephrine by neurons.
- Antagonizes alpha$_1$-adrenergic receptors.
- Therapeutic Effects:
  - Antidepressant action, which may develop only after several weeks.

PHARMACOKINETICS

Absorption: Well absorbed but undergoes extensive and variable first-pass hepatic metabolism (bioavailability about 20%).

Distribution: Widely distributed; enters the CNS.

Protein Binding: ≥99%.

Metabolism and Excretion: Extensively metabolized. One metabolite (hydroxynefazodone) has antidepressant activity.

Half-life: *Nefazodone*—2–4 hr; *hydroxynefazodone*—1.5–4 hr.

TIME/ACTION PROFILE (antidepressant action)

ROUTE	ONSET	PEAK	DURATION
PO	days–wk	several wk	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Concurrent MAO inhibitor therapy.
- Active liver disease or baseline elevated serum transaminases.

Use Cautiously in:

- May ↑ risk of suicide attempt/ideation especially during dose early treatment or dose adjustment.
- History of suicide attempt or drug abuse.
- Underlying cardiovascular or cerebrovascular disease.
- History of mania.
- *OB:* Safety no established.
- *Lactation:* Discontinue drug or bottle-feed.
- *Pedi:* Safety not established in children; suicide risk may be greater in children and adolescents.
- *Geri:* Iinitiate therapy at lower doses.

Continued on the following page

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: dizziness, insomnia, somnolence, agitation, confusion, weakness.

EENT: abnormal vision, blurred vision, eye pain, tinnitus.

Resp: dyspnea.

CV: bradycardia, hypotension.

GI: HEPATIC FAILURE, HEPATOTOXICITY, constipation, dry mouth, nausea, gastroenteritis.

GU: erectile dysfunction.

Derm: rashes.

Hemat: decreased hematocrit.

INTERACTIONS

Drug-Drug:

- Serious, potentially fatal reactions may occur during concurrent use with MAO inhibitors (do not use concurrently or within 2 wk of MAO inhibitors; discontinue nefazodone at least 14 days before starting MAO inhibitor therapy). ↑ CNS depression with other CNS depressants including **alcohol**, **antihistamines**, **opioid analgesics**, and **sedative/hypnotics**. May ↑ blood levels and effects of **alprazolam** or **triazolam**. May increase serum **digoxin** levels. Additive hypotension may occur with **antihypertensives**, **nitrates**, or acute ingestion of **alcohol**. May ↑ risk of myopathy with **HMG-CoA reductase inhibitors**. Decreased **antidepressant** action with concomitant use of **carbamazepine**. May reduce clearance of **haloperidol**, so **haloperidol** dose may need to be decreased.

Drug-Natural:

- ↑ risk of seritonergic side effects including serotonin syndrome with **St. John's wort** and **SAMe**. **Kava-kava**, **valerian**, or **chamomile** can ↑ CNS depression.

ROUTE/DOSAGE

- **PO (Adults):** 100 mg twice daily initially; may be increased weekly up to 600 mg/day in 2 divided doses.
- **PO (Geriatric Patients):** 50 mg twice daily initially; may be increased weekly as tolerated.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 50 mg, 100 mg, 150 mg, 200 mg, 250 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status (orientation, mood, behavior) frequently. Inform health care professional if patient demonstrates significant increase in anxiety, nervousness, or insomnia.
- Assess suicidal tendencies, especially in early therapy. Restrict amount of drug available to patient.
- Monitor blood pressure and pulse before and periodically during therapy.
- Monitor liver function tests prior to and routinely during therapy. Obtain LFTs at first sign of hepatic dysfunction (nausea, vomiting, abdominal pain, fatigue, anorexia, dark urine).
- Assess for sexual dysfunction throughout treatment.
- *Lab Test Considerations:* May cause decrease in hematocrit and leukopenia.
- Monitor liver function periodically. If serum AST or ALT levels are >3 times the upper limit of normal discontinue nefazodone.
- May also cause hypercholesterolemia and hypoglycemia.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for injury (Side Effects)

Continued on the following page

IMPLEMENTATION

- Discontinue nefazodone prior to elective surgery to prevent potential interactions with general anesthesia.
- **PO:** Administer doses twice daily.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed. Several weeks may be required to obtain a full antidepressant response. Once response is obtained, therapy should be continued for at least 6 mo. If a dose is missed, take as soon as possible unless almost time for next dose. Do not double doses.
- May cause drowsiness or dizziness. Caution patient to avoid driving or other activities requiring alertness until response to the drug is known.
- Advise patient to make position changes slowly to minimize orthostatic hypotension.
- Caution patient to avoid taking alcohol or other CNS depressant drugs during therapy and not to take other prescription, OTC medications, or herbal products without consulting health care professional.
- Advise patient to notify health care professional immediately if signs of liver dysfunction (jaundice, anorexia, GI complaints, malaise, dark urine) occur.
- Inform patient that frequent mouth rinses, good oral hygiene, and sugarless gum or candy may minimize dry mouth. If dry mouth persists for more than 2 wk, consult health care professional regarding use of saliva substitute.
- Instruct female patient to inform health care professional if pregnancy is planned or suspected or if breastfeeding.
- Instruct patient to notify health care professional of signs of allergy (rash, hives) or if agitation, blurred or other changes in vision, confusion, dizziness, unsteadiness, difficult or frequent urination, difficulty concentrating, or memory problems occur.
- Emphasize the importance of follow-up examinations to monitor progress. Encourage patient participation in psychotherapy.
- Refer to local support group.
- Inform patient that some side effects may go away with time.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings. May require several weeks of therapy to obtain full response. Need for therapy should be periodically reassessed. Therapy is usually continued for 6 months or more.

olanzapine

(oh-**lan**-za-peen)

Zyprexa, Zyprexa Zydis

CLASSIFICATION

Therapeutic: *antipsychotics, mood stabilizers* ***Pharmacologic:*** *thienobenzodiazepines*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Acute and maintenance treatment of schizophrenia. Acute treatment of manic episodes associated with bipolar I disorder (may be used alone or with lithium or valproate).
- Maintenance therapy of bipolar I disorder. Acute agitation due to schizophrenia or bipolar I mania (IM).
- Depressive episodes associated with bipolar I disorder (when used with fluoxetine).
- Treatment-resistant depression (when used with fluoxetine).
- **Unlabelled Use:**
  - Management of anorexia nervosa.
  - Treatment of nausea and vomiting related to highly emetogenic chemotherapy.

ACTION

- Antagonizes dopamine and serotonin type 2 in the CNS. Also has anticholinergic, antihistaminic, and anti–alpha$_1$-adrenergic effects.
- Therapeutic Effects:
  - Decreased manifestations of psychoses.

PHARMACOKINETICS

Absorption: Well absorbed but rapidly metabolized by first-pass effect, resulting in 60% bioavailability. Conventional tablets and orally disintegrating tablets (Zydis) are bioequivalent. IM administration results in significantly higher blood levels (5 times that of oral).

Distribution: Extensively distributed.

Protein Binding: 93%.

Metabolism and Excretion: Highly metabolized (mostly by the hepatic P450 CYP 1A2 system); 7% excreted unchanged in urine.

Half-life: 21–54 hr.

Continued on the following page

TIME/ACTION PROFILE (antipsychotic effects)

ROUTE	ONSET	PEAK*	DURATION
PO	unknown	6 hr	unknown
IM	rapid	15–45 min	2–4 hr

*Blood levels

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- *Lactation:* Discontinue drug or bottle feed.
- **Orally disintegrating tablets only:** Phenylketonuria (orally disintegrating tablets contain aspartame).

Use Cautiously in:

- Patients with hepatic impairment.
- Patients at risk for aspiration.
- Cardiovascular or cerebrovascular disease.
- History of seizures.
- History of attempted suicide.
- Diabetes or risk factors for diabetes (may worsen glucose control).
- Prostatic hyperplasia.
- Angle-closure glaucoma.
- History of paralytic ileus.
- Dysphagia and aspiration have been associated with antipsychotic drug use; use with caution in patients at risk for aspiration.
- *OB/Pedi:* Safety not established.
- *Geri:* Geriatric patients (may require ↓ doses; ↑ risk of mortality in elderly patients treated for dementia-related psychosis).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SEIZURES, SUICIDAL THOUGHTS, agitation, dizziness, headache, restlessness, sedation, weakness, dystonia, insomnia, mood changes, personality disorder, speech impairment, tardive dyskinesia.

EENT: amblyopia, rhinitis, ↑ salivation, pharyngitis.

Resp: cough, dyspnea.

CV: orthostatic hypotension, tachycardia, chest pain.

GI: constipation, dry mouth, abdominal pain, ↑ appetite, weight loss or gain, nausea, ↑ thirst.

GU: ↓ libido, urinary incontinence.

Hemat: AGRANULOCYTOSIS, leukopenia, neutropenia.

Derm: photosensitivity.

Endo: amenorrhea, galactorrhea, gynecomastia, hyperglycemia, goiter.

Metab: dyslipidemia.

MS: hypertonia, joint pain.

Neuro: tremor.

Misc: fever, flu-like syndrome.

INTERACTIONS

Drug-Drug:

- Effects may be ↓ by concurrent **carbamazepine**, **omeprazole**, or **rifampin**.
- ↑ hypotension may occur with **antihypertensives**.
- ↑ CNS depression may occur with concurrent use of **alcohol** or other **CNS depressants**.

Continued on the following page

- May antagonize the effects of **levodopa** or other **dopamine agonists**.
- **Nicotine** can ↓ olanzapine levels.

ROUTE/DOSAGE

- **PO (Adults—Most Patients):** *Schizophrenia*—5–10 mg/day initially; may ↑ at weekly intervals by 5 mg/day (not to exceed 20 mg/day). *Bipolar I mania*—10–15 mg/day initially (use 10 mg/day when used with lithium or valproate); may ↑ every 24 hr by 5 mg/day (not to exceed 20 mg/day); *Depressive episodes associated with bipolar I disorder*—5 mg/day with fluoxetine 20 mg/day (both given in evening); may ↑ fluoxetine dose up to 50 mg/day and olanzapine dose up to 12.5 mg/day; *Treatment-resistant depression*—5 mg/day with fluoxetine 20 mg/day (both given in evening); may ↑ fluoxetine dose up to 50 mg/day and olanzapine dose up to 20 mg/day.
- **PO (Adults—Debilitated or Nonsmoking Female Patients ≥65 yr):** Initiate therapy at 5 mg/day.
- **IM (Adults):** *Acute agitation*—5–10 mg, may repeat in 2 hr, then 4 hr later.
- **IM (Adults>65 yr):** Initiate therapy with 5 mg.

AVAILABILITY

- ***Tablets:*** 2.5 mg, 5 mg, 7.5 mg, 10 mg, 15 mg, 20 mg
  - **Cost:** 2.5 mg $556.93/90, 5 mg $645.82/90, 7.5 mg $805.91/90, 10 mg $1,007.96/90, 15 mg $1,475.96/90, 20 mg $1,860.77/90.
- ***Orally disintegrating tablets (Zydis):*** 5 mg, 10 mg, 15 mg, 20 mg
  - **Cost:** 5 mg $765.95/90, 10 mg $1,139.83/90, 15 mg $1,648.53/90, 20 mg $2,163.23/90.
- ***Powder for injection:*** 10 mg/vial.
- ***In combination with:*** fluoxetine (Symbyax; see Appendix B).

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status (orientation, mood, behavior) before and periodically during therapy. Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression.
- Monitor blood pressure (sitting, standing, lying), ECG, pulse, and respiratory rate before and frequently during dose adjustment.
- Assess weight and BMI initially and throughout therapy.
- Assess fasting blood glucose and cholesterol levels initially and throughout therapy.
- Observe patient carefully when administering medication to ensure that medication is taken and not hoarded or cheeked.
- Assess fluid intake and bowel function. Increased bulk and fluids in the diet may help minimize constipation.
- Monitor patient for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill rolling of hands, mask-like face, shuffling gait, rigidity, tremors; and *dystonic*—muscle spasms, twisting motions, twitching, inability to move eyes, weakness of arms or legs) every 2 mo during therapy and 8–12 wk after therapy has been discontinued. Report these symptoms if they occur, as reduction in dose or discontinuation of medication may be necessary. Trihexyphenidyl or benztropine may be used to control symptoms.
- Monitor for tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities; lip smacking or puckering; puffing of cheeks; uncontrolled chewing; rapid or worm-like movements of tongue, excessive blinking of eyes). Report immediately; may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness, severe muscle

Continued on the following page

stiffness, loss of bladder control). Notify health care professional immediately if these symptoms occur.
- Monitor for symptoms related to hyperprolactinemia (menstrual abnormalities, galactorrhea, sexual dysfunction).
- *Lab Test Considerations:* Evaluate CBC, liver function tests, and ocular examinations periodically during therapy. May cause ↓ platelets. May cause ↑ bilirubin, AST, ALT, GGT, CPK, and alkaline phosphatase.
- Monitor blood glucose prior to and periodically during therapy.
- Monitor serum prolactin prior to and periodically during therapy. May cause ↑ serum prolactin levels.
- Monitor CBC frequently during initial months of therapy in patients with pre-existing or history of low WBC. May cause leukopenia, neutropenia, or agranulocytosis. Discontinue therapy if this occurs.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Indications)
- Impairedoral mucous membrane (Side Effects)
- Sexual dysfunction (Side Effects)

IMPLEMENTATION

- Do not confuse Zyprexa (olanzapine) with Celexa (citalopram) or Zyrtec (cetirizine).
- **PO:** May be administered without regard to meals.
- For orally disintegrating tablets, peel back foil on blister, do not push tablet through foil. Using dry hands, remove from foil and place entire tablet in mouth. Tablet will disintegrate with or without liquid.
- **IM:** Reconstitute with 2.1 mL of sterile water for injection for a concentration of 5 mg/mL. Solution should be clear and yellow; do not administer solutions that are discolored or contain particulate matter. Inject slowly, deep into muscle. Do not administer IV or subcutaneously. Administer within 1 hr of reconstitution. Discard unused solution.

PATIENT/FAMILY TEACHING

- Advise patient to take medication as directed and not to skip doses or double up on missed doses. May need to discontinue gradually.
- Inform patient of possibility of extrapyramidal symptoms and tardive dyskinesia. Instruct patient to report these symptoms immediately to health care professional.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- Medication may cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to the medication is known.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking, other unusual changes in behavior or mood occur.
- Caution patient to avoid taking alcohol and to notify health care professional prior to taking other Rx, OTC, or herbal products concurrently with this medication.
- Advise patient to use sunscreen and protective clothing when exposed to the sun. Extremes of temperature (exercise, hot weather, hot baths or showers) should also be avoided; this drug impairs body temperature regulation.
- Instruct patient to use saliva substitute, frequent mouth rinses, good oral hygiene, and sugarless gum or candy to minimize dry mouth. Consult dentist if dry mouth continues for >2 wk.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Instruct patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, rash, weakness, tremors, visual disturbances, dark-colored urine,

Continued on the following page

clay-colored stools, menstrual abnormalities, galactorrhea or sexual dysfunction occur.
- Advise patient to notify health care professional if pregnancy is planned or suspected, or if breastfeeding or planning to breastfeed.
- Emphasize the importance of routine follow-up exams and continued participation in psychotherapy.

EVALUATION/DESIRED OUTCOMES

- Decrease in excitable, manic behavior.
- Decrease in positive symptoms (delusions, hallucinations) of schizophrenia.
- Decrease in negative symptoms (social withdrawal, flat, blunted affect) of schizophrenia.
- Increased sense of well-being.
- Decreased agitation.

oxazepam

(ox-**az**-e-pam)

Apo-Oxazepam, Novoxapam, Serax

CLASSIFICATION

Therapeutic: *antianxiety agents, sedative/hypnotics* ***Pharmacologic:*** *benzodiazepines*

Schedule IV

Pregnancy Category D

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Management of anxiety, anxiety associated with depression. Symptomatic treatment of alcohol withdrawal.

ACTION

- Depresses the CNS, probably by potentiating GABA, an inhibitory neurotransmitter.
- Therapeutic Effects:
  - Decreased anxiety.
  - Diminished symptoms of alcohol withdrawal.

PHARMACOKINETICS

Absorption: Well absorbed following oral administration. Absorption is slower than with other benzodiazepines.

Distribution: Widely distributed. Crosses the blood-brain barrier. May cross the placenta and enter breast milk.

Metabolism and Excretion: Metabolized by the liver to inactive compounds.

Protein Binding: 97%.

Half-life: 5–15 hr.

TIME/ACTION PROFILE (sedation)

ROUTE	ONSET	PEAK	DURATION
PO	45–90 min	unknown	6–12 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Cross-sensitivity with other benzodiazepines may exist.
- Comatose patients or those with pre-existing CNS depression.
- Uncontrolled severe pain.
- Angle-closure glaucoma.
- Some products contain tartrazine and should be avoided in patients with known intolerance.
- *OB/Lactation:* Pregnancy or lactation.

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Use Cautiously in:

- Hepatic dysfunction (may be preferred over some benzodiazepines due to short half-life).
- History of suicide attempt or drug abuse.
- Debilitated patients (initial dosage ↓ recommended).
- Severe chronic obstructive pulmonary disease.
- Myasthenia gravis.
- *Pedi:* Children <6 yr (safety not established) for children <6 yr.
- *Geri:* Appears on Beers list (associated with ↑ risk of falls; ↓ dose required); ↑sensitivity to benzodiazepines.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: dizziness, drowsiness, confusion, hangover, headache, impaired memory, mental depression, paradoxical excitation, slurred speech.

EENT: blurred vision.

Resp: respiratory depression.

CV: tachycardia.

GI: constipation, diarrhea, drug-induced hepatitis, nausea, vomiting, weight gain (unusual).

GU: urinary problems.

Derm: rashes.

Hemat: leukopenia.

Misc: physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:

- Additive CNS depression with other **CNS depressants**, including **alcohol**, **antihistamines**, **antidepressants**, **opioid analgesics**, and other **sedative/hypnotics** (including other **benzodiazepines**).
- May ↓ the therapeutic effectiveness of **levodopa**.
- **Hormonal contraceptives** or **phenytoin** may ↓ effectiveness.
- **Theophylline** may ↓ sedative effects.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, **skullcap**, **chamomile**, or **hops** can ↑ CNS depression.

ROUTE/DOSAGE

- **PO (Adults):** *Antianxiety agent*—10–30 mg 3–4 times daily. *Sedative/hypnotic/management of alcohol withdrawal*—15–30 mg 3–4 times daily.
- **PO (Geriatric Patients):** 5 mg 1–2 times daily initially or 10 mg 3 times daily; may be ↑ as needed.

AVAILABILITY (GENERIC AVAILABLE)

- ***Capsules:*** 10 mg, 15 mg, 30 mg.
- ***Tablets:*** ✤10 mg, 15 mg, ✤30 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Assess patient for anxiety and orientation, mood and behavior.
- Assess level of sedation (ataxia, dizziness, slurred speech) periodically throughout therapy.
- Assess regularly for continued need for treatment.
- Prolonged high-dose therapy may lead to psychological or physical dependence. Restrict the amount of drug available to patient.
- *Geri:* Assess CNS effects and risk of falls. Institute falls prevention strategies.
- *Lab Test Considerations:* Monitor CBC and liver function tests periodically during prolonged therapy.

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- May cause decreased thyroidal uptake of sodium iodide ^{123}I and ^{131}I.

POTENTIAL NURSING DIAGNOSES

- Anxiety (Indications)
- Ineffective coping (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Medication should be tapered at the completion of therapy (taper by 0.5 mg q 3 days).
- Sudden cessation of medication may lead to withdrawal (insomnia, irritability, nervousness, tremors).
- **PO:** Administer with food if GI irritation becomes a problem.

PATIENT/FAMILY TEACHING

- Instruct patient to take oxazepam exactly as directed. Missed doses should be taken within 1 hr; if remembered later, omit and return to regular dosing schedule. Do not double or increase doses. If dose is less effective after a few weeks, notify health care professional.
- Inform patient that oxazepam is usually prescribed for short-term use. Encourage patient to participate in psychotherapy to address source of anxiety and improve coping skills. Teach other methods to decrease anxiety, such as increased exercise, support group, relaxation techniques.
- Encourage patient to participate in psychotherapy to address source of anxiety and improve coping skills.
- Teach other methods to decrease anxiety, such as increased exercise, support group, relaxation techniques.
- May cause drowsiness or dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient to avoid the use of alcohol and to consult health care professional prior to the use of OTC preparations that contain antihistamines or alcohol.
- Advise patient to inform health care professional if pregnancy is planned or suspected.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Emphasize the importance of follow-up exams to monitor effectiveness of medication.
- *Geri:* Instruct patient and family how to reduce falls risk at home.

EVALUATION/DESIRED OUTCOMES

- Decreased sense of anxiety.
- Increased ability to cope.
- Prevention or relief of acute agitation, tremor, and hallucinations during alcohol withdrawal.

paliperidone

(pa-li-**per**-i-done)

Invega, Invega Sustenna

CLASSIFICATION

Therapeutic: *antipsychotics* ***Pharmacologic:*** *benzisoxazoles*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- **PO, IM:** Acute and maintenance treatment of schizophrenia.
- **PO:**
  - Acute treatment of schizoaffective disorder (as monotherapy or as adjunct to mood stabilizers and/or antidepressants).

ACTION

- May act by antagonizing dopamine and serotonin in the CNS.
- Paliperidone is the active metabolite of risperidone.
- Therapeutic Effects:
  - Decreased manifestations of schizophrenia.
  - Decreased manifestations of schizoaffective disorder.

PHARMACOKINETICS

Absorption: 28% absorbed following oral administration, food ↑ absorption; slowly absorbed after IM administration (concentrations higher and more rapidly achieved with administration into deltoid muscle).

Distribution: Unknown.

Metabolism and Excretion: 59% excreted unchanged in urine; 32% excreted in urine as metabolites.

Half-life: 23 hr (PO); 25–49 days (IM).

TIME/ACTION PROFILE (blood levels)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	24 hr	24 hr
IM	unknown	13 days	1 mo

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity to paliperidone or risperidone.
- Concurrent use of drugs known to cause QTc prolongation (including quinidine, procainamide, sotalol, amiodarone, chlorpromazine, thioridazine, moxifloxacin).
- History of congenital QTc prolongation or other cardiac arrhythmias.
- Bradycardia, hypokalemia, hypomagnesemia (↑ risk of QTc prolongation).

Continued on the following page

- Pre-existing severe GI narrowing (due to nature of tablet formulation).
- CCr < 50 mL/min (for IM).
- *Lactation:* Discontinue drug or bottle feed.

Use Cautiously in:

- Patients with Parkinson's Disease or dementia with Lewy Bodies (↑ sensitivity to effects of antipsychotics).
- History of suicide attempt.
- Patients at risk for aspiration pneumonia; History of seizures.
- Conditions which may ↑ body temperature (strenuous exercise, exposure to extreme heat, concurrent anticholinergics or risk of dehydration).
- ↓ GI transit time (may ↑ blood levels).
- May mask symptoms of some drug overdoses, intestinal obstruction, Reye's Syndrome or brain tumor (due to antiemetic effect).
- Diabetes mellitus.
- Severe hepatic impairment.
- Renal impairment (dose ↓ recommended if CCr <80 mL/min).
- *OB:* Safety not established; use only if maternal benefit outweighs fetal risk.
- *Pedi:* Safety not established.
- *Geri:* ↑ risk of mortality in elderly patients treated for dementia-related psychosis; consider age-related ↓ in renal function.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SUICIDAL THOUGHTS, drowsiness, headache, anxiety, confusion, dizziness, extrapyramidal disorders (dose related), fatigue, Parkinsonism (dose related), syncope, tardive dyskinesia, weakness.

EENT: blurred vision.

Resp: dyspnea, cough.

CV: palpitations, tachycardia (dose related), bradycardia, orthostatic hypotension, ↑ QTc interval.

GI: abdominal pain, dry mouth, dyspepsia, nausea, swollen tongue.

GU: impotence, priapism.

Endo: amenorrhea, galactorrhea, gynecomastia, hyperglycemia.

Hemat: AGRANULOCYTOSIS, leukopenia, neutropenia.

MS: back pain, dystonia (dose related).

Neuro: akithisia, dyskinesia, tremor (dose related).

Misc: fever.

INTERACTIONS

Drug-Drug:

- ↑ risk of CNS depression with other **CNS depressants** including **alcohol**, **antihistamines**, **sedative/hypnotics**, or **opioid analgesics**.
- May antagonize the effects of **levodopa** or other **dopamine agonists**.
- ↑ risk of orthostatic hypotension with **antihypertensives**, **nitrates**, or other **agents that lower blood pressure**.
- **Carbamazepine** may ↓ levels/effects.

ROUTE/DOSAGE

Schizophrenia

- **PO (Adults):** 6 mg/day; may titrate by 3 mg/day at intervals of at least 5 days (range 3–12 mg/day).
- **IM (Adults):** 234 mg initially, then 156 mg one week later; continue with monthly maintenance dose of 117 mg (range of 39–234 mg based on efficacy and/or tolerability).

Continued on the following page

Renal Impairment

- **PO (Adults):** *CCr 50–79 mL/min*—3 mg/day initially; dose may be ↑ to maximum of 6 mg/day. *CCr 10–<50 mL/min*—1.5 mg/day initially; dose may be ↑ to maximum of 3 mg/day.

Renal Impairment

- **IM (Adults):** *CCr 50–79 mL/min*—156 mg initially, then 117 mg one week later; continue with monthly maintenance dose of 78 mg. CCr <50 mL/min—Contraindicated.

Schizoaffective Disorder

- **PO (Adults):** 6 mg/day; may titrate by 3 mg/day at intervals of at least 4 days (range 3–12 mg/day).

Renal Impairment

- **PO (Adults):** *CCr 50–79 mL/min*—3 mg/day initially; dose may be ↑ to maximum of 6 mg/day. *CCr 10–<50 mL/min*—1.5 mg/day initially; dose may be ↑ to maximum of 3 mg/day.

AVAILABILITY

- ***Extended-release tablets (Invega):*** 1.5 mg, 3 mg, 6 mg, 9 mg.
- ***Intramuscular injection (Invega Sustenna):*** 39 mg, 78 mg, 117 mg, 156 mg, 234 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor patient's mental status (orientation, mood, behavior) before and periodically during therapy. Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression, especially during early therapy. Restrict amount of drug available to patient.
- Assess weight and BMI initially and throughout therapy.
- Monitor blood pressure (sitting, standing, lying down) and pulse before and periodically during therapy. May cause prolonged QT interval, tachycardia, and orthostatic hypotension.
- Observe patient when administering medication to ensure that medication is actually swallowed and not hoarded or cheeked.
- Monitor patient for onset of extrapyramidal side effects (*akathisia*—restlessness; *dystonia*—muscle spasms and twisting motions; or *pseudoparkinsonism*—mask-like face, rigidity, tremors, drooling, shuffling gait, dysphagia). Report these symptoms; reduction of dose or discontinuation of medication may be necessary.
- Monitor for tardive dyskinesia (involuntary rhythmic movement of mouth, face, and extremities). Report immediately; may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness). Discontinue paliperidone and notify health care professional immediately if these symptoms occur.
- Monitor for symptoms related to hyperprolactinemia (menstrual abnormalities, galactorrhea, sexual dysfunction).
- *Lab Test Considerations:* Monitor fasting blood glucose and cholesterol levels before and periodically during therapy.
- Monitor serum prolactin prior to and periodically during therapy. May cause ↑ serum prolactin levels.
- Monitor CBC frequently during initial months of therapy in patients with pre-existing or history of low WBC. May cause leukopenia, neutropenia, or agranulocytosis. Discontinue therapy if this occurs.

POTENTIAL NURSING DIAGNOSES

- Risk for self-directed violence (Indications)
- Impairedoral mucous membrane (Side Effects)
- Disturbed sensory perception : (specify: visual, auditory, kinesthetic, gustatory, tactile, olfactory) (Indications)

Continued on the following page

IMPLEMENTATION

- **PO:** Administer once daily in the morning without regard to food. Tablets should be swallowed whole; do not crush, break or chew.
- **IM:** Administer initial and second doses in deltoid using a 1 $^{1}/_{2}$-inch, 22G needle for patients ≥90 kg (≥200 lb) or 1-inch 23G needle for patients <90 kg (<200 lb). Monthly maintenance doses can be administered in either deltoid or gluteal sites. For gluteal injection, use 1 $^{1}/_{2}$-inch, 22G needle regardless of patient weight. To avoid missed dose, may give second dose 2 days before or after the one-week timepoint. Monthly doses may be given up to 7 days before or after the monthly timepoint. *After 1st month, if missed dose is within 6 wk of scheduled dose*, administer previous dose as soon as possible. *If >6 wk and < 6 mo of scheduled dose*, resume with previous dose by administering dose in deltoid as soon as possible, a second dose in deltoid in 1 wk, followed by monthly doses in deltoid or gluteal sites. *If >6 mo since scheduled dose,* administer using initial dosing schedule.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed. Advise patient that appearance of tablets in stool is normal and not of concern.
- Inform patient of the possibility of extrapyramidal symptoms. Instruct patient to report these symptoms immediately to health care professional.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- May cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking, other unusual changes in behavior or mood occur.
- Advise patient that extremes in temperature should also be avoided; this drug impairs body temperature regulation.
- Caution patient to avoid concurrent use of alcohol, other CNS depressants, and Rx, OTC, or herbal products without consulting health care professional.
- Advise patient to seek nutritional, weight, or medical management as needed for weight gain or cholesterol elevation.
- Advise female patients to notify health care professional if pregnancy is planned or suspected, or if breastfeeding or planning to breastfeed.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Instruct patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, rash, tremors, menstrual abnormalities, galactorrhea, or sexual dysfunction occur.
- Emphasize the importance of routine follow-up exams to monitor side effects and continued participation in psychotherapy to improve coping skills.

EVALUATION/DESIRED OUTCOMES

- Decrease in excited, manic behavior.
- Decrease in positive symptoms (delusions, hallucinations) of schizophrenia.
- Decrease in negative symptoms (social withdrawal, flat, blunted affect) of schizophrenia.

paroxetine hydrochloride

(par-**ox**-e-teen)

Paxil, Paxil CR

paroxetine mesylate

Pexeva

CLASSIFICATION

Therapeutic: *antianxiety agents, antidepressants* ***Pharmacologic:*** *selective serotonin reuptake inhibitors (SSRIs)*

Pregnancy Category D

= Genetic implication.

= Canadian drug name.

INDICATIONS

- **Paxil, Paxil CR, Pexeva:**
  - Major depressive disorder, panic disorder.
- **Paxil, Pexeva:**
  - Obsessive compulsive disorder (OCD), generalized anxiety disorder (GAD).
- **Paxil, Paxil CR:**
  - Social anxiety disorder.
- **Paxil:**
  - Post-traumatic stress disorder (PTSD).
- **Paxil CR:**
  - Premenstrual dysphoric disorder (PMDD).

ACTION

- Inhibits neuronal reuptake of serotonin in the CNS, thus potentiating the activity of serotonin; has little effect on norepinephrine or dopamine.
- Therapeutic Effects:
  - Antidepressant action.
  - Decreased frequency of panic attacks, OCD, or anxiety.
  - Improvement in manifestations of post-traumatic stress disorder.
  - Decreased dysphoria prior to menses.

PHARMACOKINETICS

Absorption: Completely absorbed following oral administration. Controlled-release tablets are enteric-coated and control medication release over 4–5 hr.

Distribution: Widely distributed throughout body fluids and tissues, including the CNS; cross the placenta and enter breast milk.

Protein Binding: 95%.

Continued on the following page

Metabolism and Excretion: Highly metabolized by the liver (partly by P450 2D6 enzyme system); 2% excreted unchanged in urine.

Half-life: 21 hr.

TIME/ACTION PROFILE (antidepressant action)

ROUTE	ONSET	PEAK	DURATION
PO	1–4 wk	unknown	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Concurrent MAO inhibitor, thioridazine, or pimozide therapy.

Use Cautiously in:

- Risk of suicide (may ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment).
- History of seizures.
- History of bipolar disorder.
- *OB:* Use during the first trimester may be associated with an increased risk of cardiac malformations—consider fetal risk/maternal benefit; use during third trimester may result in neonatal serotonin syndrome requiring prolonged hospitalization, respiratory and nutritional support.
- *Lactation:* Safety not established; discontinue drug or bottle feed.
- *Pedi:* May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment; may be greater in children and adolescents (safety in children/adolescents not established).
- *Geri:* Severe renal hepatic impairment; geriatric or debilitated patients (daily dose should not exceed 40 mg); history of mania/risk of suicide.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SUICIDAL THOUGHTS, anxiety, dizziness, drowsiness, headache, insomnia, weakness, agitation, amnesia, confusion, emotional lability, hangover, impaired concentration, malaise, mental depression, syncope.

EENT: blurred vision, rhinitis.

Resp: cough, pharyngitis, respiratory disorders, yawning.

CV: chest pain, edema, hypertension, palpitations, postural hypotension, tachycardia, vasodilation.

GI: constipation, diarrhea, dry mouth, nausea, abdominal pain, decreased appetite, dyspepsia, flatulence, increased appetite, taste disturbances, vomiting.

GU: ejaculatory disturbance, decreased libido, genital disorders, urinary disorders, urinary frequency.

Derm: sweating, photosensitivity, pruritus, rash.

Metab: weight gain, weight loss.

MS: back pain, myalgia, myopathy.

Neuro: paresthesia, tremor.

Misc: SEROTONIN SYNDROME, chills, fever.

INTERACTIONS

Drug-Drug:

- Serious, potentially fatal reactions (hyperthermia, rigidity, myoclonus, autonomic instability, with fluctuating vital signs and extreme agitation, which may proceed to delirium and coma) may occur with concurrent **MAO inhibitor** therapy.
- MAO inhibitors should be stopped at least 14 days prior to paroxetine therapy. Paroxetine should be stopped at least 14 days prior to MAO inhibitor therapy.

Continued on the following page

- May ↓ metabolism and ↑ effects of certain **drugs that are metabolized by the liver**, including other **antidepressants**, **phenothiazines**, **class IC antiarrhythmics**, **risperidone**, **atomoxetine**, **theophylline**, **procyclidine**, and **quinidine**.
- Concurrent use should be undertaken with caution.
- Concurrent use with **pimozide** or **thioridazine** may ↑ risk of QT interval prolongation and torsades de pointes. Concurrent use is contraindicated.
- **Cimetidine** ↑ blood levels.
- **Phenobarbital** and **phenytoin** may ↓ effectiveness.
- Concurrent use with **alcohol** is not recommended.
- May ↓ the effectiveness of **digoxin** and **tamoxifen**.
- May ↑ risk of bleeding with **warfarin**, **aspirin**, or **NSAIDS**.
- Concurrent use with **5-HT$_1$ agonists** (**frovatriptan**, **naratriptan**, **rizatriptan**, **sumatriptan**, **zolmitriptan**), **linezolid**, **lithium**, or **tramadol** may result in ↑ serotonin levels and lead to serotonin syndrome.

Drug-Natural:

- ↑ risk of serotonergic side effects including serotonin syndrome with **St. John's wort**, **SAMe**, and **tryptophan**.

ROUTE/DOSAGE

Depression

- **PO (Adults):** 20 mg as a single dose in the morning; may be ↑ by 10 mg/day at weekly intervals (not to exceed 50 mg/day). *Controlled-release tablets*—25 mg once daily initially. May ↑ at weekly intervals by 12.5 mg (not to exceed 62.5 mg/day).
- **PO (Geriatric Patients or Debilitated Patients):** 10 mg/day initially; may be slowly ↑ (not to exceed 40 mg/day). *Controlled-release tablets*—12.5 mg once daily initially; may be slowly ↑ (not to exceed 50 mg/day).

Obsessive-Compulsive Disorder

- **PO (Adults):** 20 mg/day initially; ↑ by 10 mg/day at weekly intervals up to 40 mg (not to exceed 60 mg/day).

Panic Disorder

- **PO (Adults):** 10 mg/day initially; ↑ by 10 mg/day at weekly intervals up to 40 mg (not to exceed 60 mg/day). *Controlled-release tablets*—12.5 mg/day initially; ↑ by 12.5 mg/day at weekly intervals (not to exceed 75 mg/day).

Social Anxiety Disorder

- **PO (Adults):** 20 mg/day. *Controlled-release tablets*—12.5 mg/day initially; may ↑ by 12.5 mg/day weekly intervals (not to exceed 37.5 mg/day).

Generalized anxiety disorder

- **PO (Adults):** 20 mg once daily initially; ↑ by 10 mg/day at weekly intervals (not to exceed 50 mg/day).

Post-traumatic Stress Disorder

- **PO (Adults):** 20 mg/day initially; may be ↑ by 10 mg/day at weekly intervals (not to exceed 50 mg/day).

Premenstrual Dysphoric Disorder

- **PO (Adults):** *Controlled-release tablets*—12.5 mg once daily throughout menstrual cycle or during luteal phase of menstrual cycle only; may be ↑ to 25 mg/day after one week.

Hepatic Impairment

- PO (Adults): *Severe hepatic impairment*—10 mg/day initially; may be slowly ↑ (not to exceed 40 mg/day). *Controlled-release tablets*—12.5 mg once daily initially; may be slowly ↑ (not to exceed 50 mg/day).

Renal Impairment

- PO (Adults): *Severe renal impairment*—10 mg/day initially; may be slowly ↑ (not to exceed 40 mg/day). *Controlled-release tablets*—12.5 mg once daily initially; may be slowly ↑ increased (not to exceed 50 mg/day).

Continued on the following page

AVAILABILITY (GENERIC AVAILABLE)

- ***Paroxetine hydrochloride tablets:*** 10 mg, 20 mg, 30 mg, 40 mg
  - **Cost:** *Generic*—10 mg $89.96/90, 20 mg $28.99/90, 30 mg $101.97/90, 40 mg $110.96/90.
- ***Paroxetine hydrochloride controlled-release tablets:*** 12.5 mg, 25 mg, 37.5 mg
  - **Cost:** 12.5 mg $297.99/90, 25 mg $303.95/90, 37.5 mg $317.99/90.
- ***Paroxetine hydrochloride oral suspension (orange flavor):*** 10 mg/5 mL
  - **Cost:** $166.90/250 mL.
- ***Paroxetine mesylate tablets:*** 10 mg, 20 mg, 30 mg, 40 mg
  - **Cost:** 20 mg $352.95/90, 30 mg $256.21/90, 40 mg $383.97/90.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor appetite and nutritional intake. Weigh weekly. Notify health care professional of continued weight loss. Adjust diet as tolerated to support nutritional status.
- **Depression:** Monitor mental status (orientation, mood, behavior). Inform health care professional if patient demonstrates significant increase in anxiety, nervousness, or insomnia.
- Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yr.
- Assess for serotonin syndrome (mental changes [agitation, hallucinations, coma], autonomic instability [tachycardia, labile blood pressure, hyperthermia], neuromuscular aberations [hyper reflexia, incoordination], and/or GI symptoms [nausea, vomiting, diarrhea]), especially in patients taking other serotonergic drugs (SSRIs, SNRIs, triptans).
- **OCD:** Assess patient for frequency of obsessive-compulsive behaviors. Note degree to which these thoughts and behaviors interfere with daily functioning.
- **Panic Attacks:** Assess frequency and severity of panic attacks.
- **Social Anxiety Disorder:** Assess frequency and severity of episodes of anxiety.
- **Post-traumatic Stress Disorder:** Assess manifestations of post-traumatic stress disorder periodically during therapy.
- **Premenstrual Dysphoria:** Assess symptoms of premenstrual distress prior to and during therapy.
- *Lab Test Considerations:* Monitor CBC and differential periodically during therapy. Report leukopenia or anemia.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Do not confuse paroxetine (Paxil) with paclitaxel (Taxol).
- Paroxetine mesylate (Pexeva) cannot be substituted with paroxetine (Paxil or Paxil CR) or generic paroxetine.
- Periodically reassess dose and continued need for therapy.
- **PO:** Administer as a single dose in the morning. May administer with food to minimize GI irritation.
- Tablets should be swallowed whole. Do not crush, break, or chew.
- Taper to avoid potential withdrawal reactions.

PATIENT/FAMILY TEACHING

- Instruct patient to take paroxetine as directed. Take missed doses as soon as possible and return to regular dosing schedule. Do not double doses. Caution patient to consult health care professional before discontinuing paroxetine. Daily doses should be decreased slowly. Abrupt withdrawal may cause dizziness, sensory disturbances, agitation, anxiety, nausea, and sweating.

Continued on the following page

- May cause drowsiness or dizziness. Caution patient to avoid driving and other activities requiring alertness until response to the drug is known.
- Advise patient, family and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide, new or worse depression or anxiety, agitation or restlessness, panic attacks, insomnia, new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior or if symptoms of serotonin syndrome occur.
- Advise patient to avoid alcohol or other CNS-depressant drugs during therapy and to consult with health care professional before taking other medications or herbal products with paroxetine.
- Inform patient that frequent mouth rinses, good oral hygiene, and sugarless gum or candy may minimize dry mouth. Saliva substitute may be used. Consult dentist if dry mouth persists for more than 2 wk.
- Instruct female patient to inform health care professional if pregnancy is planned or suspected or if she is breastfeeding.
- Advise patient to notify health care professional if headache, weakness, nausea, anorexia, anxiety, or insomnia persists.
- Emphasize the importance of follow-up exams to monitor progress. Encourage patient participation in psychotherapy to improve coping skills.
- Refer patient to local support group.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings. May require 1–4 wk of therapy to obtain antidepressant effects.
- Decrease in obsessive-compulsive behaviors.
- Decrease in frequency and severity of panic attacks.
- Decrease in frequency and severity of episodes of anxiety.
- Improvement in manifestations of post-traumatic stress disorder.
- Decreased dysphoria prior to menses.

perphenazine

(per-**fen**-a-zeen)

Apo-Perphenazine, PMS Perphenazine, Trilafon

CLASSIFICATION

Therapeutic: *antiemetics, antipsychotics (conventional)* ***Pharmacologic:*** *phenothiazines*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Schizophrenia.
- Nausea and vomiting.
- **Unlabelled Use:**
  - Other psychotic disorders, bipolar disorder.
  - Treatment of intractable hiccups (IV only).

ACTION

- Alters the effects of dopamine in the CNS. Possesses significant anticholinergic and alpha-adrenergic blocking activity.
- Blocks dopamine in the chemoreceptor trigger zone (CTZ).
- Therapeutic Effects:
  - Diminished signs and symptoms of psychoses.
  - Decreased nausea, vomiting, or hiccups.

PHARMACOKINETICS

Absorption: Absorption from tablet is poor (approximately 20%) and variable; may be better with oral liquid formulations; well absorbed following IM administration.

Distribution: Widely distributed, high concentrations in the CNS; crosses the placenta and enters breast milk.

Protein Binding: ≥90%.

Metabolism and Excretion: Highly metabolized by the liver and GI mucosa; some conversion to active compounds.

Half-life: 8.4–12.3 hr.

TIME/ACTION PROFILE (PO, IM = antipsychotic effect†; IV = antiemetic effect)

ROUTE	ONSET	PEAK	DURATION
PO	2–6 hr	unknown	6–12 hr
IM	2–6 hr	unknown	6–12 hr
IV	rapid	unknown	unknown

†Optimal antipsychotic response may not occur for several wk

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity (cross-sensitivity with other phenothiazines may occur).
- Hypersensitivity to bisulfites (injection only).
- Known alcohol intolerance (concentrate only).
- Angle-closure glaucoma.
- Pre-existing bone marrow depression or blood dyscrasias.
- Severe liver or cardiovascular disease.
- Intestinal obstruction.
- *Lactation:* Recommend discontinue drug or bottle feed.

Use Cautiously in:

- *Geri:* Geriatric, emaciated, or debilitated patients (one half- to one third of usual initial dose recommended); ↑ risk of mortality in elderly patients treated for dementia-related psychosis.
- Diabetes mellitus.
- Respiratory disease.
- Prostatic hyperplasia.
- CNS tumors.
- History of seizure disorder.
- *OB/Pedi:* Safety not established.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, extrapyramidal reactions, sedation, tardive dyskinesia.

EENT: blurred vision, dry eyes, lens opacities.

CV: hypotension, tachycardia.

GI: constipation, dry mouth, anorexia, ileus, weight gain.

GU: discoloration of urine, urinary retention.

Derm: photosensitivity, pigment changes, rashes.

Endo: galactorrhea, amenorrhea.

Hemat: AGRANULOCYTOSIS, leukopenia.

Metab: hyperthermia.

Misc: allergic reactions.

INTERACTIONS

Drug-Drug:

- Additive hypotension with **antihypertensives**, acute ingestion of **alcohol**, or **nitrates**. Additive CNS depression with **MAO inhibitors** or other **CNS depressants**, including **alcohol**, **antihistamines**, **opioid analgesics**, **sedative/hypnotics**, and **general anesthetics**. Additive anticholinergic effects with other **drugs possessing anticholinergic properties**, including **antihistamines**, **antidepressants**, **atropine**, **disopyramide**, **haloperidol**, and other **phenothiazines**. Hypotension and tachycardia may occur with **epinephrine**. ↑ risk of agranulocytosis with other agents that cause bone marrow suppression, including **antithyroid agents**. ↑ risk of extrapyramidal reactions with **lithium**. May mask **lithium** toxicity. **Antacids** or **lithium** may ↓ absorption of perphenazine. May ↓ antiparkinson effect of **levodopa** or **bromocriptine**.

Drug-Natural:

- ↑ anticholinergic effects with **angel's trumpet**, **jimson weed**, and **scopolia**.

ROUTE/DOSAGE

- **PO (Adults):** *Schizophrenia*—2–16 mg 2–4 times daily (not to exceed 64 mg/day). *Nausea/vomiting*—8–16 mg/day in divided doses (not to exceed 24 mg/day).
- **IM (Adults):** *Psychoses*—5–10 mg initially; may repeat q 6 hr (not to exceed 15–30 mg/day).*Nausea/vomiting*—5 mg initially; may be increased to 10 mg if needed.
- **IV (Adults):** *Severe nausea/vomiting/hiccups*—1 mg at 1–2-min intervals to a total of 5 mg or as an infusion at a rate not to exceed 0.5 mg/min (not to exceed 5 mg total dose).

Continued on the following page

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 2 mg, 4 mg, 8 mg, 16 mg.
- ***Syrup:*** 2 mg/5 mL.
- ***Oral concentrate:*** 16 mg/5 mL.
- ***Injection:*** 5 mg/mL in 1-mL ampules.
- ***In combination with:*** amitriptyline (Etrafon, Triavil). See Appendix B.

NURSING IMPLICATIONS

ASSESSMENT

- Assess patient's mental status (orientation, mood, behavior) prior to and periodically during therapy.
- Assess fasting blood glucose, cholesterol level, weight, and BMI, initially and periodically throughout therapy.
- Assess positive (hallucinations, delusions, agitation) and negative (social withdrawal) symptoms of schizophrenia.
- Monitor blood pressure (sitting, standing, lying), ECG, pulse, and respiratory rate prior to and periodically during the period of dosage adjustment. May cause Q-wave and T-wave changes in ECG.
- Observe patient carefully when administering medication to ensure that medication is actually taken and not hoarded or cheeked.
- Assess fluid intake and bowel function. Increased bulk and fluids in the diet may help minimize constipation.
- Monitor patient for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill rolling of hands, mask-like face, shuffling gait, rigidity, tremors; and *dystonic*—muscle spasms, twisting motions, twitching, inability to move eyes, weakness of arms or legs) every 2 mo during therapy and 8–12 wk after therapy has been discontinued. Report these symptoms; reduction in dosage or discontinuation of medication may be necessary. Trihexyphenidyl, diphenhydramine, or benztropine may be used to control these symptoms. Benzodiazepines may alleviate akathisia.
- Monitor for tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities; lip smacking or puckering; puffing of cheeks; uncontrolled chewing; rapid or worm-like movements of tongue, excessive eye blinking). Notify physician or other health care professional immediately if these symptoms occur, as these side effects may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, convulsions, diaphoresis, hypertension or hypotension, pallor, tiredness, severe muscle stiffness, loss of bladder control). Notify health care professional immediately if these symptoms occur.
- **Antiemetic:** Assess nausea and vomiting prior to and following perphenazine administration.
- Monitor intake and output. Patients with severe nausea and vomiting may require IV fluids with electrolytes in addition to antiemetics.
- *Lab Test Considerations:* Evaluate CBC, liver function tests, and ocular examinations periodically during therapy. May cause ↓ hematocrit, hemoglobin, leukocytes, granulocytes, or platelets. May cause ↑ bilirubin, AST, ALT, and alkaline phosphatase. Agranulocytosis occurs after 4–10 wk of therapy, with recovery 1–2 wk following discontinuation. May recur if medication is restarted. Liver function abnormalities may require discontinuation of therapy.
- May cause false-positive or false-negative pregnancy test results and false-positive urine bilirubin test results.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Indications)
- Sexual dysfunction (Side Effects)

Continued on the following page

IMPLEMENTATION

- To prevent contact dermatitis, avoid getting liquid preparations on hands, and wash hands thoroughly if spillage occurs.
- Keep patient recumbent for at least 30 min following parenteral administration to minimize hypotensive effects.
- Refer as appropriate for nutritional/weight management and medical management.
- Phenothiazines should be discontinued 48 hr before and not resumed for 24 hr following myelography, because they lower the seizure threshold.
- **PO:** Dilute concentrate just prior to administration in water, milk, carbonated beverage, soup, or tomato or fruit juice. Do not mix with beverages containing caffeine (cola, coffee), tannics (tea), or pectinates (apple juice). The concentration should be 5 mL of perphenazine oral concentrate to 60 mL of diluent.
- **IM:** Inject deep into well-developed muscle. Keep patient in recumbent position and monitor for at least 30 min following injection. Slight yellow color will not alter potency; do not use if solution is dark or contains a precipitate.

IV Administration

- **Direct IV:** *Diluent:* Dilute with 0.9% NaCl
- *Concentration:* Maximum concentration should be 0.5 mg/mL.
  Rate: Administer each 1 mg over at least 1—2 min. Has also been administered via slow continuous infusion at a rate not to exceed 0.5 mg/min; not to exceed 5 mg/dose.
- **Syringe Compatibility:** atropine, butorphanol, cimetidine, dimenhydrinate, diphenhydramine, droperidol, fentanyl, meperidine, metoclopramide, morphine, pentazocine, ranitidine, scopolamine.
- **Syringe Incompatibility:** midazolam, pentobarbital.
- **Y-Site Compatibility:** acyclovir, amikacin, ampicillin, cefazolin, cefotaxime, cefoxitin, cefuroxime, cephalothin, chloramphenicol, clindamycin, doxycycline, erythromycin lactobionate, famotidine, gentamicin, kanamycin, metronidazole, minocycline, nafcillin, oxacillin, penicillin G potassium, piperacillin, tacrolimus, ticarcillin, ticarcillin/clavulanate, tobramycin, trimethoprim/sulfamethoxazole, vancomycin.
- **Y-Site Incompatibility:** cefoperazone.

PATIENT/FAMILY TEACHING

- Advise patient to take medication as directed and not to skip doses or double up on missed doses. Take missed doses as soon as remembered unless almost time for the next dose. If more than 2 doses/day are ordered, the missed dose should be taken within 1 hr of the scheduled time or omitted. Abrupt withdrawal may lead to gastritis, nausea, vomiting, dizziness, headache, tachycardia, and insomnia.
- Inform patient of possibility of extrapyramidal symptoms and tardive dyskinesia. Instruct patient to report these symptoms immediately.
- Advise patient to make position changes slowly to minimize orthostatic hypotension.
- Medication may cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Caution patient to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Advise patient to use sunscreen and protective clothing when exposed to the sun. Exposed surfaces may develop a blue-gray pigmentation, which may fade following discontinuation of the medication. Extremes in temperature should also be avoided, because this drug impairs body temperature regulation.
- Instruct patient to use frequent mouth rinses, good oral hygiene, and sugarless gum or candy to minimize dry mouth. Consult health care professional if dry mouth continues for >2 wk.
- Advise patient not to take perphenazine within 2 hr of antacids or antidiarrheal medication.
- Inform patient that this medication may turn urine a pink to reddish-brown color.

Continued on the following page

- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Instruct patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, rash, weakness, tremors, visual disturbances, dark-colored urine, or clay-colored stools occur.
- Emphasize the importance of routine follow-up exams to monitor response to medication and detect side effects.
- Encourage continued participation in psychotherapy.

EVALUATION/DESIRED OUTCOMES

- Decrease in excitable, manic behavior.
- Relief of nausea and vomiting.
- Relief of intractable hiccups.
- Decrease in positive symptoms (hallucinations, delusions, agitation) of schizophrenia.

quetiapine

(kwet-**eye**-a-peen)

Seroquel, Seroquel XR

CLASSIFICATION

Therapeutic: *antipsychotics, mood stabilizers*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Schizophrenia.
- Depressive episodes with bipolar disorder.
- Acute manic episodes associated with bipolar I disorder (as monotherapy or with lithium or divalproex).
- Maintenance treatment of bipolar I disorder (with lithium or divalproex).

ACTION

- Probably acts by serving as an antagonist of dopamine and serotonin. Also antagonizes histamine H_1 receptors and alpha$_1$-adrenergic receptors.
- Therapeutic Effects:
  - Decreased manifestations of psychoses, depression, or acute mania.

PHARMACOKINETICS

Absorption: Well absorbed after oral administration.

Distribution: Widely distributed.

Metabolism and Excretion: Extensively metabolized by the liver (mostly by P450 CYP3A4 enyzme system); <1% excreted unchanged in the urine.

Half-life: 6 hr.

TIME/ACTION PROFILE (antipsychotic effects)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	unknown	8–12 hr
PO-XR	unknown	unknown	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- *Lactation:* Lactation.

Use Cautiously in:

- Cardiovascular disease, cerebrovascular disease, dehydration or hypovolemia (↑ risk of hypotension).
- History of seizures, Alzheimer's dementia.
- Diabetes (may ↑ risk of hyperglycemia).
- Patients at risk for aspiration pneumonia.
- Hepatic impairment (dose ↓ may be necessary).
- Hypothyroidism (may be exacerbated).
- History of suicide attempt.

Continued on the following page

- *OB:* Safety not established.
- *Pedi:* May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment; risk may be greater in children or adolescents.
- *Geri:* May require ↓ doses; ↑ risk of mortality in elderly patients treated for dementia-related psychosis.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SEIZURES, dizziness, cognitive impairment, extrapyramidal symptoms, sedation, tardive dyskinesia.

EENT: ear pain, rhinitis, pharyngitis.

Resp: cough, dyspnea.

CV: palpitations, peripheral edema, postural hypotension.

GI: anorexia, constipation, dry mouth, dyspepsia.

Derm: sweating.

Hemat: leukopenia.

Metab: weight gain, hyperglycemia.

Misc: flu-like syndrome.

INTERACTIONS

Drug-Drug:

- ↑ CNS depression may occur with **alcohol**, **antihistamines**, **opioid analgesics**, and **sedative/hypnotics**.
- ↑ risk of hypotension with acute ingestion of **alcohol** or **antihypertensives**. **Phenytoin** and **thioridazine** ↑ clearance and ↓ effectiveness of quetiapine (dose change may be necessary); similar effects may occur with **carbamazepine**, **barbiturates**, **rifampin**, or **corticosteroids**.
- Effects may be ↑ by **ketoconazole**, **itraconazole**, **fluconazole**, **protease inhibitors** or **erythromycin**, as well as by other **agents that inhibit the cytochrome P450 CYP3A4 enzyme**.

ROUTE/DOSAGE

- **PO (Adults):** *Schizophrenia*—25 mg twice daily initially, ↑ by 25–50 mg 2–3 times daily over 3 days, up to 300–400 mg/day in 2–3 divided doses by the 4th day (not to exceed 800 mg/day); or 300 mg once daily as extended-release tablets, ↑ by 300 mg/day, up to 400–800 mg/day (not to exceed 800 mg/day). Elderly patients or patients with hepatic impairment should be started on immediate-release product and converted to extended-release product once effective dose is reached. *Bipolar Mania*—Immediate-release: 50 mg twice daily on day 1, ↑ dose by 100 mg/day up to 200 mg twice daily on day 4, then may ↑ in ≤200 mg/day increments up to 400 mg twice daily on day 6 if required; Extended-release: 300 mg once daily on Day 1, then 600 mg once daily on Day 2, then 400–800 mg once daily starting on Day 3. *Bipolar Depression*—Immediate-release or extended-release: 50 mg once daily at bedtime on Day 1, then 100 mg daily at bedtime on Day 2, then 200 mg daily at bedtime on Day 3, then 300 mg daily at bedtime thereafter. *Bipolar Maintenance*—Continue at the dose required to maintain symptom remission (usual dosage: 400–800 mg/day given as once daily dose [extended-release] or in two divided doses [immediate-release]).

AVAILABILITY

- ***Tablets:*** 25 mg, 50 mg, 100 mg, 200 mg, 300 mg, 400 mg
  - **Cost:** 25 mg $360.95/180, 50 mg $604.78/180, 100 mg $610.97/180, 200 mg $1,142.96/180, 300 mg $1,579.93/180, 400 mg $1,787.40/180.
- ***Extended-release Tablets:*** 50 mg, 150 mg, 200 mg, 300 mg, 400 mg
  - **Cost:** 200 mg $395.00/60, 300 mg $510.00/60, 400 mg $595.00/60.

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NURSING IMPLICATIONS

ASSESSMENT

- Monitor mental status (mood, orientation, behavior) before and periodically during therapy.
- Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yr.
- Assess weight and BMI initially and throughout therapy.
- Monitor blood pressure (sitting, standing, lying) and pulse before and frequently during initial dose titration. If hypotension occurs during dose titration, return to the previous dose.
- Observe patient carefully when administering to ensure medication is swallowed and not hoarded or cheeked.
- Monitor for onset of extrapyramidal side effects (*akathisia*—restlessness; *dystonia*—muscle spasms and twisting motions; or *pseudoparkinsonism*—mask-like faces, rigidity, tremors, drooling, shuffling gait, dysphagia). Report these symptoms; reduction of dose or discontinuation may be necessary. Trihexyphenidyl or benztropine may be used to control these symptoms.
- Monitor for tardive dyskinesia (involuntary rhythmic movement of mouth, face, and extremities). Report immediately; may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness). Notify health care professional immediately if these symptoms occur.
- *Lab Test Considerations:* May cause asymptomatic ↑ in AST and ALT.
- May also cause anemia, thrombocytopenia, leukocytosis, and leukopenia.
- May cause ↑ total cholesterol and triglycerides.
- Obtain fasting blood glucose and cholesterol levels initially and throughout therapy.

POTENTIAL NURSING DIAGNOSES

- Risk for self-directed violence (Indications)
- Disturbed thought process (Indications)
- Imbalanced nutrition: risk for more than body requirements (Side Effects)

IMPLEMENTATION

- If therapy is reinstituted after an interval of ≥1 wk off, follow initial titration schedule.
- **PO:** May be administered without regard to food.
- Extended-release tablets should be swallowed whole, do not break, crush, or chew.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed.
- Inform patient of the possibility of extrapyramidal symptoms. Instruct patient to report symptoms immediately to health care professional.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- May cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient to avoid extremes in temperature; this drug impairs body temperature regulation.
- Caution patient to avoid concurrent use of alcohol, other CNS depressants, and OTC or herbal medications without consulting health care professional.
- Advise female patients to notify health care professional if pregnancy is planned or suspected or if they are breastfeeding or planning to breastfeed.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent;

Continued on the following page

acting on dangerous impulses; an extreme increase in activity and talking, other unusual changes in behavior or mood occur.

- Refer patient for nutritional, weight or medical management of dyslipidemia as indicated.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Instruct patient to notify health care professional promptly of sore throat, fever, unusual bleeding or bruising, or rash.
- Emphasize importance of routine follow-up exams to monitor side effects and continued participation in psychotherapy as indicated to improve coping skills. Ophthalmologic exams should be performed before and every 6 months during therapy.

EVALUATION/DESIRED OUTCOMES

- Decrease in excited, manic, behavior.
- Decrease in signs of depression in patients with bipolar disorder.
- Decrease in manic episodes in patients with bipolar I disorder.
- Decrease in positive symptoms (delusions, hallucinations) of schizophrenia.
- Decrease in negative symptoms (social withdrawal, flat, blunt affect) of schizophrenia.

ramelteon

(ra-**mel**-tee-on)

Rozerem

CLASSIFICATION

Therapeutic: *sedative/hypnotics* ***Pharmacologic:***

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Treatment of insomnia characterized by difficult sleep onset.

ACTION

- Activates melatonin receptors, which promotes maintenance of circadian rhythm, a part of the sleep-wake cycle.
- Therapeutic Effects:
  - Easier onset of sleep.

PHARMACOKINETICS

Absorption: Well absorbed (84%), but bioavailability is low (1.8%) due to extensive first pass liver metabolism. Absorption in increased by a high fat meal.

Distribution: Widely distributed to body tissues.

Metabolism and Excretion: Extensively metabolized by the liver; mainly by CYP1A2 enzyme system. Metabolites are excreted mostly in urine (88%); 4% excreted in feces.

Half-life: 1–2.6 hr.

TIME/ACTION PROFILE (blood levels)

ROUTE	ONSET	PEAK	DURATION
PO	rapid	30–90 min	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- History of angioedema with previous use.
- Severe hepatic impairment.
- Concurrent use of fluvoxamine.
- *Lactation:* Lactation.
- *Pedi:* Safety not established.

Use Cautiously in:

- Depression or history of suicidal ideation.
- Moderate hepatic impairment.
- Concurrent use of CYP3A4 inhibitors, such as ketoconazole.
- Concurrent use of CYP2C9 inhibitors, such as fluconazole.
- *OB:* Use only if maternal benefit outweighs fetal risk.

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ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: abnormal thinking, behavior changes, dizziness, fatigue, hallucinations, headache, insomnia (worsened), sleep—driving.

GI: nausea.

Endo: ↑ prolactin levels, ↓ testosterone levels.

Misc: ANGIOEDEMA.

INTERACTIONS

Drug-Drug:

- Blood levels and effects are ↑ by **fluvoxamine**; concurrent use is contraindicated.
- Levels and effects may be ↓ by **rifampin**.
- Concurrent use of CYP3A4 inhibitors, such as **ketoconazole** may ↑ levels and effects; use cautiously.
- Concurrent use of CYP2C9 inhibitors, such as **fluconazole** may ↑ levels and effects; use cautiously.
- ↑ risk of excessive CNS depression with other CNS depressants including **alcohol**, **benzodiazepines**, **opioids**, and other **sedative/hypnotics**.

ROUTE/DOSAGE

- **PO (Adults):** 8 mg within 30 min of going to bed.

AVAILABILITY

- ***Tablets:*** 8 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Assess sleep patterns before and periodically throughout therapy.

POTENTIAL NURSING DIAGNOSES

- (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Do not administer with or immediately after a high-fat meal.
- Before administering, reduce external stimuli and provide comfort measures to increase effectiveness of medication.
- **PO:** Administer within 30 min prior to going to bed.

PATIENT/FAMILY TEACHING

- Instruct patient to take ramelteon as directed, within 30 minutes of going to bed and to confine activities to those necessary to prepare for bed. Instruct patient to read the *Medication Guide* before starting and with each Rx refill, changes may occur.
- Causes drowsiness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.
- Caution patient that complex sleep-related behaviors (sleep-driving, making phone calls, preparing and eating food) may occur while asleep.
- Advise patient to notify health care professional immediately if signs of anaphylaxis (swelling of the tongue or throat, trouble breathing, and nausea and vomiting) or angioedema (severe facial swelling) occur; may occur as early as the first time the product is taken.
- Caution patient to avoid concurrent use of alcohol or other CNS depressants.

EVALUATION/DESIRED OUTCOMES

- Relief of insomnia.

risperidone

(riss-**per**-i-done)

Risperdal, Risperdal M-TAB, Risperdal Consta

CLASSIFICATION

Therapeutic: *antipsychotics, mood stabilizers* ***Pharmacologic:*** *benzisoxazoles*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Schizophrenia in adults and adolescents age 13–17 yr.
- Short-term treatment of acute manic or mixed episodes associated with Bipolar I Disorder (oral only) in adults, and children and adolescents aged 10–17 yr, maintenance treatment of Bipolar I Disorder (IM only) in adults only; can be used with lithium or valproate (adults only).
- Treatment of irritability associated with autistic disorder in children age 5–16 yr.

ACTION

- May act by antagonizing dopamine and serotonin in the CNS.
- Therapeutic Effects:
  - Decreased symptoms of psychoses, bipolar mania, or autism.

PHARMACOKINETICS

Absorption: 70% after administration of tablets, solution or orally disintegrating tablets. Following IM administration, small initial release of drug, followed by 3–wk lag; the rest of release starts at 3 wk and lasts 4–6 wk.

Distribution: Unknown.

Metabolism and Excretion: Extensively metabolized by the liver. 🍁 Metabolism is genetically determined; extensive metabolizers (most patients) convert risperidone to 9-hydroxyrisperidone rapidly. Poor metabolizers (6–8% of Whites) convert it more slowly. The 9-hydroxyrisperidone is an antipsychotic compound. Risperidone and its active metabolite are renally eliminated.

Half-life: *Extensive metabolizers*—3 hr for risperidone, 21 hr for 9-hydroxyrisperidone. *Poor metabolizers*—20 hr for risperidone and 30 hr for 9-hydroxyrisperidone.

TIME/ACTION PROFILE (clinical effects)

ROUTE	ONSET	PEAK	DURATION
PO	1–2 wk	unknown	up to 6 wk†
IM	3 wk	4– 6 wk	up to 6 wk†

†After discontinuation

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- *Lactation:* Discontinue drug or bottle feed.

Use Cautiously in:

- Debilitated patients, patients with renal or hepatic impairment (initial dose reduction recommended).
- Underlying cardiovascular disease (↑ risk of arrhythmias and hypotension).
- History of seizures.
- History of suicide attempt or drug abuse.
- Diabetes or risk factors for diabetes (may worsen glucose control)
- Patients at risk for aspiration.
- *OB/Pedi:* Safety not established.
- *Geri:* Initial dose ↓ recommended. ↑ risk of mortality in elderly patients treated for dementia-related psychosis.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SUICIDAL THOUGHTS, aggressive behavior, dizziness, extrapyramidal reactions, headache, ↑ dreams, ↑ sleep duration, insomnia, sedation, fatigue, impaired temperature regulation, nervousness, tardive dyskinesia.

EENT: pharyngitis, rhinitis, visual disturbances.

Resp: cough, dyspnea.

CV: arrhythmias, orthostatic hypotension, tachycardia.

GI: constipation, diarrhea, dry mouth, nausea, abdominal pain, anorexia, dyspepsia, ↑ salivation, vomiting, weight gain, weight loss, polydipsia.

GU: ↓ libido, dysmenorrhea/menorrhagia, difficulty urinating, polyuria.

Derm: itching/skin rash, dry skin, ↑ pigmentation, sweating, photosensitivity, seborrhea.

Endo: galactorrhea, hyperglycemia.

Hemat: AGRANULOCYTOSIS, leukopenia, neutropenia.

MS: arthralgia, back pain.

INTERACTIONS

Drug-Drug:

- May ↓ the antiparkinsonian effects of **levodopa** or other **dopamine agonists**.
- **Carbamazepine**, **phenytoin**, **rifampin**, **phenobarbital**, and other **enzyme inducers** ↓ metabolism and may ↓ effectiveness; dose adjustments may be necessary.
- **Fluoxetine** and paroxetine ↑ blood levels and may ↑ effects; dose adjustments may be necessary.
- **Clozapine** ↑ metabolism and may ↑ effects of risperidone.
- ↑ CNS depression may occur with other **CNS depressants**, including **alcohol**, **antihistamines**, **sedative/hypnotics**, or **opioid analgesics**.

Drug-Natural:

- Kava, valerian, or chamomile can ↑ CNS depression.

ROUTE/DOSAGE

Schizophrenia

- **PO (Adults):** 1 mg twice daily, ↑ by 1–2 mg/day no more frequently than every 24 hr to 4–8 mg daily.
- **PO (Children 13–17 yr):** 0.5 mg once daily, ↑ by 0.5–1.0 mg no more frequently than every 24 hr to 3 mg daily. May administer half the daily dose twice daily if drowsiness persists.
- **IM (Adults):** 25 mg every 2 wk; some patients may benefit from a higher dose of 37.5 or 50 mg every 2 wk.

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Acute Manic or Mixed Episodes Associated with Bipolar I Disorder

- **PO (Adults):** 2–3 mg/day as a single daily dose, dose may be ↑ at 24–hr intervals by 1 mg (range 1–5 mg/day).
- **PO (Children 13–17 yr):** 0.5 mg once daily, ↑ by 0.5–1 mg no more frequently than every 24 hr to 2.5 mg daily. May administer half the daily dose twice daily if drowsiness persists.
- **PO (Geriatric Patients or Debilitated Patients):** Start with 0.5 mg twice daily; ↑ by 0.5 mg twice daily, up to 1.5 mg twice daily; then ↑ at weekly intervals if necessary. May also be given as a single daily dose after initial titration.

Maintenance Treatment of Bipolar I Disorder

- **IM (Adults):** 25 mg every 2 wk; some patients may benefit from a higher dose of 37.5 or 50 mg every 2 wk.

Irritability Associated with Autistic Disorder

- **PO (Children 5–16 yr weighing <20 kg):** 0.25 mg/day initially. After at least 4 days of therapy, may ↑ to 0.5 mg/day. Dose ↑ in increments of 0.25 mg/day may be considered at 2-wk or longer intervals. May be as a single or divided dose.
- **PO (Children 5–16 yr weighing >20 kg):** 0.5 mg/day initially. After at least 4 days of therapy, may ↑ to 1 mg/day. Dose ↑ in increments of 0.5 mg/day may be considered at 2-wk or longer intervals. May be as a single or divided dose.

Renal Impairment

Hepatic Impairment

- PO (Adults): Start with 0.5 mg twice daily; ↑ by 0.5 mg twice daily, up to 1.5 mg twice daily; then ↑ at weekly intervals if necessary. May also be given as a single daily dose after initial titration.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 0.25 mg, 0.5 mg, 1 mg, 2 mg, 3 mg, 4 mg
  - **Cost:** 0.25 mg $605.97/180, 0.5 mg $671.96/180, 1 mg $751.93/180, 2 mg $1,219.95/180, 3 mg $1,489.95/180, 4 mg $1,831.84/180.
- ***Orally disintegrating tablets (Risperdal M-Tabs):*** 0.5 mg, 1 mg, 2 mg, 3 mg, 4 mg
  - **Cost:** 0.5 mg $122.93/28, 1 mg $138.95/28, 2 mg $130.68/28, 3 mg $148.49/28, 4 mg $194.02/28.
- ***Oral solution:*** 1 mg/mL
  - **Cost:** $136.66/30 mL.
- ***Extended-release microspheres for injection (Risperdal Consta):*** 12.5 mg/vial kit, 25 mg/vial kit, 37.5 mg/vial kit, 50 mg/vial kit.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor patient's mental status (orientation, mood, behavior) before and periodically during therapy. Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression.
- Assess weight and BMI initially and throughout therapy.
- Monitor mood changes. Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient.
- Monitor blood pressure (sitting, standing, lying down) and pulse before and frequently during initial dose titration. May cause prolonged QT interval, tachycardia, and orthostatic hypotension. If hypotension occurs, dose may need to be decreased.
- Observe patient when administering medication to ensure medication is swallowed and not hoarded or cheeked.
- Monitor patient for onset of extrapyramidal side effects (*akathisia*—restlessness; *dystonia*—muscle spasms and twisting motions; or *pseudoparkinsonism*—mask-like face, rigidity, tremors, drooling, shuffling gait, dysphagia). Report these symptoms; reduction of dose or discontinuation may

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be necessary. Trihexyphenidyl or benztropine may be used to control symptoms.
- Monitor for tardive dyskinesia (involuntary rhythmic movement of mouth, face, and extremities). Report immediately; may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness). Notify health care professional immediately if these symptoms occur.
- *Lab Test Considerations:* May cause ↑ serum prolactin levels.
- May cause ↑ AST and ALT.
- May also cause anemia, thrombocytopenia, leukocytosis, and leukopenia.
- Obtain fasting blood glucose and cholesterol levels initially and periodically during therapy.
- Monitor CBC frequently during initial months of therapy in patients with pre-existing or history of low WBC. May cause leukopenia, neutropenia, or agranulocytosis. Discontinue therapy if this occurs.

POTENTIAL NURSING DIAGNOSES

- Risk for self-directed violence (Indications)
- Disturbed thought process (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Do not confuse risperidone with reserpine.
- When switching from other antipsychotics, discontinue previous agents when starting risperidone and minimize the period of overlapping antipsychotic agents.
- If therapy is reinstituted after an interval off risperidone, follow initial titration schedule.
- For IM use, establish tolerance with oral dosing before IM use and continue oral dosing for 3 wk following initial IM injection. Do not increase dose more frequently than every 4 wk.
- **PO:** Daily doses can be taken in the morning or evening.
- For orally disintegrating tablets, open blister pack by pealing back foil to expose tablet; do not try to push tablet through foil. Use dry hands to remove tablet from blister and immediately place entire tablet on tongue. Tablets disintegrate in mouth within seconds and can be swallowed with or without liquid. Do not attempt to split or chew tablet. Do not try to store tablets once removed from blister.
- Oral solution can be mixed with water, coffee, orange juice, or low fat milk; do not mix with cola or tea.
- **IM:** Reconstitute with 2 mL of diluent provided by manufacturer. Administer via deep deltoid (1-inch needle) or gluteal (2-inch needle) injection using enclosed safety needle; alternate arms or buttocks with each injection. Allow solution to warm to room temperature prior to injection. Administer immediately after mixed with diluent; shake well to mix suspension. Must be administered within 6 hr of reconstitution. Store dose pack in refrigerator.
- Do not combine dose strengths in a single injection.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed.
- Inform patient of the possibility of extrapyramidal symptoms. Instruct patient to report these symptoms immediately to health care professional.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- May cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity

Continued on the following page

and talking, other unusual changes in behavior or mood occur.

- Advise patient to use sunscreen and protective clothing when exposed to the sun to prevent photosensitivity reactions. Extremes in temperature should also be avoided; this drug impairs body temperature regulation.
- Caution patient to avoid concurrent use of alcohol, other CNS depressants, and OTC medications or herbal products without consulting health care professional.
- Advise female patients to notify health care professional if pregnancy is planned or suspected, or if breastfeeding or planning to breastfeed.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Instruct patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, rash, or tremors occur.
- Emphasize the importance of routine follow up exams to monitor side effects and continued participation in psychotherapy to improve coping skills.

EVALUATION/DESIRED OUTCOMES

- Decrease in excited, manic behavior.
- Decrease in positive symptoms (delusions, hallucinations) of schizophrenia.
- Decreased aggression toward others, deliberate self—injury, temper tantrums, and mood changes in children with autism.
- Decrease in negative symptoms (social withdrawal, flat, blunted affects) of schizophrenia.

sertraline

(**ser**-tra-leen)

Zoloft

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *selective serotonin reuptake inhibitors (SSRIs)*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Major depressive disorder.
- Panic disorder.
- Obsessive-compulsive disorder (OCD).
- Post-traumatic stress disorder (PTSD).
- Social anxiety disorder (social phobia).
- Premenstrual dysphoric disorder (PMDD).
- **Unlabelled Use:**
  - Generalized anxiety disorder (GAD).

ACTION

- Inhibits neuronal uptake of serotonin in the CNS, thus potentiating the activity of serotonin.
- Has little effect on norepinephrine or dopamine.
- Therapeutic Effects:
  - Antidepressant action.
  - Decreased incidence of panic attacks.
  - Decreased obsessive and compulsive behavior.
  - Decreased feelings of intense fear, helplessness, or horror. Decreased social anxiety.
  - Decrease in premenstrual dysphoria.

PHARMACOKINETICS

Absorption: Appears to be well absorbed after oral administration.

Distribution: Extensively distributed throughout body tissues.

Protein Binding: 98%.

Metabolism and Excretion: Extensively metabolized by the liver; one metabolite has some antidepressant activity; 14% excreted unchanged in feces.

Half-life: 24 hr.

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
PO	within 2–4 wk	unknown	unknown

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Concurrent MAO inhibitor therapy (may result in serious, potentially fatal reactions).
- Concurrent pimozide.
- Oral concentrate contains alcohol, avoid in patients with known intolerance.

Use Cautiously in:

- Severe hepatic or renal impairment.
- Patients with a history of mania.
- History of suicide attempt.
- *OB/Lactation:* Pregnancy or lactation.
- *Pedi:* May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment; risk may be greater in children or adolescents.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SUICIDAL THOUGHTS, dizziness, drowsiness, fatigue, headache, insomnia, agitation, anxiety, confusion, emotional lability, impaired concentration, manic reaction, nervousness, weakness, yawning.

EENT: pharyngitis, rhinitis, tinnitus, visual abnormalities.

CV: chest pain, palpitations.

GI: diarrhea, dry mouth, nausea, abdominal pain, altered taste, anorexia, constipation, dyspepsia, flatulence, ↑ appetite, vomiting.

GU: sexual dysfunction, menstrual disorders, urinary disorders, urinary frequency.

Derm: ↑ sweating, hot flashes, rash.

F and E hyponatremia.

MS: back pain, myalgia.

Neuro: tremor, hypertonia, hypoesthesia, paresthesia, twitching.

Misc: SEROTONIN SYNDROME, fever, thirst.

INTERACTIONS

Drug-Drug:

- Serious, potentially fatal reactions (hyperthermia, rigidity, myoclonus, autonomic instability, with fluctuating vital signs and extreme agitation, which may proceed to delirium and coma) may occur with concurrent **MAO inhibitors.**
- MAO inhibitors should be stopped at least 14 days before sertraline therapy.
- Sertraline should be stopped at least 14 days before MAO inhibitor therapy.
- May ↑ **pimozide** levels and the risk of potentially life-threatening cardiovascular reactions.
- Drugs that affect serotonergic neurotransmitter systems, including **linezolid**, **tramadol**, and **triptans**, ↑ risk of serotonin syndrome.
- May ↑ sensitivity to **adrenergics** and ↑ the risk of serotonin syndrome.
- Concurrent use with **alcohol** is not recommended.
- May ↑ levels/effects of **warfarin**, **phenytoin**, **tricyclic antidepressants**, some **benzodiazepines** (**alprazolam**), **cloazapine**, or **tolbutamide**.
- ↑ risk of bleeding with **NSAIDS**, **aspirin**, **clopidogrel**, or **warfarin**.
- **Cimetidine** ↑ blood levels and effects.

Drug-Natural:

- ↑ risk of serotinergic side effects including serotonin syndrome with **St. John's wort** and **SAMe**.

Continued on the following page

ROUTE/DOSAGE

Depression/OCD

- **PO (Adults):** 50 mg/day as a single dose in the morning or evening initially; after several weeks may be ↑ at weekly intervals up to 200 mg/day, depending on response.
- **PO (Children 13–17 yr):** *OCD*—50 mg once daily.
- **PO (Children 6–12 yr):** *OCD*—25 mg once daily.

Panic Disorder

- **PO (Adults):** 25 mg/day initially, may ↑ after 1 wk to 50 mg/day.

PTSD

- **PO (Adults):** 25 mg once daily for 7 days, then ↑ to 50 mg once daily; may then be ↑ if needed at intervals of at least 7 days (range 50–200 mg once daily).

Social Anxiety Disorder

- **PO (Adults):** 25 mg once daily initially, then 50 mg once daily; may be ↑ at weekly intervals up to 200 mg/day.

PMDD

- **PO (Adults):** 50 mg/day initially either daily or daily during luteal phase of cycle. Daily dosing may be titrated upward in 50-mg increments at the beginning of a cycle. In luteal phase–only dosing a 50 mg/day titration step for 3 days at the beginning of each luteal phase dosing period should be used (range 50–150 mg/day).

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 25 mg, 50 mg, 100 mg
  - **Cost:** *Generic*–25 mg $87.98/90, 50 mg $89.98/90, 100 mg $99.96/90.
- ***Capsules:*** ♣50 mg, ♣100 mg.
- ***Oral concentrate (12% alcohol):*** 20 mg/mL in 60-mL bottles
  - **Cost:** $65.28/60 mL.

NURSING IMPLICATIONS

ASSESSMENT

- Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yr. After starting therapy, children, adolescents, and young adults should be seen by health care professional at least weekly for 4 wk, every 3 wk for next 4 wk, and on advice of health care professional thereafter.
- Monitor appetite and nutritional intake. Weigh weekly. Notify health care professional of continued weight loss. Adjust diet as tolerated to support nutritional status.
- Assess for serotonin syndrome (mental changes [agitation, hallucinations, coma], autonomic instability [tachycardia, labile blood pressure, hyperthermia], neuromuscular aberrations [hyper-reflexia, incoordination], and/or GI symptoms [nausea, vomiting, diarrhea]), especially in patients taking other serotonergic drugs (SSRIs, SNRIs, triptans).
- **Depression:** Monitor mood changes. Inform health care professional if patient demonstrates significant increase in anxiety, nervousness, or insomnia.
- Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient.
- **OCD:** Assess patient for frequency of obsessive-compulsive behaviors. Note degree to which these thoughts and behaviors interfere with daily functioning.
- **Panic Attacks:** Assess frequency and severity of panic attacks.
- **PTSD:** Assess patient for feelings of fear, helplessness, and horror. Determine effect on social and occupational functioning.
- **Social Anxiety Disorder:** Assess patient for symptoms of social anxiety disorder (blushing, sweating, trembling, tachycardia during interactions with new people, people in authority, or groups) periodically during therapy.

Continued on the following page

- **Premenstrual Dysphoric Disorder:** Assess patient for symptoms of premenstrual dysphoric disorder (feeling angry, tense, or tired; crying easily, feeling sad or hopeless; arguing with family or friends for no reason; difficulty sleeping or paying attention; feeling out of control or unable to cope; having cramping, bloating, food craving, or breast tenderness) periodically during therapy.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for injury (Side Effects)
- Sexual dysfunction (Side Effects)

IMPLEMENTATION

- Do not confuse sertraline with selegiline.
- Periodically reassess dose and continued need for therapy.
- **PO:** Administer as a single dose in the morning or evening.

PATIENT/FAMILY TEACHING

- Instruct patient to take sertraline as directed. Take missed doses as soon as possible and return to regular dosing schedule. Do not double doses.
- May cause drowsiness or dizziness. Caution patient to avoid driving and other activities requiring alertness until response to the drug is known.
- Advise patient, family, and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide; new or worse depression or anxiety; agitation or restlessness; panic attacks; insomnia; new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior or if symptoms of serotonin syndrome occur.
- Advise patient to avoid alcohol or other CNS depressant drugs during therapy and to consult with health care professional before taking other medications with sertraline.
- Inform patient that frequent mouth rinses, good oral hygiene, and sugarless gum or candy may minimize dry mouth. If dry mouth persists for more than 2 wk, consult health care professional regarding use of saliva substitute.
- Advise patient to wear sunscreen and protective clothing to prevent photosensitivity reactions.
- Instruct female patient to inform health care professional if pregnancy is planned or suspected or if she is breastfeeding.
- Advise patient to notify health care professional if headache, weakness, nausea, anorexia, anxiety, or insomnia persists.
- Emphasize the importance of follow-up exams to monitor progress. Encourage patient participation in psychotherapy to improve coping skills.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings. May require 1–4 wk of therapy to obtain antidepressant effects.
- Decrease in obsessive-compulsive behaviors.
- Decrease in frequency and severity of panic attacks.
- Decrease in symptoms of PTSD.
- Decrease in social anxiety disorder.
- Decrease in symptoms of premenstrual dysphoric disorder.

temazepam

(tem-**az**-a-pam)

Restoril

CLASSIFICATION

Therapeutic: *sedative/hypnotics* ***Pharmacologic:*** *benzodiazepines*

Schedule IV

Pregnancy Category X

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Short-term management of insomnia (<4 weeks).

ACTION

- Acts at many levels in the CNS, producing generalized depression.
- Effects may be mediated by GABA, an inhibitory neurotransmitter.
- Therapeutic Effects:
  - Relief of insomnia.

PHARMACOKINETICS

Absorption: Well absorbed after oral administration.

Distribution: Widely distributed; crosses blood-brain barrier. Probably crosses the placenta and enters breast milk. Accumulation of drug occurs with chronic dosing.

Protein Binding: 96%.

Metabolism and Excretion: Metabolized by the liver.

Half-life: 10–20 hr.

TIME/ACTION PROFILE (sedation)

ROUTE	ONSET	PEAK	DURATION
PO	30 min	2–3 hr	6–8 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Cross-sensitivity with other benzodiazepines may exist.
- Pre-existing CNS depression.
- Severe uncontrolled pain.
- Angle-closure glaucoma.
- Impaired respiratory function.
- Sleep apnea.
- *OB:* Neonates born to mothers taking temazepam may experience withdrawal effects.
- *Lactation:* Infants may become sedated. Discontinue drug or bottle feed.

Continued on the following page

Use Cautiously in:
- Pre-existing hepatic dysfunction.
- History of suicide attempt or drug addiction.
- *Geri:* Elderly patients have increased sensitivity to benzodiazepines. Appears on Beers list and is associated with increased risk of falls (↓ dose required).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: abnormal thinking, behavior changes, hangover, dizziness, drowsiness, hallucinations, lethargy, paradoxic excitation, sleep—driving.

EENT: blurred vision.

GI: constipation, diarrhea, nausea, vomiting.

Derm: rashes.

Misc: physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:
- ↑ CNS depression with **alcohol**, **antidepressants**, **antihistamines**, **opioid analgesics**, and other **sedative/hypnotics**. May ↓ efficacy of **levodopa**.
- **Rifampin** or **smoking** ↑ metabolism and may ↓ effectiveness of temazepam.
- **Probenecid** may prolong effects of temazepam.
- Sedative effects may be ↓ by **theophylline**.

Drug-Natural:
- Concomitant use of **kava-kava**, **valerian**, **skullcap**, **chamomile**, or **hops** can ↑ CNS depression.

ROUTE/DOSAGE
- **PO (Adults):** 15–30 mg at bedtime initially if needed; some patients may require only 7.5 mg.
- **PO (Geriatric Patientsor Debilitated Patients):** 7.5 mg at bedtime.

AVAILABILITY (GENERIC AVAILABLE)
- ***Capsules:*** 7.5 mg, 15 mg, 22.5 mg, 30 mg.

NURSING IMPLICATIONS

ASSESSMENT
- Assess mental status (orientation, mood, behavior) and potential for abuse prior to administering medication.
- Assess sleep patterns before and periodically throughout therapy.
- Prolonged high-dose therapy may lead to psychological or physical dependence. Restrict amount of drug available to patient, especially if patient is depressed or suicidal or has a history of addiction.
- *Geri:* Assess CNS effects and risk of falls. Institute falls prevention strategies.

POTENTIAL NURSING DIAGNOSES
- (Indications)
- Risk for falls (Side Effects)

IMPLEMENTATION
- Do not confuse temazepam with flurazepam.
- Supervise ambulation and transfer of patients after administration. Remove cigarettes. Side rails should be raised and call bell within reach at all times.
- **PO:** Administer with food if GI irritation becomes a problem.

Continued on the following page

PATIENT/FAMILY TEACHING

- Instruct patient to take temazepam as directed. Teach sleep hygiene techniques (dark room, quiet, bedtime ritual, limit daytime napping, avoidance of nicotine and caffeine). If less effective after a few weeks, consult health care professional; do not increase dose.
- May cause daytime drowsiness or dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- *Geri:* Instruct patient and family how to reduce falls risk at home.
- Advise patient to avoid the use of alcohol and other CNS depressants and to consult health care professional before using OTC preparations that contain antihistamines or alcohol.
- Advise patient to inform health care professional if pregnancy is planned or suspected.
- Emphasize the importance of follow-up appointments to monitor progress.
- Refer for psychotherapy if ineffective coping is basis for sleep pattern disturbance.
- Advise patient to take temazepam only if able to devote 8 hr to sleep.

EVALUATION/DESIRED OUTCOMES

- Improvement in sleep pattern with decreased number of nighttime awakenings, improved sleep onset, and increased total sleep time, which may not be noticeable until the 3rd day of therapy.

thioridazine

(thye-oh-**rid**-a-zeen)

CLASSIFICATION

Therapeutic: *antipsychotics* ***Pharmacologic:*** *phenothiazines*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Treatment of refractory schizophrenia.
- Considered second line treatment after failure with atypical antipsychotics.

ACTION

- Alters the effects of dopamine in the CNS.
- Possesses significant anticholinergic and alpha-adrenergic blocking activity.
- Therapeutic Effects:
  - Diminished signs and symptoms of psychoses.

PHARMACOKINETICS

Absorption: Absorption from tablets is variable; may be better with oral liquid formulations.

Distribution: Widely distributed, high concentrations in the CNS. Crosses the placenta and enters breast milk.

Protein Binding: ≥90%.

Metabolism and Excretion: Highly metabolized by the liver (primarily by CYP2D6 isoenzyme) and GI mucosa; the CYP2D6 enzyme system exhibits genetic polymorphism (<7% of population may be poor metabolizers and may have significantly ↑ thioridazine concentrations and an ↑ risk of adverse effects).

Half-life: 21–24 hr.

TIME/ACTION PROFILE (antipsychotic effects)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	unknown	8–12 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Cross-sensitivity with other phenothiazines may exist.
- Angle-closure glaucoma.
- Bone marrow depression.
- Severe liver or cardiovascular disease.
- Known alcohol intolerance (concentrate only).
- Concurrent fluvoxamine, propranolol, pindolol, fluoxetine, other agents known to inhibit the CYP2D6 enzyme, or agents known to prolong the QTc interval (risk of life-threatening arrrhythmias).

Continued on the following page

- Hypokalemia (correct prior to use).
- QTc interval >450 msec.

Use Cautiously in:

- Debilitated patients.
- Glaucoma.
- Urinary retention.
- Diabetes mellitus.
- Patients with risk factors for electrolyte imbalance (dehydration, diuretic therapy).
- Respiratory disease.
- Prostatic hyperplasia.
- CNS tumors.
- Epilepsy.
- Intestinal obstruction.
- *OB/Lactation:* Safety not established. Recommend discontinue drug or bottle feed.
- *Geri:* May be at ↑ risk for extrapyramidal and CNS adverse effects; appears on Beers list; ↑ risk of mortality in elderly patients treated for dementia-related psychosis.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, sedation, extrapyramidal reactions, tardive dyskinesia.

EENT: blurred vision, dry eyes, lens opacities, pigmentary retinopathy (high doses).

CV: ARRHYTHMIAS, QTC PROLONGATION, hypotension, tachycardia.

GI: constipation, dry mouth, anorexia, drug-induced hepatitis, ileus, weight gain.

GU: urinary retention, priapism.

Derm: photosensitivity, pigment changes, rashes.

Endo: galactorrhea, amenorrhea.

Hemat: AGRANULOCYTOSIS, leukopenia.

Metab: hyperthermia.

Misc: allergic reactions.

INTERACTIONS

Drug-Drug:

- Concurrent **fluvoxamine**, **propranolol**, **pindolol**, **fluoxetine**, other **agents known to inhibit the CYP450 2D6 enzyme**, or **agents known to prolong the QTc interval** ↑ risk of life-threatening arrhythmias.
- **Diuretics** ↑ the risk of electrolyte imbalance and arrhythmias.
- Additive hypotension with other **antihypertensives**, **nitrates**, and acute ingestion of **alcohol**.
- Additive CNS depression with other **CNS depressants**, including **alcohol**, **antihistamines**, **opioid analgesics**, **sedative/hypnotics**, and **general anesthetics**.
- Additive anticholinergic effects with other **drugs possessing anticholinergic properties**, including **antihistamines**, **antidepressants**, **atropine**, **haloperidol**, other **phenothiazines**, and **disopyramide**.
- **Lithium** ↓ blood levels of thioridazine.
- Thioridazine may mask early signs of **lithium** toxicity and ↑ the risk of extrapyramidal reactions.
- ↑ risk of agranulocytosis with **antithyroid agents**.
- Concurrent use with **epinephrine** may result in severe hypotension and tachycardia.
- May ↓ the effectiveness of **levodopa**.

ROUTE/DOSAGE

- **PO (Adults and Children >12 yr):** 50–100 mg 3 times daily initially; may be gradually ↑ to a maintenance dose of up to 800 mg/day.
- **PO (Children):** 0.5 mg/kg/day in divided doses initially; may be gradually ↑ to a maintenance dose of up to 3 mg/kg/day.

Continued on the following page

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 10 mg, 25 mg, 50 mg, 100 mg.
- ***Concentrated oral solution:*** 100 mg/mL.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status (orientation, mood, behavior) before and periodically during therapy.
- Assess positive (delusions, hallucinations, agitation) and negative (social withdrawal) symptoms of schizophrenia.
- Assess weight and BMI initially and throughout theerapy.
- Monitor blood pressure (sitting, standing, lying), ECG, pulse, and respiratory rate before and frequently during the period of dose adjustment. May cause Q-wave and T-wave changes in ECG.
- Observe patient carefully when administering medication to ensure that medication is actually taken and not hoarded or cheeked.
- Assess patient for level of sedation after administration.
- *Geri:* Geriatric patients are more likely to become oversedated.
- Monitor intake and output ratios and daily weight. Report significant discrepancies.
- Monitor patient for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill rolling of hands, mask-like face, shuffling gait, rigidity, tremors; and *dystonic*—muscle spasms, twisting motions, twitching, inability to move eyes, weakness of arms or legs) every 2 mo during therapy and 8–12 wk after therapy has been discontinued. Report these symptoms; reduction in dosage or discontinuation of medication may be necessary. Trihexyphenidyl, diphenhydramine, or benztropine may be used to control these symptoms. Benzodiazpines may alleviate akathisia.
- Monitor for tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities; lip smacking or puckering; puffing of cheeks; uncontrolled chewing; rapid or worm-like movements of tongue, excessive eye blinking). Report immediately; may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness, severe muscle stiffness, loss of bladder control). Notify health care professional immediately if these symptoms occur.
- *Lab Test Considerations:* CBC, liver function tests, and ocular examinations should be evaluated periodically during therapy. May cause ↓ hematocrit, hemoglobin, leukocytes, granulocytes, platelets. May cause ↑ bilirubin, AST, ALT, and alkaline phosphatase. Agranulocytosis occurs between 4–10 wk of therapy with recovery 1–2 wk after discontinuation. May recur if medication is restarted. Liver function abnormalities may require discontinuation of therapy.
- May cause false-positive or false-negative pregnancy test results and false-positive urine bilirubin test results.
- May cause ↑ serum prolactin levels.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Indications)
- Sexual dysfunction (Side Effects)

IMPLEMENTATION

- To prevent contact dermatitis, avoid getting liquid preparations on hands, and wash hands thoroughly if spillage occurs.
- **PO:** Administer with food, milk, or full glass of water to minimize gastric irritation.
- Dilute concentrate in 120 mL of distilled or acidified tap water or fruit juice just before administration.

PATIENT/FAMILY TEACHING

- Advise patient to take medication as directed and not to skip doses or double up on missed doses. Take missed doses as

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soon as remembered unless almost time for the next dose. If more than 2 doses a day are ordered, the missed dose should be taken within 1 hr of the scheduled time or omitted. Abrupt withdrawal may lead to gastritis, nausea, vomiting, dizziness, headache, tachycardia, and insomnia.

- Inform patient of possibility of extrapyramidal symptoms and tardive dyskinesia. Instruct patient to report these symptoms immediately to health care professional.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- May cause drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient to use sunscreen and protective clothing when exposed to the sun. Exposed surfaces may develop a blue-gray pigmentation, which may fade after discontinuation of the medication. Extremes in temperature should also be avoided, as this drug impairs body temperature regulation.
- Instruct patient to use frequent mouth rinses, good oral hygiene, and sugarless gum or candy to minimize dry mouth. Consult health care professional if dry mouth continues for >2 wk.
- Advise patient that increasing activity and bulk and fluids in the diet helps minimize the constipating effects of this medication.
- Caution patient to avoid taking alcohol or other CNS depressants concurrently with this medication.
- Advise patient not to take thioridazine within 2 hr of antacids or antidiarrheal medication.
- Inform patient that this medication may turn urine pink to reddish brown.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Instruct patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, rash, weakness, tremors, visual disturbances, dark-colored urine, or clay-colored stools occur.
- Emphasize the importance of routine follow-up exams to monitor response to medication and to detect side effects. Periodic ocular exams are indicated. Encourage continued participation in psychotherapy.

EVALUATION/DESIRED OUTCOMES

- Decrease in positive symptoms (hallucinations, delusions, agitation) of schizophrenia.

thiothixene

(thye-oh-**thix**-een)

Navane

CLASSIFICATION

Therapeutic: *antipsychotics (conventional)* ***Pharmacologic:*** *thioxanthenes*

Pregnancy Category UK

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Schizophrenia. Considered second-line treatment after failure with atypical antipsychotics.
- **Unlabelled Use:**
  - Other psychotic disorders, Bipolar disorder.

ACTION

- Alters the effect of dopamine in the CNS.
- Therapeutic Effects:
  - Diminished signs and symptoms of psychoses.

PHARMACOKINETICS

Absorption: Well absorbed following oral administration.

Distribution: Widely distributed; crosses the placenta.

Metabolism and Excretion: Mainly metabolized by the liver.

Half-life: 30 hr.

TIME/ACTION PROFILE (antipsychotic effects)

ROUTE	ONSET	PEAK	DURATION
PO	days–wks	unknown	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity to thiothixene or other phenothiazines (cross-sensitivity may occur).
- Circulatory collapse.
- Blood dyscrasias.
- Central nervous system depression.

Use Cautiously in:

- *Geri:* Geriatric or debilitated patients (initial dose reduction may be required).
- ↑ risk of mortality in elderly patients treated for dementia-related psychosis.
- Diabetes mellitus.
- Respiratory disease.

Continued on the following page

- Prostatic hypertrophy.
- CNS tumors.
- Epilepsy.
- Intestinal obstruction.
- *OB/Lactation/Pedi:* Safety not established. Discontinue drug or bottle feed.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, extrapyramidal reactions, sedation, tardive dyskinesia, seizures.

EENT: blurred vision, dry eyes, lens opacities.

CV: hypotension, tachycardia, non-specific ECG changes.

GI: constipation, dry mouth, anorexia, ileus, nausea.

GU: urinary retention.

Derm: photosensitivity, pigment changes, rashes.

Endo: amenorrhea, breast enlargement, galactorrhea.

Hemat: AGRANULOCYTOSIS, leukocytosis, leukopenia, neutropenia.

Metab: hyperpyrexia.

Misc: allergic reactions.

INTERACTIONS

Drug-Drug:

- Additive hypotension with **antihypertensives**, acute ingestion of **alcohol**, and **nitrates**.
- Additive hypotension may occur if **epinephrine** is given to treat hypotension.
- Additive CNS depression with other **CNS depressants**, including **alcohol**, **antihistamines**, **antidepressants**, **opioid analgesics**, and **sedative/hypnotics**.
- Additive anticholinergic effects with other **drugs having anticholinergic properties**, including **antihistamines**, **antidepressants**, **quinidine**, or **disopyramide**.
- May ↓ the effectiveness of **levodopa**. ↑ risk of cardiac effects with **quinidine**.

Drug-Natural:

- Concomitant use of **kava**, **valerian**, **skullcap**, **chamomile**, or **hops** can ↑ CNS depression.

ROUTE/DOSAGE

- **PO (Adults):** *Mild conditions*—2 mg tid (up to 15 mg/day if necessary; *Severe conditions*—5 mg bid (up to 20–30 mg/day; not to exceed 60 mg/day).

AVAILABILITY (GENERIC AVAILABLE)

- ***Capsules:*** 1 mg, 2 mg, 5 mg, 10 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor patient's mental status (orientation, mood, behavior) prior to and periodically during therapy.
- Assess weight and BMI initially and throughout therapy.
- Assess positive (hallucinations, delusions, agitation) and negative (social withdrawal) symptoms of schizophrenia.
- Observe patient carefully when administering medication to ensure that medication is actually taken and not hoarded or cheeked.
- Assess patient for level of sedation following administration.
- Monitor patient for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill rolling of hands, mask-like face, shuffling gait, rigidity, tremors; and *dystonic*—muscle spasms, twisting motions, twitching, inability to move eyes, weakness of arms

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or legs) every 2 mo during therapy and 8–12 wk after therapy has been discontinued. Parkinsonian effects are more common in geriatric patients and dystonias are more common in younger patients. Notify health care professional if these symptoms occur, because reduction in dosage or discontinuation of medication may be necessary. Trihexyphenidyl, diphenhydramine, or benztropine may be used to control these symptoms. Benzodiazpines may alleviate akathisia.

- Monitor for tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities; lip smacking or puckering; puffing of cheeks; uncontrolled chewing; rapid or worm-like movements of tongue, excessive eye blinking). Notify health care professional immediately if these symptoms occur, as these side effects may be irreversible.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, convulsions, diaphoresis, hypertension or hypotension, pallor, tiredness, severe muscle stiffness, loss of bladder control). Notify health care professional immediately if these symptoms occur.
- Monitor for symptoms related to hyperprolactinemia (menstrual abnormalities, galactorrhea, sexual dysfunction).
- *Lab Test Considerations:* Thiothixene ↑ serum prolactin levels and ↓ serum uric acid levels. May cause false-positive or false-negative pregnancy tests.
- Monitor CBC and differential prior to and periodically during therapy. Risk of leukopenia is highest between weeks 4 and 10 of therapy.
- Monitor liver function studies prior to and periodically during therapy. Risk of hepatotoxicity is greatest 2–4 wk after beginning therapy.

POTENTIAL NURSING DIAGNOSES

- Disturbed thought process (Indications)
- Sexual dysfunction (Side Effects)
- Risk for injury (Side Effects)

IMPLEMENTATION

- All forms of solution may cause dermatitis; avoid skin contact and wash hands thoroughly if spillage occurs.
- Thiothixene lowers the seizure threshold; institute seizure precautions for patients with history of seizure disorder and discontinue thiothixene 48 hr before and do not resume for 24 hr following myelography.
- **PO:** Administer capsules with food or milk to decrease gastric irritation.

PATIENT/FAMILY TEACHING

- Instruct patient on need to take medication as directed. Take missed doses as soon as remembered unless 2 hr before next dose. Do not double doses. Patients on long-term high-dose therapy may need dose tapered to avoid withdrawal symptoms (dyskinesia, tremors, dizziness, nausea, and vomiting).
- Instruct patients receiving oral solution on correct method of measuring dose with provided dropper.
- Drowsiness may occur. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Inform patient of possibility of extrapyramidal symptoms and tardive dyskinesia. Caution patient to report these symptoms immediately to health care professional.
- Instruct patient to use frequent mouth rinses, good oral hygiene, and sugarless gum or candy to minimize dry mouth. Consult health care professional if dry mouth continues for >2 wk.
- Advise patient that increasing bulk and fluids in the diet and exercising may help minimize the constipating effects of this medication.
- Caution patient to use sunscreen and protective clothing to prevent photosensitivity reactions.
- Caution patient to avoid concurrent use of alcohol, other CNS depressants, and Rx, OTC, or herbal products without prior consulting health care professional.

Continued on the following page

- Caution patient to avoid exercising in hot weather and taking very hot baths, because this drug impairs temperature regulation.
- Instruct patient to notify health care professional promptly if sore throat, fever, skin rashes or discoloration, weakness, tremors, visual disturbances, menstrual abnormalities, galactorrhea or sexual dysfunction are noted.
- Refer as appropriate for nutritional/weight management and medical management.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Emphasize the importance of continued medical follow-up for psychotherapy, eye exams, and laboratory tests, and to monitor response to medication and detect side effects.

EVALUATION/DESIRED OUTCOMES

- Decrease in positive symptoms (hallucinations, delusions, agitation) of schizophrenia.
- Decrease in excited, manic behavior.

topiramate

(toe-**peer**-i-mate)

Topamax

CLASSIFICATION

Therapeutic: *anticonvulsants, mood stabilizers*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Seizures including: partial-onset, primary generalized tonic-clonic, seizures due to Lennox-Gastaut syndrome.
- Prevention of migraine headache in adults.
- **Unlabelled Use:**
  - Adjunct in treatment of bipolar disorder.
  - Infantile spasms.

ACTION

- Action may be due to: Blockade of sodium channels in neurons, Enhancement of gamma-aminobutyrate (GABA), an inhibitory neurotransmitter, Prevention of activation of excitatory receptors.
- Therapeutic Effects:
  - Decreased incidence of seizures.
  - Decreased incidence/severity of migraine headache.

PHARMACOKINETICS

Absorption: Well absorbed (80%) after oral administration.

Distribution: Unknown.

Metabolism and Excretion: 70% excreted unchanged in urine.

Half-life: 21 hr.

TIME/ACTION PROFILE (blood levels†)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	2 hr	12 hr

†After single dose

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- *Lactation:* Lactation.

Use Cautiously in:

- All patients (may ↑ risk of suicidal thoughts/behaviors).
- Renal impairment (dose reduction recommended if CCr <70 mL/min/1.73 m^2).

Continued on the following page

- Hepatic impairment.
- Dehydration.
- Patients predisposed to metabolic acidosis.
- Patients allergic to sulfa.
- *OB:* Use only if maternal benefit outweighs fetal risk.
- *Pedi:* Children are more prone to oligohydrosis and hyperthermia; safety in children <2 yr not established.
- *Geri:* Consider age-related ↓ in renal/hepatic impairment, concurrent disease states and drug therapy.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: INCREASED SEIZURES, SUICIDAL THOUGHTS, dizziness, drowsiness, fatigue, impaired concentration/memory, nervousness, psychomotor slowing, speech problems, sedation, aggressive reaction, agitation, anxiety, cognitive disorders, confusion, depression, malaise, mood problems.

EENT: abnormal vision, diplopia, nystagmus, acute myopia/secondary angle closure glaucoma.

GI: nausea, abdominal pain, anorexia, constipation, dry mouth.

GU: kidney stones.

Derm: oligohydrosis (↑ in children).

F and E hyperchloremic metabolic acidosis.

Hemat: leukopenia.

Metab: weight loss, hyperthermia (↑ in children).

Neuro: ataxia, paresthesia, tremor.

Misc: fever.

INTERACTIONS

Drug-Drug:

- Blood levels and effects may be ↓ by **phenytoin**, **carbamazepine**, or **valproic acid**.
- May ↑ blood levels and effects of **phenytoin** or **amitriptyline**.
- May ↓ blood levels and effects of **hormonal contraceptives**, **risperidone**, **lithium** or **valproic acid**.
- ↑ risk of CNS depression with **alcohol** or other **CNS depressants**.
- **Carbonic anhydrase inhibitors** (**acetazolamide**) may ↑ risk of kidney stones.
- Concurrent use with **valproic acid** may ↑ risk of hyperammonemia/encephalopathy.

ROUTE/DOSAGE

Epilepsy (monotherapy)

- **PO (Adults and children ≥10 yr):** *Seizures/migraine prevention*—50 mg/day initially, gradually ↑ over 6 wk to 400 mg/day in 2 divided doses.

Epilepsy (adjunctive therapy)

- **PO (Adults and Children ≥17 yr):** 25–50 mg/day ↑ by 25–50 mg/day at weekly intervals up to 200–400 mg/day in 2 divided doses (200–400 mg/day in 2 divided doses for partial seizures and 400 mg/day in 2 divided doses for primary generalized tonic-clonic seizures); maximum dose: 1600 mg/day.

Renal Impairment

- **PO (Adults):** *CCr<70 mL/min*—50% of the usual dose.
- **PO (Children 2–16 yr):** *Partial onset seizures or Lennox–Gastaut syndrome*—Initial 1–3 mg/kg/day (maximum: 25 mg) nightly for 1 week then ↑ at 1–2 wk intervals up to 5–9 mg/kg/day in 2 divided doses. *Primary generalized tonic-clonic seizures*—Initial dose as above then gradually increase to 6 mg/kg/day over 8 wk.

Continued on the following page

Migraine prevention

- **PO (Adults):** 25 mg at night initially, ↑ by 25 mg/day at weekly intervals up to target dose of 100 mg/day in 2 divided doses.

AVAILABILITY (GENERIC AVAILABLE)

- ***Sprinkle capsules:*** 15 mg, 25 mg.
  - **Cost:** 15 mg $114.19/60, 25 mg $139.96/60.
- ***Tablets:*** 25 mg, 50 mg, 100 mg, 200 mg.
  - **Cost:** 25 mg $369.90/180, 50 mg $703.96/180, 100 mg. $1,023.97/180, 200 mg $1,162.91/180.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression.
- **Seizures:** Assess location, duration, and characteristics of seizure activity.
- **Migraines:** Assess pain location, intensity, duration, and associated symptoms (photophobia, phonophobia, nausea, vomiting) during migraine attack. Monitor frequency and intensity of pain on pain scale.
- **Bipolar Disorder:** Assess mental status (mood, orientation, behavior) and cognitive abilities before and periodically during therapy.
- *Lab Test Considerations:* Monitor CBC with differential and platelet count before therapy to determine baseline levels and periodically during therapy. Frequently causes anemia.
- Hepatic function should be monitored periodically throughout therapy. May cause ↑ AST and ALT levels.
- Evaluate serum bicarbonate prior to and periodically during therapy. If metabolic acidosis occurs, dosing taper or discontinuation may be necessary .

POTENTIAL NURSING DIAGNOSES

- Risk for injury (Indications, Side Effects)
- Disturbed thought process (Indications)

IMPLEMENTATION

- Implement seizure precautions.
- Do not confuse Topamax (topiramate) with Toprol (metoprolol).
- **PO:** May be administered without regard to meals.
- Do not break/crush tablets because of bitter taste.
- Contents of the sprinkle capsules can be sprinkled on a small amount (teaspoon) of soft food, such as applesauce, custard, ice cream, oatmeal, pudding, or yogurt. To open, hold the capsule upright so that you can read the word "TOP." Carefully twist off the clear portion of the capsule. It may be best to do this over the small portion of the food onto which you will be pouring the sprinkles. Sprinkle the entire contents of the capsule onto the food. Be sure the patient swallows the entire spoonful of the sprinkle/food mixture immediately without chewing. Follow with fluids immediately to make sure all of the mixture is swallowed. Never store a sprinkle/food mixture for use at another time.
- A 6 mg/mL oral suspension may be compounded by pharmacy for pediatric patients.

PATIENT/FAMILY TEACHING

- Instruct patient to take topiramate exactly as directed. Take missed doses as soon as possible but not just before next dose; do not double doses. Notify health care professional if more than 1 dose is missed. Medication should be gradually discontinued to prevent seizures and status epilepticus. Instruct patient to read the *Medication Guide* before starting and with each Rx refill, changes may occur.
- May cause decreased sweating and increased body temperature. Advise patients, especially parents of pediatric patients, to provide adequate hydration and monitoring, especially during hot weather.

Continued on the following page

- May cause dizziness, drowsiness, confusion, and difficulty concentrating. Caution patients to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient to maintain a fluid intake of 2000–3000 mL of fluid/day to prevent the formation of kidney stones.
- Instruct patient to notify health care professional immediately if periorbital pain or blurred vision occur. Medication should be discontinued if ocular symptoms occur. May lead to permanent loss of vision.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking, other unusual changes in behavior or mood occur.
- Caution patient to make position changes slowly to minimize orthostatic hypotension.
- Advise patient not to take alcohol or other CNS depressants concurrently with this medication.
- Advise patient to use a nonhormonal form of contraception while taking topiramate.
- Instruct patient to notify health care professional of medication regimen before treatment or surgery.
- Advise patient to use sunscreen and wear protective clothing to prevent photosensitivity reactions.
- Advise patient to carry identification describing disease and medication regimen at all times.

EVALUATION/DESIRED OUTCOMES

- Absence or reduction of seizure activity.
- Decrease in incidence and severity of migraine headaches.
- Remission of manic symptoms.

trazodone

(**traz**-oh-done)

CLASSIFICATION

Therapeutic: *antidepressants*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Major depression.
- **Unlabelled Use:**
  - Insomnia, chronic pain syndromes, including diabetic neuropathy, and anxiety.

ACTION

- Alters the effects of serotonin in the CNS.
- Therapeutic Effects:
  - Antidepressant action, which may develop only over several weeks.

PHARMACOKINETICS

Absorption: Well absorbed after oral administration.

Distribution: Widely distributed.

Protein Binding: 89–95%.

Metabolism and Excretion: Extensively metabolized by the liver (CYP3A4 enzyme system); minimal excretion of unchanged drug by the kidneys.

Half-life: 5–9 hr.

TIME/ACTION PROFILE (antidepressant effect)

ROUTE	ONSET	PEAK	DURATION
PO	1–2 wk	2–4 wk	wk

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Recovery period after MI.
- Concurrent electroconvulsive therapy.

Use Cautiously in:

- Cardiovascular disease.
- Suicidal behavior.
- May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment.
- Severe hepatic or renal disease (dose reduction recommended).
- *Lactation:* Discontinue drug or bottle feed.
- *Pedi:* Suicide risk may be greater in children and adolescents; safe use not established.
- *Geri:* Initial dose reduction recommended.

Continued on the following page

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SUICIDAL THOUGHTS, drowsiness, confusion, dizziness, fatigue, hallucinations, headache, insomnia, nightmares, slurred speech, syncope, weakness.

EENT: blurred vision, tinnitus.

CV: hypotension, arrhythmias, chest pain, hypertension, palpitations, QT interval prolongation, tachycardia.

GI: dry mouth, altered taste, constipation, diarrhea, excess salivation, flatulence, nausea, vomiting.

GU: hematuria, erectile dysfunction, priapism, urinary frequency.

Derm: rashes.

Hemat: anemia, leukopenia.

MS: myalgia.

Neuro: tremor.

INTERACTIONS

Drug-Drugs:

- May ↑ **digoxin** or **phenytoin** serum levels.
- ↑ CNS depression with other **CNS depressants**, including **alcohol**, **opioid analgesics**, and **sedative/hypnotics**.
- ↑ hypotension with **antihypertensives**, acute ingestion of **alcohol**, or **nitrates**.
- Concurrent use with **fluoxetine** ↑ levels and risk of toxicity from trazodone.
- **Drugs that inhibit the CYP3A4 enzyme system**, including **ritonavirindinavir** and **ketoconazole** ↑ levels and the risk of toxicity.
- **Drugs that induce the CYP3A4 enzyme system**, including **carbamazepine** ↓ levels and may decrease effectiveness.
- Do note use within 14 days of **MAOI** therapy.
- May ↑ prothrombin time (PT) with **warfarin**.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, or **chamomile** can ↑ CNS depression.
- ↑ risk of serotinergic side effects including serotonin syndrome with **St. John's wort** and **SAMe**.

ROUTE/DOSAGE

- **PO (Adults):** *Depression*—150 mg/day in 3 divided doses; ↑ by 50 mg/day q 3–4 days until desired response (not to exceed 400 mg/day in outpatients or 600 mg/day in hospitalized patients). *Insomnia*—25–100 mg at bedtime.
- **PO (Geriatric Patients):** 75 mg/day in divided doses initially; may be ↑ q 3–4 days.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 50 mg, 100 mg, 150 mg, 300 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor blood pressure and pulse rate before and during initial therapy. Monitor ECGs in patients with pre-existing cardiac disease before and periodically during therapy to detect arrhythmias.
- Assess for possible sexual dysfunction.
- **Depression:** Assess mental status (orientation, mood, and behavior) frequently.
- Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yr. After starting therapy, children, adolescents, and young adults should be seen by health care professional at least weekly for 4 wk, every 3 wk for next 4 wk, and on advice of health care professional thereafter.

Continued on the following page

- **Pain:** Assess location, duration, intensity, and characteristics of pain before and periodically during therapy. Use pain scale to assess effectiveness of medicine.
- *Lab Test Considerations:* Assess CBC and renal and hepatic function before and periodically during therapy. Slight, clinically insignificant ↓ in leukocyte and neutrophil counts may occur.

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Sexual dysfunction (Side Effects)

IMPLEMENTATION

- **PO:** Administer with or immediately after meals to minimize side effects (nausea, dizziness) and allow maximum absorption of trazodone. A larger portion of the total daily dose may be given at bedtime to decrease daytime drowsiness and dizziness.

PATIENT/FAMILY TEACHING

- Instruct patient to take medication exactly as directed. If a dose is missed, take as soon as remembered. Do not take if within 4 hr of next scheduled dose; do not double doses. Consult health care professional before discontinuing medication; gradual dose reduction is necessary to prevent aggravation of condition.
- May cause drowsiness and blurred vision. Caution patient to avoid driving and other activities requiring alertness until response to drug is known.
- Caution patient to change positions slowly to minimize orthostatic hypotension.
- Advise patient to avoid concurrent use of alcohol or other CNS depressant drugs.
- Advise patient, family, and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide, new or worse depression or anxiety, agitation or restlessness, panic attacks, insomnia, new or worse irritability, aggressiveness, acting on dangerous impulses, mania, or other changes in mood or behavior occur.
- Inform patient that frequent rinses, good oral hygiene, and sugarless candy or gum may diminish dry mouth. Health care professional should be notified if this persists >2 wk. An increase in fluid intake, fiber, and exercise may prevent constipation.
- Advise patient to notify health care professional of medication regimen before treatment or surgery.
- Instruct patient to notify health care professional if priapism, irregular heartbeat, fainting, confusion, skin rash, or tremors occur or if dry mouth, nausea and vomiting, dizziness, headache, muscle aches, constipation, or diarrhea becomes pronounced.
- Emphasize the importance of follow-up exams to evaluate progress.

EVALUATION/DESIRED OUTCOMES

- Resolution of depression.
- Increased sense of well-being.
- Renewed interest in surroundings.
- Increased appetite.
- Improved energy level.
- Improved sleep.
- Decrease in severity of pain in chronic pain syndromes. Therapeutic effects are usually seen within 1 wk, although 4 wk may be required to obtain significant therapeutic results.

triazolam

(trye-**az**-oh-lam)

Apo-Triazo, Gen-Triazolam, Halcion, Novo-Triolam, Nu-Triazo

CLASSIFICATION

Therapeutic: *sedative/hypnotics* ***Pharmacologic:*** *benzodiazepines*

Schedule IV

Pregnancy Category X

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Short-term management of insomnia.

ACTION

- Acts at many levels in the CNS, producing generalized depression.
- Effects may be mediated by GABA, an inhibitory neurotransmitter.
- Therapeutic Effects:
  - Relief of insomnia.

PHARMACOKINETICS

Absorption: Well absorbed following oral administration.

Distribution: Widely distributed, crosses blood-brain barrier. Probably crosses the placenta and enters breast milk.

Protein Binding: 89%.

Metabolism and Excretion: Metabolized by the liver.

Half-life: 1.6–5.4 hr.

TIME/ACTION PROFILE (sedation)

ROUTE	ONSET	PEAK	DURATION
PO	15–30 min	6–8 hr	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Cross-sensitivity with other benzodiazepines may occur.
- Pre-existing CNS depression.
- Uncontrolled severe pain.
- *OB/Lactation: Pedi:* Safety not established.

Use Cautiously in:

- Pre-existing hepatic dysfunction (dose ↓ recommended).
- History of suicide attempt or drug addiction.
- *Geri:* Appears on Beers list and is associated with ↑ risk of falls (↓ dose required); ↑sensitivity to benzodiazepines.

Continued on the following page

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: abnormal thinking, behavior changes, dizziness, excessive sedation, hangover, headache, anterograde amnesia, confusion, hallucinations, sleep—driving, lethargy, mental depression, paradoxical excitation.

EENT: blurred vision.

GI: constipation, diarrhea, nausea, vomiting.

Derm: rashes.

Misc: physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:

- Cimetidine, erythromycin, fluconazole, itraconazole, ketoconazole, indinavir, nelfinavir, ritonavir, or saquinavir may ↓ metabolism and enhance actions of triazolam; combination should be avoided.
- Additive CNS depression with **alcohol**, **antidepressants**, **antihistamines**, and **opioid analgesics**. May ↓ effectiveness of **levodopa**.
- May ↑ toxicity of **zidovudine**.
- **Isoniazid** may ↓ excretion and ↑ effects of triazolam. Sedative effects may be ↓ by **theophylline**.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, **chamomile**, or **hops** can ↑ CNS depression.

Drug-Food:

- **Grapefruit juice** significantly ↑ blood levels and effects.

ROUTE/DOSAGE

- **PO (Adults):** 0.125–0.25 mg (up to 0.5 mg) at bedtime.
- **PO (Geriatric Patients or Debilitated Patients):** 0.125 mg at bedtime initially; may be ↑ as needed.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 0.125 mg, 0.25 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Assess sleep patterns prior to and periodically throughout therapy.
- *Geri:* Assess CNS effects and risk of falls. Institute falls prevention strategies.
- Prolonged high-dose therapy may lead to psychological or physical dependence. Restrict the amount of drug available to patient, especially if patient is depressed, suicidal, or has a history of addiction.

POTENTIAL NURSING DIAGNOSES

- (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Supervise ambulation and transfer of patients following administration. Remove cigarettes. Side rails should be raised and call bell within reach at all times.
- **PO:** Administer with food if GI irritation becomes a problem.

PATIENT/FAMILY TEACHING

- Instruct patient to take triazolam exactly as directed. Discuss the importance of preparing environment for sleep (dark room, quiet, avoidance of nicotine and caffeine). If less

Continued on the following page

effective after a few weeks, consult health care professional; do not increase dose.
- May cause daytime drowsiness or dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- *Geri:* Instruct patient and family how to reduce falls risk at home.
- Advise patient to avoid the use of alcohol and other CNS depressants and to consult health care professional prior to using OTC preparations that contain antihistamines or alcohol.
- Advise patient to inform health care professional if pregnancy is planned or suspected or if confusion, depression, or persistent headaches occur. Instruct family or caregiver to notify health care professional if personality changes occur.
- Instruct patient to notify health care professional if an increase in daytime anxiety occurs. May occur after as few as 10 days of therapy. May require discontinuation of triazolam.
- Emphasize the importance of follow-up appointments to monitor progress.

EVALUATION/DESIRED OUTCOMES

- Improvement in sleep patterns, which may not be noticeable until the 3rd day of therapy.

trihexyphenidyl

(trye-hex-ee-**fen**-i-dill)

Apo-Trihex, Artane, PMS-Trihexyphenidyl, Trihexane, Trihexy

CLASSIFICATION

Therapeutic: *antiparkinson agents* ***Pharmacologic:*** *anticholinergics*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Adjunct in the management of parkinsonian syndrome of many causes, including drug-induced parkinsonism.

ACTION

- Inhibits the action of acetylcholine, resulting in: Decreased sweating and salivation, Mydriasis (pupillary dilation), Increased heart rate. Also has spasmolytic action on smooth muscle.
- Inhibits cerebral motor centers and blocks efferent impulses.
- Therapeutic Effects:
  - Diminished signs and symptoms of parkinsonian syndrome (tremors, rigidity).

PHARMACOKINETICS

Absorption: Well absorbed following oral administration.

Distribution: Unknown.

Metabolism and Excretion: Excreted mostly in urine.

Half-life: 3.7 hr.

TIME/ACTION PROFILE (antiparkinson effects)

ROUTE	ONSET	PEAK	DURATION
PO	1 hr	2–3 hr	6–12 hr
PO-ER	unknown	unknown	12–24 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Angle-closure glaucoma.
- Acute hemorrhage.
- Tachycardia secondary to cardiac insufficiency.
- Thyrotoxicosis.
- Known alcohol intolerance (elixir only).

Use Cautiously in:

- Geriatric and very young patients (increased risk of adverse reactions).
- Intestinal obstruction or infection.

Continued on the following page

- Prostatic hyperplasia
- Chronic renal, hepatic, pulmonary, or cardiac disease
- Pregnancy, lactation, or children (safety not established).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: dizziness, nervousness, confusion, drowsiness, headache, psychoses, weakness.

EENT: blurred vision, mydriasis.

CV: orthostatic hypotension, tachycardia.

GI: dry mouth, nausea, constipation, vomiting.

GU: urinary hesitancy, urinary retention.

Derm: decreased sweating.

INTERACTIONS

Drug-Drug:

- Additive anticholinergic effects with other **drugs having anticholinergic properties**, including **phenothiazines**, **tricyclic antidepressants**, **quinidine**, and **disopyramide**.
- May increase the efficacy of **levodopa** but may increase the risk of psychoses.
- Additive CNS depression with other **CNS depressants**, including **alcohol**, **antihistamines**, **opioids**, and **sedative/hypnotics**.
- Anticholinergics may alter the absorption of other **orally administered drugs** by slowing motility of the GI tract.
- **Antacids** may decrease absorption.

Drug-Natural:

- Increased anticholinergic effects with **angel's trumpet** and **jimson weed** and **scopolia**.

ROUTE/DOSAGE

- **PO (Adults):** 1–2 mg/day initially; increase by 2 mg q 3–5 days. Usual maintenance dose is 6–10 mg/day in 3 divided doses (up to 15 mg/day). Extended-release (Artane Sequels) preparations may be given q 12 hr after daily dose has been determined using conventional tablets or liquid.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 2 mg, 5 mg.
- ***Elixir (lime-mint flavor):*** 2 mg/5 mL.
- ***Extended-release capsules:*** 5 mg.

NURSING IMPLICATIONS

ASSESSMENT

- Assess parkinsonian and extrapyramidal symptoms (restlessness or desire to keep moving, rigidity, tremors, pill rolling, mask-like face, shuffling gait, muscle spasms, twisting motions, difficulty speaking or swallowing, loss of balance control) prior to and throughout therapy.
- Monitor intake and output ratios and assess patient for urinary retention (dysuria, distended abdomen, infrequent voiding of small amounts, overflow incontinence).
- Patients with mental illness are at risk of developing exaggerated symptoms of their disorder during early therapy with this medication. Withhold drug and report significant behavioral changes.

POTENTIAL NURSING DIAGNOSES

- Impaired physical mobility (Indications)
- Risk for injury (Indications)
- Deficient knowledge, related to medication regimen (Patient/Family Teaching)

Continued on the following page

IMPLEMENTATION

- Do not confuse Artane (trihexyphenidyl) with Altace (ramapril).
- Extended-release capsules are not used until dosage is established with shorter-acting forms.
- **PO:** Usually administered after meals. May be administered before meals if patient suffers from dry mouth or with meals if gastric distress is a problem. Extended-release capsules should be swallowed whole; do not break, crush, or chew. Use calibrated measuring device to ensure accurate dosage of elixir.

PATIENT/FAMILY TEACHING

- Instruct patient to take this drug exactly as directed. If a dose is missed, take as soon as remembered, unless next scheduled dose is within 2 hr; do not double doses.
- Medication should be tapered gradually when discontinuing or a withdrawal reaction may occur (anxiety, tachycardia, insomnia, return of parkinsonian or extrapyramidal symptoms).
- May cause drowsiness or dizziness. Advise patient to avoid driving or other activities that require alertness until response to medication is known.
- Caution patient to change positions slowly to minimize orthostatic hypotension.
- Instruct patient that frequent rinsing of mouth, good oral hygiene, and sugarless gum or candy may decrease dry mouth. Patient should notify health care professional if dryness persists (saliva substitutes may be used). Also, notify the dentist if dryness interferes with use of dentures.
- Advise patient to confer with health care professional prior to taking OTC medications, especially cold remedies, or drinking alcoholic beverages.
- Caution patient that this medication decreases perspiration. Overheating may occur during hot weather. Patient should remain indoors, in an air-conditioned environment, during hot weather.
- Advise patient to increase activity and bulk and fluid in diet to minimize constipating effects of medication.
- Advise patient to avoid taking antacids or antidiarrheals within 1–2 hr of this medication.
- Advise patient to notify health care professional if confusion, rash, urinary retention, severe constipation, or visual changes occur.
- Emphasize the importance of routine follow-up exams.

EVALUATION/DESIRED OUTCOMES

- Decrease in tremors and rigidity and an improvement in gait and balance. Therapeutic effects are usually seen 2–3 days after the initiation of therapy.
- Resolution of drug-induced extrapyramidal symptoms.

valproates

divalproex sodium (dye-val-**proe**-ex **soe**-dee-um)

Apo-Divalproex, Depakote, Depakote ER, DOM-Divalproex, Epival, Gen-Divalproex, Novo-Divalproex, Nu-Divalproex, PHL-Divalproex, PMS-Divalproex

valproate sodium (val-**proe**-ate **soe**-dee-um)

Depacon

valproic acid (val-**proe**-ik **as**-id)

Apo-Valproic, Depakene, DOM-Valproic Acid, PHL-Valproic Acid, PMS-Valproic Acid, Ratio-Valprox, Stavzor

CLASSIFICATION

Therapeutic: *anticonvulsants, vascular headache suppressants*

Pregnancy Category D

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Monotherapy and adjunctive therapy for simple and complex absence seizures.
- Monotherapy and adjunctive therapy for complex partial seizures.
- Adjunctive therapy for patients with multiple seizure types, including absence seizures.
- **Divalproex sodium only:**
  - Manic episodes associated with bipolar disorder, Prevention of migraine headache.

ACTION

- Increase levels of GABA, an inhibitory neurotransmitter in the CNS.
- Therapeutic Effects:
  - Suppression of seizure activity.
  - Decreased manic episodes.
  - Decreased frequency of migraine headaches.

PHARMACOKINETICS

Absorption: Well absorbed following oral administration; divalproex is enteric-coated, and absorption is delayed. ER form produces lower blood levels. IV administration results in complete bioavailability.

Distribution: Rapidly distributed into plasma and extracellular water. Cross blood-brain barrier and placenta; enters breast milk.

Continued on the following page

Protein Binding: 80–90%, decreased in neonates, elderly, renal impairment, or chronic hepatic disease.

Metabolism and Excretion: Mostly metabolized by the liver; minimal amounts excreted unchanged in urine.

Half-life: Adults: 9–16 hr.

TIME/ACTION PROFILE (onset = anticonvulsant effect; peak = blood levels)

ROUTE	ONSET	PEAK	DURATION
PO—liquid	2–4 days	15–120 min	6–24 hr
PO—capsules	2–4 days	1–4 hr	6–24 hr
PO—delayed-release products	2–4 days	3–5 hr	12–24 hr
PO—extended-release products	2–4 days	7–14 hr	24 hr
IV	2–4 days	end of infusion	6–24 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity
- Hepatic impairment.
- Known/suspected urea cycle disorders (may result in fatal hyperammonemic encephalopathy).

Use Cautiously in:

- All patients (may ↑ risk of suicidal thoughts/behaviors).
- Bleeding disorders.
- History of liver disease.
- Organic brain disease.
- Bone marrow depression.
- Renal impairment.
- *Geri:* ↑ risk of adverse effects.
- *OB:* Use during pregnancy is linked to congenital anomalies, neural tube defects, clotting abnormalities, and hepatic dysfunction in the neonate. Use with extreme caution.
- *Lactation:* Pass into breast milk. Consider discontinuing nursing when valproates are administered to the nursing mother.
- *Pedi:* Children, especially <2 yr (at ↑ risk for potentially fatal hepatotoxicity).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: SUICIDAL THOUGHTS, agitation, dizziness, headache, insomnia, sedation, confusion, depression.

CV: peripheral edema.

EENT: visual disturbances.

GI: HEPATOTOXICITY, PANCREATITIS, abdominal pain, anorexia, diarrhea, indigestion, nausea, vomiting, constipation, increased appetite.

Derm: alopecia, rashes.

Endo: weight gain.

Hemat: leukopenia, thrombocytopenia.

Metab: HYPERAMMONEMIA.

Neuro: HYPOTHERMIA, tremor, ataxia.

INTERACTIONS

Drug-Drug:

- ↑ risk of bleeding with **warfarin**.
- Blood levels and toxicity may be ↑ by **aspirin**, **carbamazepine**, **chlorpromazine**, **cimetidine**, **erythromycin**, or **felbamate**.
- ↑ CNS depression with other **CNS depressants**, including **alcohol**, **antihistamines**, **antidepressants**, **opioid analgesics**, **MAO inhibitors**, and **sedative/hypnotics**.

Continued on the following page

- **MAO inhibitors** and other **antidepressants** may ↓ seizure threshold and ↓ effectiveness of valproate.
- **Carbamazepine**, **meropenem**, **phenobarbital**, **phenytoin**, or **rifampin** may ↓ valproate blood levels.
- Valproate may ↑ toxicity of **carbamazepine**, **diazepam**, **amitriptyline,nortriptyline**, **ethosuximide**, **lamotrigine**, **phenobarbital**, **phenytoin**, **topiramate**, or **zidovudine**.
- Concurrent use with **topiramate** may ↑ risk of hypothermia.
- **Ertapenem**, **imipenem**, or **meropenem** may ↓ valproate blood levels.

ROUTE/DOSAGE

- Regular-release and delayed-release formulations usually given in 2–4 divided doses daily; extended-release formulation (Depakote ER) usually given once daily.

Anticonvulsant

- **PO (Adults and Children >10 yr):** *Single-agent therapy (complex partial seizures)*—Initial dose of 10–15 mg/kg/day in 1–4 divided doses; ↑ by 5–10 mg/kg/day weekly until therapeutic response achieved (not to exceed 60 mg/kg/day); when daily dose exceeds 250 mg, give in divided doses. *Polytherapy (complex partial seizures)*—Initial dose of 10–15 mg/kg/day; ↑ by 5–10 mg/kg/day weekly until therapeutic response achieved (not to exceed 60 mg/kg/day); when daily dosage exceeds 250 mg, give in divided doses.
- **PO (Adults and Children >2 yr [>10 yr for Depakote ER and Stavzor]):** *Simple and complex absence seizures*—Initial dose of 15 mg/kg/day in 1–4 divided doses; ↑ by 5–10 mg/kg/day weekly until therapeutic response achieved (not to exceed 60 mg/kg/day); when daily dose exceeds 250 mg, give in divided doses.
- **IV (Adults and Children):** Give same daily dose and at same frequency as was given orally; switch to oral formulation as soon as possible.
- **Rect (Adults and Children):** Dilute syrup 1:1 with water for use as a retention enema. Give 17–20 mg/kg load, aintenance 10–15 mg/kg/dose q 8 hr.

Mood Stabilizer

- **PO (Adults):** *Depakote and Stavzor*—Initial dose of 750 mg/day in divided doses initially, titrated rapidly to desired clinical effect or trough plasma levels of 50–125 mcg/mL (not to exceed 60 mg/kg/day). *Depakote ER*—Initial dose of 25 mg/kg once daily; titrated rapidly to desired clinical effect of trough plasma levels of 85–125 mcg/mL (not to exceed 60 mg/kg/day).

Migraine Prevention

- **PO (Adults and Children≥16 yr):** *Depakote and Stavzor*—250 mg twice daily (up to 1000 mg/day). *Depakote ER*—500 mg once daily for 1 wk, then ↑ to 1000 mg once daily.

AVAILABILITY

Valproic Acid (generic available)

- ***Capsules:*** 250 mg, 500 mg.
  - **Cost:** *Generic*— $29.97/100.
- ***Delayed-release capsules:*** 125 mg, 250 mg, 500 mg.
- ***Syrup:*** 250 mg/5 mL.
  - **Cost:** *Generic*— $17.99/150 mL.

Valproate Sodium (generic available)

- ***Injection:*** 100 mg/mL in 5-mL vials.

Divalproex Sodium (generic available)

- ***Delayed-release tablets (Depakote):*** 125 mg, 250 mg, 500 mg.
  - **Cost:** 125 mg $85.85/100, 250 mg $159.98/100, 500 mg $296.66/100.
- ***Capsules-sprinkle:*** 125 mg.
  - **Cost:** $83.31/100.
- ***Extended-release tablets (Depakote ER):*** 250 mg, 500 mg.
  - **Cost:** 250 mg $134.97/90, 500 mg $225.97/90.

Continued on the following page

NURSING IMPLICATIONS

ASSESSMENT

- **Seizures:** Assess location, duration, and characteristics of seizure activity. Institute seizure precautions.
- **Bipolar Disorder:** Assess mood, ideation, and behavior frequently.
- **Migraine Prophylaxis:** Monitor frequency of migraine headaches.
- *Geri:* Assess geriatric patients for excessive somnolence.
- Assess for suicidal tendencies, especially during early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yr.
- *Lab Test Considerations:* Monitor CBC, platelet count, and bleeding time prior to and periodically during therapy. May cause leukopenia and thrombocytopenia.
- Monitor hepatic function (LDH, AST, ALT, and bilirubin) and serum ammonia concentrations prior to and periodically during therapy. May cause hepatotoxicity; monitor closely, especially during initial 6 mo of therapy; fatalities have occurred. Therapy should be discontinued if hyperammonemia occurs.
- May interfere with accuracy of thyroid function tests.
- May cause false-positive results in urine ketone tests.
- *Toxicity and Overdose:* Therapeutic serum levels range from 50–100 mcg/mL (50–125 mcg/mL for mania). Doses are gradually ↑ until a pre-dose serum concentration of at least 50 mcg/mL is reached. However, a good correlation among daily dose, serum level, and therapeutic effects has not been established. Monitor patients receiving near the maximum recommended 60 mg/kg/day for toxicity.

POTENTIAL NURSING DIAGNOSES

- Risk for injury (Indications)

IMPLEMENTATION

- Do not confuse *Depakote ER* and regular dose forms. *Depakote ER* produces lower blood levels than *Depakote* dosing forms. If switching from *Depakote* to *Depakote ER*, increase dose by 8-20%.
- Single daily doses are usually administered at bedtime because of sedation.
- **PO:** Administer with or immediately after meals to minimize GI irritation. Extended-release and delayed-release tablets and capsules should be swallowed whole, do not open, break, or chew; will cause mouth or throat irritation and destroy extended release mechanism. Do not administer tablets with milk or carbonated beverages (may cause premature dissolution). Delayed-release divalproex sodium may cause less GI irritation than valproic acid capsules.
- Shake liquid preparations well before pouring. Use calibrated measuring device to ensure accurate dose. Syrup may be mixed with food or other liquids to improve taste.
- Sprinkle capsules may be swallowed whole or opened and entire capsule contents sprinkled on a teaspoonful of soft, cool food (applesauce, pudding). Do not chew mixture. Administer immediately; do not store for future use.
- To convert from valproic acid to divalproex sodium, initiate divalproex sodium at same total daily dose and dosing schedule as valproic acid. Once patient is stabilized on divalproex sodium, attempt administration 2–3 times daily.
- **Rect:** Dilute syrup 1:1 with water for use as a retention enema.

IV Administration

- **Intermittent Infusion:** *Diluent:* May be diluted in at least 50 mL of D5W, 0.9% NaCl, or LR. Solution is stable for 24 hr at room temperature
- *Concentration:* 2 mg/mL. *Rate:* Infuse over 60 min (≤20 mg/min). Rapid infusion may cause increased side effects. Has been given as a one-time infusion of 1000 mg over 5–10 min 3 mg/kg/min up to 15 mg/kg in patients with no detectable valproate levels.
- **Y-Site Compatibility:**
  - cefepime.
  - ceftazidime.

Continued on the following page

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed. If a dose is missed on a once-a-day schedule, take as soon as remembered that day. If on a multiple-dose schedule, take it within 6 hr of the scheduled time, then space remaining doses throughout the remainder of the day. Abrupt withdrawal may lead to status epilepticus.
- May cause drowsiness or dizziness. Caution patient to avoid driving or other activities requiring alertness until effects of medication are known. Tell patient not to resume driving until physician gives clearance based on control of seizure disorder.
- Caution patient to avoid taking alcohol, CNS depressants, OTC medications or herbal products concurrently with valproates without consulting health care professional.
- Advise patient and family to notify health care professional if thoughts about suicide or dying, attempts to commit suicide; new or worse depression; new or worse anxiety; feeling very agitated or restless; panic attacks; trouble sleeping; new or worse irritability; acting aggressive; being angry or violent; acting on dangerous impulses; an extreme increase in activity and talking, other unusual changes in behavior or mood occur.
- Instruct patient to notify health care professional of medication regimen prior to treatment or surgery.
- May cause teratogenic effects. Instruct female patients to notify health care professional immediately if pregnancy is planned or suspected or if breastfeeding. Advise pregnant patients taking valproates to enroll in the NAAED Pregnancy Registry by calling 1-888-233-2334; call must be made by patient. Registry Web site is www.aedpregnancyregistry.org .
- Advise patient to carry identification at all times describing medication regimen.
- Advise patient to notify health care professional if anorexia, abdominal pain, severe nausea and vomiting, yellow skin or eyes, fever, sore throat, malaise, weakness, facial edema, lethargy, unusual bleeding or bruising, pregnancy, or loss of seizure control occurs. Children <2 yr of age are especially at risk for fatal hepatotoxicity.
- Emphasize the importance of routine exams to monitor progress.

EVALUATION/DESIRED OUTCOMES

- Decreased seizure activity.
- Decreased incidence of manic episodes in patients with bipolar disorders.
- Decreased frequency of migraine headaches.

venlafaxine

(ven-la-**fax**-een)

Effexor, Effexor XR

CLASSIFICATION

Therapeutic: *antidepressants, antianxiety agents*

Pharmacologic: *selective serotonin/norepinephrine reuptake inhibitors*

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Major depressive disorder.
- Generalized anxiety disorder (Effexor XR only).
- Social anxiety disorder (Effexor XR only).
- Panic disorder (Effexor XR only).
- **Unlabelled Use:**
  - Premenstrual dysphoric disorder.

ACTION

- Inhibits serotonin and norepinephrine reuptake in the CNS.
- Therapeutic Effects:
  - Decrease in depressive symptomatology, with fewer relapses/recurrences.
  - Decreased anxiety.
  - Decrease in panic attacks.

PHARMACOKINETICS

Absorption: 92–100% absorbed after oral administration.

Distribution: Extensive distribution into body tissues.

Metabolism and Excretion: Extensively metabolized on first pass through the liver (primarily through CYP2D6 enzyme pathway). 🍁 A small percentage of the population are poor metabolizers and will have higher blood levels with ↑ effects. One metabolite, O-desmethylvenlafaxine (ODV), has antidepressant activity; 5% of venlafaxine is excreted unchanged in urine; 30% of the active metabolite is excreted in urine.

Half-life: *Venlafaxine*—3–5 hr; *ODV*—9–11 hr (both are ↑ in hepatic/renal impairment).

TIME/ACTION PROFILE (antidepressant action)

ROUTE	ONSET	PEAK	DURATION
PO	within 2 wk	2–4 wk	unknown

Continued on the following page

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Concurrent MAO inhibitor therapy.

Use Cautiously in:

- Cardiovascular disease, including hypertension.
- Hepatic impairment (↓ dose recommended).
- Impaired renal function (↓ dose recommended).
- History of seizures or neurologic impairment.
- History of mania.
- History of ↑ intraocular pressure or angle-closure glaucoma.
- History of drug abuse.
- *OB:* Use only if clearly required during pregnancy, weighing benefit to mother versus potential harm to fetus (potential for discontinuation syndrome or toxicity in the neonate when venlafaxine is taken during the 3rd trimester).
- *Lactation:* Potential for serious adverse reactions in infant; discontinue drug or discontinue breastfeeding.
- *Pedi:* ↑ risk of suicidal thinking and behavior (suicidality) in children and adolescents with major depressive disorder and other psychiatric disorders. Observe closely for suicidality and behavior changes.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, SEIZURES, SUICIDAL THOUGHTS, abnormal dreams, anxiety, dizziness, headache, insomnia, nervousness, weakness, abnormal thinking, agitation, confusion, depersonalization, drowsiness, emotional lability, worsening depression.

EENT: rhinitis, visual disturbances, epistaxis, tinnitus.

CV: chest pain, hypertension, palpitations, tachycardia.

GI: abdominal pain, altered taste, anorexia, constipation, diarrhea, dry mouth, dyspepsia, nausea, vomiting, weight loss.

GU: sexual dysfunction, urinary frequency, urinary retention.

Derm: ecchymoses, itching, photosensitivity, skin rash.

Neuro: paresthesia, twitching.

Misc: SEROTONIN SYNDROME, chills, bleeding, yawning.

INTERACTIONS

Drug-Drug:

- Concurrent use with **MAO inhibitors** may result in serious, potentially fatal reactions (wait at least 2 wk after stopping MAO inhibitor before initiating venlafaxine; wait at least 1 wk after stopping venlafaxine before starting MAO inhibitors).
- Concurrent use with **alcohol** or other **CNS depressants**, including **sedatives/hypnotics**, **antihistamines**, and **opioid analgesics** in depressed patients is not recommended.
- Drugs that affect serotonergic neurotransmitter systems, including **linezolid**, **tramadol**, and **triptans,** ↑ risk of serotonin syndrome.
- **Lithium** may have ↑ serotonergic effects with venlafaxine; use cautiously in patients receiving venlafaxine.
- ↑ blood levels and may ↑ effects of **desipramine** and **haloperidol**.
- **Cimetidine** may ↑ the effects of venlafaxine (may be more pronounced in geriatric patients, those with hepatic or renal impairment, or those with pre-existing hypertension).
- **Ketoconazole** may ↑ the effects of venlafaxine. ↑ risk of bleeding with **NSAIDS**, **aspirin**, **clopidogrel**, or **warfarin**.

Continued on the following page

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, **chamomile**, or **hops** can ↑ CNS depression.
- ↑ risk of serotinergic side effects including serotonin syndrome with **St. John's wort** and **SAMe**.

ROUTE/DOSAGE

Major Depressive Disorder

- **PO (Adults):** *Tablets*—75 mg/day in 2–3 divided doses; may ↑ by up to 75 mg/day every 4 days, up to 225 mg/day (not to exceed 375 mg/day in 3 divided doses); *Extended-release (XR) capsules*—75 mg once daily (some patients may be started at 37.5 mg once daily) for 4–7 days; may ↑ by up to 75 mg/day at intervals of not less than 4 days (not to exceed 225 mg/day).

General Anxiety Disorder

- **PO (Adults):** *Extended-release (XR) capsules*—75 mg once daily (some patients may be started at 37.5 mg once daily) for 4–7 days; may ↑ by up to 75 mg/day at intervals of not less than 4 days (not to exceed 225 mg/day).

Social Anxiety Disorder

- **PO (Adults):** *Extended-release (XR) capsules*—75 mg once daily.

Panic Disorder

- **PO (Adults):** *Extended-release (XR) capsules*—37.5 mg once daily for 7 days; may then ↑ to 75 mg once daily; may then ↑ by 75 mg/day every 7 days (not to exceed 225 mg/day).

Hepatic Impairment

- **PO (Adults):** ↓ daily dose by 50% in patients with mild-to-moderate hepatic impairment.

Renal Impairment

- **PO (Adults):** *CCr 10–70 mL/min*—↓ daily dose by 25–50%; *Hemodialysis*—↓ daily dose by 50%.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 25 mg, 37.5 mg, 50 mg, 75 mg, 100 mg
  - **Cost:** *Generic*—25 mg $299.95/180, 37.5 mg $299.93/180, 50 mg $341.96/180, 75 mg $337.95/180, 100 mg $343.78/180.
- ***Extended-release capsules:*** 37.5 mg, 75 mg, 150 mg
  - **Cost:** 37.5 mg $275.97/90, 75 mg $318.99/90, 150 mg $355.97/90.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status and mood changes. Inform health care professional if patient demonstrates significant increase in anxiety, nervousness, or insomnia.
- Assess suicidal tendencies, especially in early therapy. Restrict amount of drug available to patient. Risk may be increased in children, adolescents, and adults ≤24 yr.
- Monitor blood pressure before and periodically during therapy. Sustained hypertension may be dose-related; decrease dose or discontinue therapy if this occurs.
- Monitor appetite and nutritional intake. Weigh weekly. Report continued weight loss. Adjust diet as tolerated to support nutritional status.
- Assess for serotonin syndrome (mental changes [agitation, hallucinations, coma], autonomic instability [tachycardia, labile blood pressure, hyperthermia], neuromuscular aberrations [hyper-reflexia, incoordination], and/or GI symptoms [nausea, vomiting, diarrhea]), especially in patients taking other serotonergic drugs (SSRIs, SNRIs, triptans).
- Lab Test Considerations: Monitor CBC with differential and platelet count periodically during therapy. May cause anemia, leukocytosis, leukopenia, thrombocytopenia, basophilia, and eosinophilia.
- May cause an ↑ in serum alkaline phosphatase, bilirubin, AST, ALT, BUN, and creatinine.

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- May also cause ↑ serum cholesterol.
- May cause electrolyte abnormalities (hyperglycemia or hypoglycemia, hyperkalemia or hypokalemia, hyperuricemia, hyperphosphatemia or hypophosphatemia, and hyponatremia).

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- **PO:** Administer venlafaxine with food.
- Extended-release capsules should be swallowed whole; do not crush, break, or chew.
- Extended-release capsules may also be opened and contents sprinkled on a spoonful of applesauce. Take immediately and follow with a glass of water. Do not store mixture for later use.

PATIENT/FAMILY TEACHING

- Instruct patient to take venlafaxine as directed at the same time each day. Take missed doses as soon as possible unless almost time for next dose. Do not double doses or discontinue abruptly. Patients taking venlafaxine for >6 wk should have dose gradually decreased before discontinuation.
- Advise patient, family, and caregivers to look for suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide; new or worse depression or anxiety; agitation or restlessness; panic attacks; insomnia; new or worse irritability; aggressiveness; acting on dangerous impulses, mania, or other changes in mood or behavior or if symptoms of serotonin syndrome occur.
- May cause drowsiness or dizziness. Caution patient to avoid driving or other activities requiring alertness until response to the drug is known.
- Caution patient to avoid taking alcohol or other CNS-depressant drugs during therapy and not to take other Rx, OTC, or herbal products without consulting health care professional.
- Instruct female patients to inform health care professional if pregnancy is planned or suspected or if breastfeeding.
- Instruct patient to notify health care professional if signs of allergy (rash, hives) occur.
- Emphasize the importance of follow-up exams to monitor progress. Encourage patient participation in psychotherapy.

EVALUATION/DESIRED OUTCOMES

- Increased sense of well-being.
- Renewed interest in surroundings. Need for therapy should be periodically reassessed. Therapy is usually continued for several months.
- Decreased anxiety.

vilazodone

(vil-**az**-oh-done)

Viibryd

CLASSIFICATION

Therapeutic: *antidepressants* ***Pharmacologic:*** *selective norepinephrine reuptake inhibitors benzofurans*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Treatment of major depressive disorder

ACTION

- ↑s serotonin activity in the CNS by inhibiting serotonin reuptake
- **Therapeutic Effects:**
  - Improvement in symptoms of depression

PHARMACOKINETICS

Absorption: 72% absorbed following oral administration with food.

Distribution: Unknown

Protein Binding: 96–99%

Metabolism and Excretion: Mostly metabolized by the liver, primarily by the CYP3A4 enzyme system; 1% excreted unchanged in urine

Half-life: 25 hr

TIME/ACTION PROFILE (blood levels)

ROUTE	ONSET	PEAK	DURATION
PO	unknown	4–5 hr	unknown

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Concurrent use or within 14 days of starting or stopping MOAIs
- Severe hepatic impairment.

Use Cautiously in:

- History of seizure disorder
- History of suicide attempt/suicidal ideation
- Bipolar disorder; may ↑ risk of mania/hypomania
- *OB:* Use during pregnancy only if maternal benefit outweighs fetal risk; use during third trimester may result in need for prolonged hospitalization, respiratory support and tube feeding
- *Lactation:* Breast feed only if maternal benefit outweighs newborn risk

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- *Pedi:* Safe and effective use in children not established; ↑ risk of suicidal thinking/behavior in children, adolescents and young adults.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT-LIKE SYNDROME, SEIZURES, SUICIDAL THOUGHTS, insomnia, abnormal dreams, dizziness.

GI: diarrhea, nausea, dry mouth, restlessness, vomiting.

Endo: ↓ libido, sexual dysfunction, syndrome of inappropriate antidiuretic hormone (SIADH).

F and E hyponatremia.

Hemat: bleeding.

Misc: SEROTONIN SYNDROME

INTERACTIONS

Drug-Drug:

- Concurrent use with, or use within 14 days of starting or stopping **MAOIs** may ↑ risk of neuroleptic malignant syndrome or serotonin syndrome and should be avoided
- Concurrent use with **NSAIDs**, **aspirin**, **antiplatelet drugs**, or other **drugs that affect coagulation** may ↑ risk of bleeding
- Concurrent use of **strong inhibitors of CYP3A4**, including **ketoconazole** ↑ blood levels and the risk of adverse reactions/toxicity; daily dose should not exceed 20 mg
- Concurrent use of **moderate inhibitors of CYP3A4**, including **erythromycin** may require dose reduction to 20 mg daily if adverse reactions/toxicity occurs
- Concurrent use with other **drugs that alter CNS serotonergic neurotransmitters** including **SSRIs**, **SNRIs**, **triptans**, **buspirone**, **tramadol**, and **typtophan products** may ↑ risk of serotonin syndrome and should be undertaken with caution
- Use cautiously with other **CNS-active drugs**

ROUTE/DOSAGE

- **PO (Adults):** 10 mg once daily for one week, then 20 mg once daily for one week, then 40 mg once daily. *Concurrent use of strong inhibitors of CYP3A4*—daily dose should not exceed 20 mg.

AVAILABILITY

- ***Tablets:*** 10 mg 20 mg 40 mg

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status and mood changes. Inform health care professional if patient demonstrates significant ↑ in anxiety, nervousness, or insomnia
- Prior to starting therapy, screen patient for bipolar disorder (detailed psychiatric history, including family history of suicide, bipolar disorder, depression). Use cautiously in patients with a positive history
- Assess suicidal tendencies, especially in early therapy. Restrict amount of drug available to patient. Risk may be ↑ in children, adolescents, and adults ≤24 yr
- Assess for signs and symptoms of hyponatremia (headache, difficulty concentrating, memory impairment, confusion, weakness, unsteadiness). May require discontinuation of therapy
- Assess for serotonin syndrome (mental changes [agitation, hallucinations, coma], autonomic instability [tachycardia, labile blood pressure, hyperthermia], neuromuscular aberrations [hyper-reflexia, incoordination], and/or GI

Continued on the following page

symptoms [nausea, vomiting, diarrhea]), especially in patients taking other serotonergic drugs (SSRIs, SNRIs, triptans)
- Monitor for development of neuroleptic malignant syndrome (fever, muscle rigidity, altered mental status, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness, loss of bladder control). Discontinue vilazodone and notify health care professional immediately if these symptoms occur
- ***Lab Test Considerations:*** Monitor serum sodium concentrations periodically during therapy. May cause hyponatremia potentially as a result of syndrome of inappropriate antidiuretic hormone secretion (SIADH)
- May cause altered anticoagulant effects. Monitor patients receiving warfarin, NSAIDs, or aspirin concurrently

POTENTIAL NURSING DIAGNOSES

- Ineffective coping (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- **PO:** Administer vilazodone with food; administration without food can result in inadequate drug concentrations and may ↓ effectiveness

PATIENT/FAMILY TEACHING

- Instruct patient to take vilazodone as directed at the same time each day. Take missed doses as soon as possible unless almost time for next dose. Do not double doses or discontinue abruptly. Gradually ↓ dose before discontinuation. Advise patient to read *Medication Guide* before starting therapy and with each Rx refill; new information may be available
- Advise patient, family, and caregivers to look for activation of maina/hypomania and suicidality, especially during early therapy or dose changes. Notify health care professional immediately if thoughts about suicide or dying, attempts to commit suicide; new or worse depression or anxiety; agitation or restlessness; panic attacks; insomnia; new or worse irritability; aggressiveness; acting on dangerous impulses, mania, or other changes in mood or behavior or if symptoms of serotonin syndrome occur
- Caution patient of the risk or serotonin syndrome and neuroleptic malignant syndrome, especially when taking triptans, tramadol, tryptophan supplements and other serotonergic or antipsychotic agents
- May cause dizziness. Caution patient to avoid driving or other activities requiring alertness until response to the drug is known
- Instruct patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to avoid concurrent use of Rx, OTC, and herbal products, especially NSAIDs, aspirin, and warfarin, without consulting health care professional
- Caution patient to avoid taking alcohol or other CNS-depressant drugs during therapy
- Instruct female patients to inform health care professional if pregnancy is planned or suspected or if breastfeeding
- Emphasize the importance of follow-up exams to monitor progress. Encourage patient participation in psychotherapy

EVALUATION/DESIRED OUTCOMES

- ↑ sense of well-being
- Renewed interest in surroundings. Need for therapy should be periodically reassessed. Therapy is usually continued for several months
- ↓ anxiety

zaleplon

(za-**lep**-lon)

Sonata

CLASSIFICATION

Therapeutic: *sedative/hypnotics*

Schedule IV

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Short-term management of insomnia in patients unable to get at least 4 hr of sleep; especially useful in sleep initiation disorders.

ACTION

- Produces CNS depression by binding to GABA receptors in the CNS.
- Has no analgesic properties.
- Therapeutic Effects:
  - Sedation and induction of sleep.

PHARMACOKINETICS

Absorption: Rapidly absorbed following oral administration.

Distribution: Enters breast milk.

Metabolism and Excretion: Extensively metabolized in the liver (mostly by aldehyde oxidase and some by CYP 450 3A4 enzymes).

Half-life: Unknown.

TIME/ACTION PROFILE

ROUTE	ONSET	PEAK	DURATION
PO	within min	unknown	3–4 hr

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Severe hepatic impairment.
- *OB/Lactation:* Pregnancy or lactation.

Use Cautiously in:

- Mild to moderate hepatic impairment, weight ≤50 kg, or concurrent cimetidine therapy (initiate therapy at lowest dose).
- Impaired respiratory function.
- History of suicide attempt.
- *Pedi:* Safety not established.
- *Geri:* ↑ risk of cognitive impairment. If used, start at lowest dose.

Continued on the following page

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: abnormal thinking, amnesia, anxiety, behavior changes, depersonalization, dizziness, drowsiness, hallucinations, headache, impaired memory (briefly following dose), impaired psychomotor function (briefly following dose), malaise, sleep—driving, vertigo, weakness.

EENT: abnormal vision, ear pain, epistaxis, hearing sensitivity, ocular pain, altered sense of smell.

CV: peripheral edema.

GI: abdominal pain, anorexia, colitis, dyspepsia, nausea.

GU: dysmenorrhea.

Derm: photosensitivity.

Neuro: hyperesthesia, paresthesia, tremor.

Misc: fever.

INTERACTIONS

Drug-Drug:

- **Cimetidine** ↓ metabolism and ↑ effects (initiate therapy at a lower dose).
- Additive CNS depression with other **CNS depressants** including **alcohol**, **antihistamines**, **opioid analgesics**, other **sedative/hypnotics**, **phenothiazines**, and **tricyclic antidepressants**.
- Effects may be ↓ by drugs that induce the CYP 450 3A4 enzyme system including **rifampin**, **phenytoin**, **carbamazepine**, and **phenobarbital**.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, **chamomile**, or **hops** can ↑ CNS depression.

Drug-Food:

- Concurrent ingestion of a **high-fat meal** slows the rate of absorption.

ROUTE/DOSAGE

- **PO (Adults <65 yr):** 10 mg (range 5–20 mg) at bedtime.
- **PO (Geriatric Patients or Patients <50 kg):** Initiate therapy at 5 mg at bedtime (not to exceed 10 mg at bedtime).

Hepatic Impairment
PO (Adults): Initiate therapy at 5 mg at bedtime (not to exceed 10 mg at bedtime).

AVAILABILITY (GENERIC AVAILABLE)

- ***Capsules:*** 5 mg, 10 mg
  - **Cost:** 5 mg $106.99/30, 10 mg $103.99/90.

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status, sleep patterns, and potential for abuse prior to administering this medication. Prolonged use of >7–10 days may lead to physical and psychological dependence. Limit amount of drug available to the patient.
- Assess alertness at time of peak effect. Notify health care professional if desired sedation does not occur.
- Assess patient for pain. Medicate as needed. Untreated pain decreases sedative effects.

POTENTIAL NURSING DIAGNOSES

- (Indications)
- Risk for injury (Side Effects)

Continued on the following page

IMPLEMENTATION

- Before administering, reduce external stimuli and provide comfort measures to increase effectiveness of medication.
- Protect patient from injury. Supervise ambulation and transfer of patients after administration. Remove cigarettes. Side rails should be raised and call bell within reach at all times .
- **PO:** Tablets should be swallowed whole with full glass of water immediately before bedtime or after going to bed and experiencing difficulty falling asleep. Do not administer with or immediately after a high-fat or heavy meal.

PATIENT/FAMILY TEACHING

- Instruct patient to take zaleplon as directed. Do not take more than the amount prescribed because of the habit-forming potential. Not recommended for use longer than 7–10 days. Rebound insomnia (1–2 nights) may occur when stopped. If used for 2 wk or longer, abrupt withdrawal may result in dysphoria, insomnia, abdominal or muscle cramps, vomiting, sweating, tremors, and seizures.
- Because of rapid onset, advise patient to go to bed immediately after taking zaleplon.
- May cause daytime drowsiness or dizziness. Advise patient to avoid driving or other activities requiring alertness until response to this medication is known.
- Inform patient that amnesia may occur, but can be avoided if zaleplon is only taken when patient is able to get >4 hr sleep.
- Caution patient to avoid concurrent use of alcohol or other CNS depressants.

EVALUATION/DESIRED OUTCOMES

- Relief of insomnia.

ziprasidone

(zi-**pra**-si-done)

Geodon

CLASSIFICATION

Therapeutic: *antipsychotics, mood stabilizers* ***Pharmacologic:*** *piperazine derivatives*

Pregnancy Category C

= Genetic implication.

= Canadian drug name.

INDICATIONS

- Schizophrenia.
- IM form is reserved for control of acutely agitated patients.
- Bipolar mania (acute manic and manic/mixed episodes).

ACTION

- Effects probably mediated by antagonism of dopamine type 2 (D2) and serotonin type 2 ($5\text{-}HT_2$).
- Also antagonizes α_2 adrenergic receptors.
- Therapeutic Effects:
  - Diminished schizophrenic behavior.

PHARMACOKINETICS

Absorption: 60% absorbed following oral administration; 100% absorbed from IM sites.

Distribution: Unknown.

Protein Binding: 99%; potential for drug interactions due to drug displacement is minimal.

Metabolism and Excretion: 99% metabolized by the liver; <1% excreted unchanged in urine.

Half-life: *PO*—7 hr; *IM*—2–5 hr.

TIME/ACTION PROFILE (blood levels)

ROUTE	ONSET	PEAK	DURATION
PO	within hours	1–3 days†	unknown
IM	rapid	60 min	unknown

†Steady state achieved following continuous use

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- History of QT prolongation (persistent QTc measurements >500 msec), arrhythmias, recent MI or uncompensated heart failure.
- Concurrent use of other drugs known to prolong the QT interval including quinidine, dofetilide, sotalol, other class Ia and III antiarrhythmics, pimozide, sotalol, thioridazine, chlorpromazine, pentamidine, arsenic trioxide, mefloquine, dolasetron, tacrolimus, droperidol, and moxifloxacin.
- Hypokalemia or hypomagnesemia.
- *Lactation:* Discontinue drug or bottle feed.

Continued on the following page

Use Cautiously in:

- Concurrent diuretic therapy or diarrhea (may ↑ the risk of hypotension, hypokalemia, or hypomagnesemia).
- Significant hepatic impairment.
- History of cardiovascular or cerebrovascular disease.
- Hypotension, concurrent antihypertensive therapy, dehydration, or hypovolemia (may ↑ risk of orthostatic hypotension).
- *OB:* Use only if potential benefit outweighs potential risk to the fetus.
- *Pedi:* Safety not established.
- *Geri:* Alzheimer's dementia or age >65 yr (may ↑ risk of seizures).
- Geriatric patients (may require ↑ doses; ↑ risk of mortality in elderly patients treated for dementia-related psychosis).
- Patients at risk for aspiration pneumonia.
- History of suicide attempt.

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: NEUROLEPTIC MALIGNANT SYNDROME, seizures, dizziness, drowsiness, restlessness, extrapyramidal reactions, syncope, tardive dyskinesia.

Resp: cough/runny nose.

CV: PROLONGED QT INTERVAL, orthostatic hypotension.

GI: constipation, diarrhea, nausea, dysphagia.

GU: amenorrhea, impotence.

Hemat: AGRANULOCYTOSIS, leukopenia, neutropenia.

Endo: galactorrhea.

Derm: rash, urticaria.

INTERACTIONS

Drug-Drug:

- Concurrent use of **quinidine, dofetilide, other class Ia and III antiarrhythmics, pimozide, sotalol, thioridazine, chlorpromazine, pentamidine, arsenic trioxide, mefloquine, dolasetron, tacrolimus, droperidol, moxifloxacin**, or other agents that prolong the QT interval may result in potentially life-threatening adverse drug reactions (concurrent use contraindicated).
- Additive CNS depression may occur with **alcohol, antidepressants, antihistamines, opioid analgesics**, or **sedative/hypnotics**.
- Blood levels and effectiveness may be ↑ by **carbamazepine**.
- Blood levels and effects may be ↑ by **ketoconazole**.

ROUTE/DOSAGE

- **PO (Adults):** *Schizophrenia*—20 mg twice daily initially; dose increments may be made at 2-day intervals up to 80 mg twice daily; *Mania*—40 mg twice on first day, then 60 or 80 mg twice daily on second day, then 40–80 mg twice daily.
- **IM (Adults):** 10–20 mg as needed up to 40 mg/day; may be given as 10 mg every 2 hr or 20 mg every 4 hr.

AVAILABILITY

- ***Capsules:*** 20 mg, 40 mg, 60 mg, 80 mg
  - **Cost:** 20 mg $974.88/180, 40 mg $975.96/180, 60 mg $1,172.00/180, 80 mg $1,172.00/180.
- ***Lyophilized powder for injection (requires reconstitution):*** 20 mg/vial.

NURSING IMPLICATIONS

ASSESSMENT

- Monitor patient's mental status (orientation, mood, behavior) prior to and periodically during therapy.

Continued on the following page

- Assess weight and BMI initially and throughout therapy.
- Monitor blood pressure (sitting, standing, lying) and pulse rate prior to and frequently during initial dose titration. Patients found to have persistent QTc measurements of >500 msec should have ziprasidone discontinued. Patients who experience dizziness, palpitations, or syncope may require further evaluation (i.e., Holter monitoring).
- Assess for rash during therapy. May be treated with antihistamines or corticosteroids. Usually resolves upon discontinuation of ziprasidone. Medication should be discontinued if no alternative etiology for rash is found.
- Observe carefully when administering medication to ensure medication is actually taken and not hoarded or cheeked.
- Monitor for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (*parkinsonian*—difficulty speaking or swallowing, loss of balance control, pill rolling of hands, mask-like face, shuffling gait, rigidity, tremors and dystonic muscle spasms, twisting motions, twitching, inability to move eyes, weakness of arms or legs) every 2 mo during therapy and 8–12 wk after therapy has been discontinued. Notify health care professional if these symptoms occur, as reduction in dose or discontinuation of medication may be necessary. Trihexyphenidyl or benztropine may be used to control these symptoms.
- Although not yet reported for ziprasidone, monitor for possible tardive dyskinesia (uncontrolled rhythmic movement of mouth, face, and extremities, lip smacking or puckering, puffing of cheeks, uncontrolled chewing, rapid or worm-like movements of tongue). Report these symptoms immediately; may be irreversible.
- Monitor frequency and consistency of bowel movements. Increasing bulk and fluids in the diet may help to minimize constipation.
- Ziprasidone lowers the seizure threshold. Institute seizure precautions for patients with history of seizure disorder.
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tiredness). Notify health care professional immediately if these symptoms occur.
- Monitor for symptoms related to hyperprolactinemia (menstrual abnormalities, galactorrhea, sexual dysfunction).
- *Lab Test Considerations:* Monitor serum potassium and magnesium prior to and periodically during therapy. Patients with low potassium or magnesium should have levels treated and check prior to resuming therapy. Obtain fasting blood glucose and cholesterol levels initially and throughout therapy.
- Monitor CBC frequently during initial months of therapy in patients with pre-existing or history of low WBC. May cause leukopenia, neutropenia, or agranulocytosis. Discontinue therapy if this occurs.
- Monitor serum prolactin prior to and periodically during therapy. May cause ↑ serum prolactin levels.

POTENTIAL NURSING DIAGNOSES

- Risk for other-directed violence (Indications)
- Disturbed thought process (Indications)
- Imbalanced nutrition: risk for more than body requirements (Side Effects)

IMPLEMENTATION

- Dose adjustments should be made at intervals of no less than 2 days. Usually patients should be observed for several weeks before dose titration.
- Patients on parenteral therapy should be converted to oral doses as soon as possible.
- **PO:** Administer capsules with food or milk to decrease gastric irritation. Capsules should be swallowed whole; do not open.
- **IM:** Add 1.2 mL of Sterile Water for Injection to the vial; shake vigorously until all drug is dissolved for a concentration of 20 mg/mL. Discard unused portion. Do not mix with other products or solutions. Do not administer solutions that are discolored or contain particulate matter.

Continued on the following page

PATIENT/FAMILY TEACHING

- Instruct patient to take medication as directed. Do not discontinue medication without discussing with health care professional, even if feeling well. Patients on long-term therapy may need to discontinue gradually.
- Inform patient of possibility of extrapyramidal symptoms. Instruct patient to report these symptoms immediately.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- May cause seizures and drowsiness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Caution patient to avoid concurrent use of alcohol, other CNS depressants, Rx, OTC and herbal products without consulting health care professional.
- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.
- Instruct patient to notify health care professional promptly if dizziness, loss of consciousness, palpitations, menstrual abnormalities, galactorrhea or sexual dysfunction occur or if pregnancy is planned or suspected.
- Advise female patients to notify health care professional if pregnancy is planned or suspected, or if breastfeeding or planning to breastfeed.
- Advise patient of need for continued medical follow-up for psychotherapy, eye exams, and laboratory tests.

EVALUATION/DESIRED OUTCOMES

- Decrease in acute excited, manic behavior.
- Decrease in positive (delusions, hallucinations) and negative symptoms (social withdrawal, flat, blunted affect) of schizophrenia.

zolpidem

(**zole**-pi-dem)

Ambien, Ambien CR, Edluar, Zolpimist

CLASSIFICATION

Therapeutic: *sedative/hypnotics*

Schedule IV

Pregnancy Category C

🍁 = Genetic implication.

🍁 = Canadian drug name.

INDICATIONS

- Insomnia.

ACTION

- Produces CNS depression by binding to GABA receptors.
- Has no analgesic properties.
- Therapeutic Effects:
  - Sedation and induction of sleep.

PHARMACOKINETICS

Absorption: Rapidly absorbed following oral administration. Controlled-release formulation releases 10 mg immediately, then another 2.5 mg later.

Distribution: Minimal amounts enter breast milk; remainder of distribution not known.

Metabolism and Excretion: Converted to inactive metabolites, which are excreted by the kidneys.

Half-life: 2.5–3 hr (↑ in geriatric patients and patients with hepatic impairment).

TIME/ACTION PROFILE (sedation)

ROUTE	ONSET	PEAK*	DURATION
PO	rapid	30 min–2 hr	6–8 hr
PO-ER	rapid	2–4 hr	6–8 hr
PO-Spray	rapid	unknown	unknown
SL	rapid	unknown	unknown

*Food delays peak levels and effects

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in:

- Hypersensitivity.
- Sleep apnea.

Use Cautiously in:

- History of previous psychiatric illness, suicide attempt, drug or alcohol abuse.
- Hepatic impairment (initial dose reduction recommended).

Continued on the following page

- *Geri:* Geriatric patients (initial dose ↓ recommended).
- Pulmonary disease.
- *OB/Lactation/Pedi:* Pregnancy, lactation, or children (safety not established).

ADVERSE REACTIONS/SIDE EFFECTS

(CAPITALS indicate life-threatening; underlines indicate most frequent.)

CNS: daytime drowsiness, dizziness, abnormal thinking, amnesia, behavior changes, "drugged" feeling, hallucinations, sleep-driving.

GI: diarrhea, nausea, vomiting.

Misc: ANAPHYLACTIC REACTIONS, hypersensitivity reactions, physical dependence, psychological dependence, tolerance.

INTERACTIONS

Drug-Drug:

- CNS depression may ↑ with **sedatives/hypnotics**, **alcohol**, **phenothiazines**, **tricyclic antidepressants**, **opioid analgesics**, or **antihistamines**.

Drug-Natural:

- Concomitant use of **kava-kava**, **valerian**, or **chamomile** can ↑ CNS depression.

Drug-Food:

- **Food** ↓ and delays absorption.

ROUTE/DOSAGE

- **PO, SL (Adults):** *Tablets, spray, or SL tablets*—10 mg at bedtime.
- *Extended-release tablets*—12.5 mg at bedtime.
- **PO, SL (Geriatric Patients, Debilitated Patients, or Patients with Hepatic Impairment):** *Tablets, spray or SL tablets*—5 mg at bedtime initially.
- *Extended-release tablets*—6.25 mg at bedtime.

AVAILABILITY (GENERIC AVAILABLE)

- ***Tablets:*** 5 mg, 10 mg
  - **Cost:** *Generic*— 5 mg $15.99/30, 10 mg $17.99/30.
- ***Extended-release tablets:*** 6.25 mg, 12.5 mg
  - **Cost:** 6.25 mg $109.99/30, 12.5 mg $110.99/30.
- ***Sublingual tablets (Edluar):*** 5 mg, 10 mg.
- ***Oral spray (Zolpimist):*** 5 mg/spray (60 sprays/container).

NURSING IMPLICATIONS

ASSESSMENT

- Assess mental status, sleep patterns, and potential for abuse prior to administration. Prolonged use of >7–10 days may lead to physical and psychological dependence. Limit amount of drug available to the patient.
- Assess alertness at time of peak effect. Notify health care professional if desired sedation does not occur.
- Assess patient for pain. Medicate as needed. Untreated pain decreases sedative effects.

POTENTIAL NURSING DIAGNOSES

- (Indications)
- Risk for injury (Side Effects)

IMPLEMENTATION

- Before administering, reduce external stimuli and provide comfort measures to increase effectiveness of medication.
- Protect patient from injury. Raise bed side rails. Assist with ambulation. Take patient's cigarettes.
- **PO:** Tablets should be swallowed whole with full glass of water. For faster onset of sleep, do not administer with or immediately after a meal.
- Swallow extended-release tablets whole; do not crush, break, or chew.
- **SL:** To open the blister pack, separate the individual blisters at the perforations. Peel off top layer of paper and push tablet

Continued on the following page

through foil. Place the tablet under the tongue, allow to disintegrate; do not swallow or take with water.
- **Oral Spray:** Do not take with or immediately after a meal. Spray is a clear, colorless, and cherry-flavor solution.

PATIENT/FAMILY TEACHING

- Instruct patient to take zolpidem as directed. Advise patient not to take zolpidem unless able to stay in bed a full night (7–8 hours) before being active again. Do not take more than the amount prescribed because of the habit-forming potential. Not recommended for use longer than 7–10 days. If used for 2 wk or longer, abrupt withdrawal may result in fatigue, nausea, flushing, light-headedness, uncontrolled crying, vomiting, GI upset, panic attack, or nervousness. Instruct patient to read *Patient Information* for correct product before taking and with each Rx refill, changes may occur.
- Because of rapid onset, advise patient to go to bed immediately after taking zolpidem.
- May cause daytime drowsiness or dizziness. Advise patient to avoid driving or other activities requiring alertness until response to this medication is known.
- Caution patient that complex sleep-related behaviors (sleep-driving) may occur while asleep.
- Advise patient to notify health care professional immediately if signs of anaphylaxis (swelling of the tongue or throat, trouble breathing, and nausea and vomiting) occur.
- Caution patient to avoid concurrent use of alcohol or other CNS depressants.
- **Oral Spray:** To prime, patients should be told to point the black spray opening away from their face and other people and spray 5 times. For administration, hold container upright with the black spray opening pointed directly into the mouth. Press down fully on pump to make sure a full dose (5 mg) is sprayed directly into mouth over tongue. For 10-mg dose, a second spray should be administered. If not used for 14 days, re-prime with 1 spray.

EVALUATION/DESIRED OUTCOMES

- Relief of insomnia.

Sample Client Teaching Guides:
Benzodiazepines

Sample Client Teaching Guides:
Buspirone (BuSpar)

Sample Client Teaching Guides:
Tricyclic Antidepressants

Sample Client Teaching Guides:
Selective Serotonin Reuptake Inhibitors (SSRIs)

Sample Client Teaching Guides:
Monoamine Oxidase Inhibitors (MAOIs)

Sample Client Teaching Guides:
Heterocyclic Antidepressants

Sample Client Teaching Guides:
Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)

Sample Client Teaching Guides:
Lithium

Sample Client Teaching Guides:
Antipsychotics (Conventional)

Sample Client Teaching Guides:
Antipsychotics (Atypical)

Sample Client Teaching Guides:
Agents For Attention-Deficit/ Hyperactivity Disorder (ADHD)

Sample Client Teaching Guides:
Mood-Stabilizing Agents (Anticonvulsants)

Sample Client Teaching Guides:
Depression

Sample Client Teaching Guides:
Bipolar Disorder

Sample Client Teaching Guides:
Posttraumatic Stress Disorder (PTSD)

Sample Client Teaching Guides:
Obsessive-Compulsive Disorder (OCD)

Sample Client Teaching Guides:
Panic Disorder

Sample Client Teaching Guides:
Eating Disorders

Sample Client Teaching Guides:
Schizophrenia

Sample Client Teaching Guides:
Alzheimer's Disease

Sample Client Teaching Guides:
Alcoholism

Sample Client Teaching Guides:
Attention-Deficit/Hyperactivity Disorder (ADHD)

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____ Drug Prescribed_____
Directions for Use_____

Examples and Uses of This Medicine:

Benzodiazepines are used to treat moderate to severe anxiety: alprazolam [Xanax], chlordiazepoxide [Librium], clonazepam [Klonopin], clorazepate [Tranxene], diazepam [Valium], lorazepam [Ativan], and oxazepam. Some are used to treat insomnia (sleeplessness): flurazepam [Dalmane], temazepam [Restoril], estazolam, quazepam [Doral], and triazolam [Halcion]. Some are used for muscle spasms and to treat seizure disorders.

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Have glaucoma
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medications

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Mental confusion or depression
- Hallucinations (seeing, hearing, or feeling things not there)
- Skin rash or itching
- Sore throat and fever
- Unusual excitement, nervousness, irritability, or trouble sleeping

SIDE EFFECTS THAT MAY OCCUR BUT NOT REQUIRE A DOCTOR'S ATTENTION UNLESS THEY PERSIST LONGER THAN A FEW DAYS:

- Blurred vision, or other changes in vision
- Clumsiness, dizziness, lightheadedness, or slurred speech
- Constipation, diarrhea, nausea, vomiting, or stomach pain
- Difficulty in urination
- Drowsiness, headache, or unusual tiredness or weakness

Other Instructions While Taking This Medication:

- Take this medicine only as your doctor has directed. Do not take more of it or do not take it more often than prescribed. If large doses are taken for a prolonged period of time, it may become habit-forming.
- If you are taking this medicine several times a day and you forget a dose, if it is within an hour or so of the missed dose, go ahead and take it. Otherwise, wait and take the next dose at regular time. Do not double up on a dose if you forget one. Just keep taking the prescribed dosage.
- Do not stop taking the drug abruptly. To do so might produce serious withdrawal symptoms, such as depression, insomnia, anxiety, abdominal and muscle cramps, tremors, vomiting, sweating, convulsions, and delirium. Discuss with the doctor before stopping this medication.
- Do not consume other CNS depressants (including alcohol) while taking this medication.
- Do not take nonprescription medication without approval from physician.
- Rise slowly from the sitting or lying position to prevent a sudden drop in blood pressure.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____
Directions for Use_____

Uses of This Medicine:

BuSpar is used in the treatment of anxiety disorders. It is also sometimes used to treat the symptoms of premenstrual syndrome.

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medications

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Mental confusion or depression
- Hallucinations (seeing, hearing, or feeling things not there)
- Skin rash or itching
- Unusual excitement, nervousness, irritability, or trouble sleeping
- Persistent headache
- Involuntary movements of the head or neck muscles

SIDE EFFECTS THAT MAY OCCUR BUT NOT REQUIRE A DOCTOR'S ATTENTION UNLESS THEY PERSIST LONGER THAN A FEW DAYS:

- Dizziness; lightheadedness
- Drowsiness
- Nausea
- Fatigue
- Headache that subsides

Other Instructions While Taking This Medication:

- Take this medicine only as your doctor has directed. Do not take more of it or do not take it more often than prescribed.
- If you are taking this medicine several times a day and you forget a dose, if it is within an hour or so of the missed dose, go ahead and take it. Otherwise, wait and take the next dose at regular time. Do not double up on a dose if you forget one. Just keep taking the prescribed dosage.
- Do not consume CNS depressants (including alcohol) while taking this medication.
- Do not take nonprescription medication without approval from physician.
- Rise slowly from the sitting or lying position to prevent a sudden drop in blood pressure.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____ Drug Prescribed_____
Directions for Use_____

Examples and Uses of This Medicine:

Tricyclic antidepressants are used to treat symptoms of depression: amitriptyline, amoxapine, desipramine [Norpramin], doxepin [Sinequan], imipramine [Tofranil], nortriptyline [Aventyl], protriptyline [Vivactil], and trimipramine [Surmontil]. Doxepin is used to treat depression with anxiety. Clomipramine [Anafranil] is used to treat obsessive-compulsive disorder. Imipramine is also used to treat enuresis (bedwetting) in children.

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Have glaucoma
- Have a history of heart problems or high blood pressure
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medications
- Have a history of seizures

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Seizures
- Difficulty urinating
- Irregular heartbeat or chest pain
- Hallucinations
- Skin rash
- Sore throat and fever
- Unusual amount of restlessness and excitement
- Confusion; disorientation

SIDE EFFECTS THAT MAY OCCUR BUT MAY NOT REQUIRE A DOCTOR'S ATTENTION:

- Drowsiness
- Dry mouth
- Nausea
- Sensitivity to the sun (may burn easily)
- Headache
- Constipation

Other Instructions While Taking This Medication:

- Continue to take the medication even though you still have symptoms. It may take as long as 4 weeks before you start feeling better.
- Use caution when driving or operating dangerous machinery. Drowsiness and dizziness can occur. If these side effects don't go away or get worse, report them to the doctor.
- Do not stop taking the drug abruptly. To do so might produce withdrawal symptoms, such as nausea, vertigo, insomnia, headache, malaise, and nightmares. Tell the doctor when you want to stop taking it.
- Use sunscreens and wear protective clothing when spending time outdoors.
- Rise slowly from a sitting or lying position to prevent a sudden drop in blood pressure.
- Take frequent sips of water, chew sugarless gum, or suck on hard candy if dry mouth is a problem.
- You may take this medication with food if nausea is a problem.
- Do not drink alcohol while taking this medication.
- Do not consume other medications (including over-the-counter medications) without the physician's approval while taking this medication. Many medications contain substances that, in combination with tricyclic antidepressants, could be dangerous.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____ Drug Prescribed_____
Directions for Use_____

Examples and Uses of This Medicine:

SSRIs are used to treat symptoms of depression: citalopram [Celexa], escitalopram [Lexapro], fluoxetine [Prozac], paroxetine [Paxil], vilazodone [Viibryd], and sertraline [Zoloft]. Some are used to treat obsessive-compulsive disorder: fluvoxamine [Luvox], fluoxetine, [Prozac], paroxetine [Paxil], and sertraline [Zoloft]. Also bulimia nervosa: fluoxetine [Prozac]; panic disorder and premenstrual dysphoric disorder: fluoxetine [Prozac; Serafem], sertraline [Zoloft] and paroxetine [Paxil]; posttraumatic stress disorder: paroxetine [Paxil] and sertraline [Zoloft]; generalized anxiety disorder: escitalopram [Lexapro] and paroxetine [Paxil]; and social anxiety disorder: paroxetine [Paxil], sertraline [Zoloft], and fluvoxamine [Luvox].

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medications
- Have diabetes

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Skin rash
- Fever
- Unusual excitement, nervousness, irritability, or trouble sleeping
- Loss of appetite and weight loss
- Seizures
- Difficulty breathing
- Increased sensitivity to sunburn

SIDE EFFECTS THAT MAY OCCUR BUT MAY NOT REQUIRE A DOCTOR'S ATTENTION:

- Drowsiness
- Dizziness
- Nausea
- Headache
- Impotence or loss of sexual desire (this should be reported to physician if it is troubling to the patient)

Other Instructions While Taking This Medication:

- Continue to take the medication even though you still have symptoms. It may take as long as 4 weeks before you start feeling better.
- Use caution when driving or operating dangerous machinery. Drowsiness and dizziness can occur. If these side effects don't go away or get worse, report them to the doctor.
- Use sunscreens and wear protective clothing when spending time outdoors.
- Rise slowly from a sitting or lying position to prevent a sudden drop in blood pressure.
- Take frequent sips of water, chew sugarless gum, or suck on hard candy if dry mouth is a problem.
- You may take this medication with food if nausea is a problem.
- Avoid drinking alcohol while taking this medication.
- Do not consume other medications (including over-the-counter medications) without the physician's approval while taking this medication. Many medications contain substances that, in combination with SSRI antidepressants, could be dangerous.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____ Drug Prescribed_____
Directions for Use_____

Examples and Uses of This Medicine:

MAOIs are used to treat the symptoms of depression: isocarboxazid [Marplan], phenelzine [Nardil], tranylcypromine [Parnate], and selegiline transdermal system [Emsam].

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Have a history of liver or kidney disease
- Have been diagnosed with pheochromocytoma
- Have a history of severe or frequent headaches
- Are pregnant, plan to be, or are breastfeeding
- Have a history of hypertension
- Have a history of heart disease
- Are taking (or have taken in the last 2 weeks) ***any*** other medication

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Severe, pounding headache
- Rapid or pounding heartbeat
- Stiff or sore neck
- Chest pain
- Nausea and vomiting
- Seizures

THE FOLLOWING SIDE EFFECTS SHOULD ALSO BE REPORTED TO THE DOCTOR:

- Dark urine
- Yellowing of eyes or skin
- Hallucinations
- Fainting
- Hyperexcitability
- Confusion
- Fever
- Skin rash
- Disorientation

SIDE EFFECTS THAT MAY OCCUR BUT MAY NOT REQUIRE A DOCTOR'S ATTENTION:

- Constipation
- Diarrhea (unless severe and persistent)
- Dizziness
- Dry mouth
- Fatigue
- Drowsiness
- Nausea
- Decreased sexual ability

Other Instructions While Taking This Medication:

- Continue to take the medication even though you still have symptoms. It may take as long as 4 weeks before you start feeling better.
- Use caution when driving or operating dangerous machinery. Drowsiness and dizziness can occur.
- Do not stop taking the drug abruptly. To do so might produce withdrawal symptoms, such as nausea, vertigo, insomnia, headache, malaise, and nightmares. Tell the doctor when you want to stop taking it.
- Rise slowly from a sitting or lying position to prevent a sudden drop in blood pressure.
- Take frequent sips of water, chew sugarless gum, or suck on hard candy if dry mouth is a problem.

Continued on the following page

- You may take this medication with food if nausea is a problem. Do not drink alcohol.
- Do not consume other medications (including over-the-counter medications) without the physician's approval while taking this medication. Many medications contain substances that, in combination with MAOI antidepressants, could be dangerous.
- Do not consume the following foods or medications while taking MAOIs (or for 2 weeks after you stop taking them): aged cheese, raisins, red wine (especially Chianti), beer, chocolate, colas, coffee, tea, sour cream, beef/chicken livers, game meat, canned figs, soy sauce, meat tenderizer (MSG), pickled herring, smoked/processed meats (lunchmeats, sausage, pepperoni), yogurt, yeast products, broad beans, sauerkraut, cold remedies, diet pills, or nasal decongestants. To do so could cause a life-threatening condition.
- Be sure to tell any doctor or dentist that you see that you are taking this medication.
- Follow package directions carefully when applying the selegiline transdermal patch.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____ Drug Prescribed_____
Directions for Use_____

Examples and Uses of This Medicine:

Heterocyclic antidepressanats are used to treat symptoms of depression: maprotiline, mirtazapine [Remeron], trazodone [Desyrel], bupropion [Wellbutrin], and nefazodone. Maprotiline is also used to treat anxiety associated with depression. Trazodone is also used to treat insomnia and panic disorder. Bupropion has been shown to be effective in the treatment of attention-deficit/hyperactivity disorder and as a smoking deterrent (Zyban).

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Have an eating disorder
- Have a history of heart problems
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medications
- Have a history of seizures or high blood pressure

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Seizures
- Fever, chills
- Sore throat
- Prolonged erection (trazodone)
- Unusual amount of restlessness and excitement
- Irregular heartbeat or chest pain
- Hallucinations
- Skin rash
- Jaundice, anorexia, GI complaints, malaise (signs of liver dysfunction [nefazodone])

SIDE EFFECTS THAT MAY OCCUR BUT NOT REQUIRE A DOCTOR'S ATTENTION UNLESS THEY PERSIST LONGER THAN A FEW DAYS:

- Drowsiness
- Dizziness
- Dry mouth
- Constipation
- Headache
- Nausea

Other Instructions While Taking This Medication:

- Continue to take the medication even though you still have symptoms. It may take as long as 4 weeks before you start feeling better.
- Use caution when driving or operating dangerous machinery. Drowsiness and dizziness can occur. If these side effects don't go away or get worse, report them to the doctor.
- Do not stop taking the drug abruptly. To do so might produce withdrawal symptoms, such as nausea, vertigo, insomnia, headache, malaise, and nightmares. Tell the doctor when you want to stop taking it.
- Rise slowly from a sitting or lying position to prevent a sudden drop in blood pressure.
- Take frequent sips of water, chew sugarless gum, or suck on hard candy if dry mouth is a problem.
- You may take this medication with food if nausea is a problem.
- Do not drink alcohol while taking this medication.
- Do not consume other medications (including over-the-counter medications) without the physician's approval while taking this medication. Many medications contain substances that, in combination with heterocyclic antidepressants, could be dangerous.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____ Drug Prescribed_____
Directions for Use_____

Examples and Uses of This Medicine:

SNRIs are used to treat symptoms of depression: venlafaxine [Effexor], duloxetine [Cymbalta], and desvenlafaxine [Pristiq]. Venlafaxine is also used to treat generalized anxiety disorder, social anxiety disorder, and panic disorder. It has also been effective in treatment of hot flashes, premenstrual dysphoric disorder, and posttraumatic stress disorder. Duloxetine is also used to treat diabetic peripheral neuropathic pain, fibromyalgia, and generalized anxiety disorder.

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Have glaucoma
- Have a history of seizures
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medications
- Have a history of heart disease

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Skin rash
- Seizures
- Unusual amount of restlessness or excitement
- Irregular heartbeat or chest pain

SIDE EFFECTS THAT MAY OCCUR BUT NOT REQUIRE A DOCTOR'S ATTENTION UNLESS THEY PERSIST LONGER THAN A FEW DAYS:

- Dizziness
- Headache
- Constipation
- Dry mouth
- Drowsiness
- Insomnia
- Sexual dysfunction (should be reported to the physician if it is troubling to the patient)
- Nausea

Other Instructions While Taking This Medication:

- Continue to take the medication even though you still have symptoms. It may take as long as 4 weeks before you start feeling better.
- Use caution when driving or operating dangerous machinery. Drowsiness and dizziness can occur. If these side effects don't go away or get worse, report them to the doctor.
- Do not stop taking the drug abruptly. To do so might produce withdrawal symptoms, such as nausea, vertigo, insomnia, headache, malaise, and nightmares. Tell the doctor when you want to stop taking it.
- Rise slowly from a sitting or lying position to prevent a sudden drop in blood pressure.
- Take frequent sips of water, chew sugarless gum, or suck on hard candy if dry mouth is a problem.
- You may take this medication with food if nausea is a problem.
- Do not drink alcohol while taking this medication.
- Do not consume other medications (including over-the-counter medications) without the physician's approval while taking this medication. Many medications contain substances that, in combination with SNRI antidepressants, could be dangerous.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____
Directions for Use_____

Uses of This Medicine:

Lithium is used for treatment of manic episodes associated with bipolar disorder. Taking lithium regularly also prevents manic episodes or causes fewer, less serious manic episodes in a person with bipolar disorder.

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Have heart, kidney, or thyroid disease
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medication, particularly diuretics, haloperidol, NSAIDs, fluoxetine, or carbamazepine

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Lack of coordination
- Persistent nausea and vomiting
- Slurred speech
- Blurred vision
- Ringing in the ears
- Jerking of arms and legs
- Severe diarrhea
- Confusion

SIDE EFFECTS THAT MAY OCCUR BUT MAY NOT REQUIRE A DOCTOR'S ATTENTION UNLESS THEY PERSIST:

- Mild hand tremors
- GI upset; nausea
- Diarrhea
- Dizziness
- Dry mouth

Other Instructions While Taking This Medication:

- Take this medicine exactly as it is prescribed. Do not take more of it or more often than it is prescribed. Sometimes it takes several weeks of taking this medication before you begin to feel better. At some point, your doctor may make an adjustment in the dosage.
- Do not drive or operate dangerous machinery until your response to the medication is adjusted. Drowsiness or dizziness can occur.
- Do not stop taking the medication even if you are feeling fine and don't think you need it. Symptoms of mania can occur.
- Take this medication with food or milk to lessen stomach upset, unless otherwise directed by your doctor.
- Use a normal amount of salt in your food. Drink 8 to 10 glasses of water each day. Avoid drinks that contain caffeine (that have a diuretic effect). Have blood tests taken to check lithium level every month, or as advised by physician.
- Avoid consuming alcoholic beverages and nonprescription medications without approval from physician.
- Use extra care in hot weather and during activities that cause you to sweat heavily, such as hot baths, saunas, or exercising. The loss of too much water and salt from your body can lead to serious side effects from this medicine.
- Be sure to get enough salt and water in the diet during times of sickness that can deplete the body of water, such as high fever, nausea and vomiting, and diarrhea.
- Carry card at all times identifying the name of medications being taken.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____ Drug Prescribed_____
Directions for Use_____

Examples:

- Chlorpromazine
- Perphenazine
- Thioridazine
- Thiothixene (Navane)
- Fluphenazine
- Prochlorperazine
- Trifluoperazine
- Loxapine
- Haloperidol (Haldol)
- Pimozide (Orap)

Uses of This Medicine:

These medications are Used in the management of schizophrenia and other psychotic disorders. Chlorpromazine is also used in bipolar mania. Selected agents are used to treat nausea and vomiting: chlorpromazine, perphenazine, haloperidol [Haldol], and prochlorperazine; pediatric behavior problems: chlorpromazine and haloperidol [Haldol]; intractable hiccoughs: chlorpromazine and haloperidol [Haldol]; and Tourette's disorder: haloperidol [Haldol] and pimozide [Orap].

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Have history of seizures
- Have liver or heart disease
- Have any blood disorders
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medications (either prescription or over-the-counter)
- Have any other medical problem

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Difficulty urinating
- Shuffling walk
- Yellow eyes and skin
- Wormlike movements of the tongue
- Fainting
- Skin rash
- Sore throat
- Seizures
- Fever
- Muscle spasms or stiffness
- Excitement or restlessness
- Jerky movements of head, face, or neck
- Unusual bleeding; easy bruising
- Unusually fast heartbeat

SIDE EFFECTS THAT MAY OCCUR BUT MAY NOT REQUIRE A DOCTOR'S ATTENTION:

- Dry mouth
- Nausea
- Weight gain
- Blurred vision
- Decreased sweating
- Dizziness
- Constipation
- Increased sensitivity to sunburn
- Drowsiness

Other Instructions While Taking This Medication:

- Use caution when driving or operating dangerous machinery. Drowsiness and dizziness can occur.

Continued on the following page

- Do not stop taking the drug abruptly after long-term use. To do so might produce withdrawal symptoms, such as nausea, vomiting, gastritis, headache, tachycardia, insomnia, and tremulousness.
- Use sunscreens and wear protective clothing when spending time outdoors. Skin is more susceptible to sunburn, which can occur in as little as 30 minutes.
- Rise slowly from a sitting or lying position to prevent a sudden drop in blood pressure.
- Take frequent sips of water, chew sugarless gum, or suck on hard candy, if experiencing a problem with dry mouth.
- Dress warmly in cold weather and avoid extended exposure to very high or low temperatures. Body temperature is harder to maintain with this medication.
- Do not drink alcohol while on antipsychotic therapy. These drugs potentiate each other's effects.
- Do not consume other medications (including over-the-counter products) without physician's approval. Many medications contain substances that interact with antipsychotics in a way that may be harmful.
- Continue to take medication, even if feeling well and as though it is not needed. Symptoms may return if medication is discontinued.
- Some of these medications may turn the urine pink to red or reddish brown. This is harmless.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____ Drug Prescribed_____
Directions for Use_____

Examples:

- Risperidone (Risperdal)
- Clozapine (Clozaril)
- Olanzapine (Zyprexa)
- Quetiapine (Seroquel)
- Ziprasidone (Geodon)
- Aripiprazole (Abilify)
- Paliperidone (Invega)
- Iloperidone (Fanapt)
- Asenapine (Saphris)
- Lurasidone (Latuda)

Uses of This Medicine:

These medications are used in the management of schizophrenia and other psychotic disorders. Selected agents are used to treat bipolar mania: ziprasidone [Geodon], olanzapine [Zyprexa], quetiapine [Seroquel], risperidone [Risperdal], asenapine [Saphris], and aripiprazole [Abilify]. Aripiprazole (Abilify) is also used as adjunctive therapy in resistant depression.

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Have history of seizures
- Have liver or heart disease
- Have any blood disorders
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medications (either prescription or over-the-counter)
- Have any other medical problem

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Difficulty urinating
- Shuffling walk
- Yellow eyes and skin
- Wormlike movements of the tongue
- Fainting
- Skin rash
- Sore throat
- Seizures
- Fever
- Muscle spasms or stiffness
- Excitement or restlessness
- Jerky movements of head, face, or neck
- Unusual bleeding; easy bruising
- Unusually fast heartbeat

SIDE EFFECTS THAT MAY OCCUR BUT MAY NOT REQUIRE A DOCTOR'S ATTENTION:

- Dry mouth
- Nausea
- Weight gain
- Blurred vision
- Decreased sweating
- Dizziness
- Constipation
- Increased sensitivity to sunburn
- Drowsiness

Continued on the following page

Other Instructions While Taking This Medication:

- Use caution when driving or operating dangerous machinery. Drowsiness and dizziness can occur.
- Do not stop taking the drug abruptly after long-term use. To do so might produce withdrawal symptoms, such as nausea, vomiting, gastritis, headache, tachycardia, insomnia, and tremulousness.
- Use sunscreens and wear protective clothing when spending time outdoors. Skin is more susceptible to sunburn, which can occur in as little as 30 minutes.
- Rise slowly from a sitting or lying position to prevent a sudden drop in blood pressure.
- Take frequent sips of water, chew sugarless gum, or suck on hard candy, if you have dry mouth.
- Dress warmly in cold weather and avoid extended exposure to very high or low temperatures. Body temperature is harder to maintain with this medication.
- Do not drink alcohol while on antipsychotic therapy. These drugs potentiate each other's effects.
- Do not consume other medications (including over-the-counter products) without physician's approval. Many medications contain substances that interact with antipsychotics in a way that may be harmful.
- Continue to take medication, even if feeling well and as though it is not needed. Symptoms may return if medication is discontinued.
- Report weekly (if receiving clozapine therapy) to have blood levels drawn and to obtain a weekly supply of the drug.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____ Drug Prescribed_____
Directions for Use_____

Examples and Uses of This Medicine:

These central nervous system (CNS) stimulants are used in the treatment of attention-deficit/hyperactivity disorder (ADHD) in children and adults: dextroamphetamine sulfate [Dexedrine], methamphetamine [Desoxyn], lisdexamphetamine [Vyvanse], dextroamphetamine/amphetamine mixture [Adderall], dexmethylphenidate [Focalin], methylphenidate [Ritalin and others]. Atomoxetine [Strattera], the antidepressant bupropion [Wellbutrin], and the alpha-adrenergic agonists clonidine [Catapres] and guanfacine [Intuniv] are also used to treat ADHD.

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Have glaucoma
- Have a history of tics or Tourette's disorder
- Have a history of heart disease
- Have a history of hyperthyroidism
- Have any other medical problem
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medications
- Have arteriosclerosis
- Have high blood pressure
- Have taken an MAOI within 14 days

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Insomnia
- Rapid, pounding heartbeat
- Restlessness or agitation
- Slurred speech/confusion
- Severe, persistent headache
- Skin rash
- Fainting
- Sudden vision changes
- Shortness of breath
- Seizures
- Chest/arm pain
- Yellow skin/eyes

SIDE EFFECTS THAT MAY OCCUR BUT MAY NOT REQUIRE A DOCTOR'S ATTENTION:

- Dry mouth
- Dizziness
- Constipation
- Anorexia
- Nausea
- Headache

Other Instructions While Taking This Medication:

- Use caution in driving or operating dangerous machinery. Dizziness can occur.
- Do not stop taking the drug abruptly. To do so can cause fatigue and mental depression. Abrupt withdrawal from alpha-adrenergic agonists can result in nervousness and anxiety, and increase in blood pressure. Tell the physician if you wish to discontinue this medication.
- Take CNS stimulants, bupropion, or atomoxetine no later than 6 hours before bedtime to prevent insomnia.
- Do not take other medications (including over-the-counter drugs) without physician's approval. Many medications contain substances that, in combination with CNS stimulants, can be harmful.
- Diabetic clients should monitor blood sugar two or three times a day or as instructed by the physician. Be aware of need for possible alteration in insulin requirements because of changes in food intake, weight, and activity.
- Do not double up on the medication if doses are missed. Ensure that bupropion doses are taken at least 4 to 6 hours apart.
- Avoid consumption of large amounts of caffeinated products (coffee, tea, colas, chocolate). They may increase restlessness and stimulation.

PATIENT MEDICATION INSTRUCTION SHEET

Patient Name_____ Drug Prescribed_____
Directions for Use_____

Examples and Uses of This Medicine:

These medications are used in the treatment of seizure disorders and bipolar disorder: carbamazepine [Tegretol], clonazepam [Klonopin], valproic acid [Depakote], lamotrigine [Lamictal], gabapentin [Neurontin], topiramate [Topamax], and oxcarbazepine [Trileptal]. Selected agents are used for migraine prophylaxis: valproic acid, gabapentin, topiramate; and in panic disorder: clonazepam.

Before Using This Medicine, Be Sure to Tell Your Doctor if You:

- Are allergic to any medicine
- Have glaucoma
- Have a history of kidney disease
- Have a history of heart disease
- Have a history of liver disease
- Are pregnant, plan to be, or are breastfeeding
- Are taking any other medications
- Have taken an MAOI within 14 days
- Have high blood pressure
- Have any other medical problem

Side Effects of This Medicine:

REPORT THE FOLLOWING SIDE EFFECTS TO YOUR DOCTOR IMMEDIATELY:

- Easy bruising
- Unusual bleeding
- Pale stools or dark urine
- Diminished vision or eye pain (with topiramate)
- Suspected pregnancy
- Skin rash
- Yellow skin or eyes
- Sore throat or fever
- Abdominal pain
- Severe nausea and vomiting

SIDE EFFECTS THAT MAY OCCUR BUT MAY NOT REQUIRE A DOCTOR'S ATTENTION:

- Drowsiness
- Dizziness
- Constipation
- Headache
- Nausea
- Blurred vision
- Impaired concentration
- Increased sensitivity to the sun

Other Instructions While Taking This Medication:

- Use caution in driving or operating dangerous machinery. Dizziness can occur.
- Do not stop taking the drug abruptly. To do so may cause serious adverse reactions. Tell the physician if you wish to discontinue this medicine.
- Use sunblock lotion and protective clothing to protect from sunburn.
- Women taking oral contraceptives may need to choose another form of birth control, as their effectiveness is compromised with carbamazepine or topiramate.
- Do not take alcohol or other CNS depressants while you are taking this medication.
- Do not take other medications (including over-the-counter drugs) without physician's approval.
- Take medication as prescribed by physician. Do not take larger dose or more frequently than prescribed.
- Carry identification describing medication regimen.

WHAT IS DEPRESSION?

It is normal to feel "blue" sometimes. In fact, feelings of sadness or disappointment are quite common, particularly in response to a loss, a failure, or even a change. Depression is different than just feeling "blue" or unhappy. The severity of the feelings, how long they last, and the presence of other symptoms are some of the factors that separate normal sadness from depression. Depression is more common in women that it is in men, and the probability increases with age.

WHAT ARE THE SYMPTOMS OF DEPRESSION? (From the National Institute of Mental Health)

- Persistent sad, anxious or "empty" feeling
- Loss of interest or pleasure in ordinary activities, including sex
- Decreased energy, fatigue, feeling "slowed down"
- Sleep problems (insomnia, oversleeping, early-morning waking)
- Eating problems (loss of appetite or weight, weight gain)
- Difficulty concentrating, remembering, or making decisions
- Recurring aches and pains that don't respond to treatment
- Irritability
- Excessive crying
- Feelings of hopelessness or pessimism
- Feelings of guilt, worthlessness, or helplessness
- Thoughts of death or suicide; a suicide attempt

WHAT CAUSES DEPRESSION?

The causes of depression are not fully known. It is most likely caused by a combination of factors.

- **Genetic.** A lot of research has been done to determine if depression is hereditary. Although no direct mode of hereditary transmission has been discovered, it has been found that depression does run in families. You are more likely to get depressed if a close biological relative has or has had the illness.
- **Biological.** Depression is thought to be caused by a chemical imbalance in the brain. Neurotransmitters called serotonin, norepinephrine, and dopamine have been found to be deficient in people with depressive symptoms.
- **Hormonal.** In women, the female hormones estrogen and progesterone most likely play a role in depression. These hormones contribute to premenstrual depression, postpartum depression, and depression associated with menopause.
- **Medication side effects.** Some medications, such as steroids, hormones, cancer chemotherapy, and antiparkinsonian agents, cause depression as a side effect.
- **Nutritional deficiencies.** Deficiencies in vitamins B_1, B_6, B_{12}, and C, and niacin, iron, folic acid, zinc, calcium, and potassium may produce symptoms of depression.

HOW IS DEPRESSION DIAGNOSED?

A mental health specialist, such as a psychiatrist, social worker, or psychologist, is the best source for a diagnosis of depression. A pencil-and-paper screening test may be administered, but generally depression is diagnosed based on symptoms and other criteria.

WHAT IS THE TREATMENT FOR DEPRESSION?

Patients with depression have a number of treatment options, including psychotherapy and antidepressant medication. It has been found that either of these options may be effective; however, a combination of the two has been shown to be more effective than either treatment alone. For those who fail to improve with medications and/or psychotherapy, other techniques, such as electroconvulsive therapy (ECT), have proven to be safe and effective for treating depressive symptoms.

Continued on the following page

OTHER CONTACTS:

International Foundation for Research and Education on Depression (iFred), P.O. Box 17598, Baltimore, MD 21297; http://www.ifred.org/

Depression and Bipolar Support Alliance (DBSA), 730 N. Franklin St., Suite 501, Chicago, IL 60654, 1-800-826-3632; http://www.ndmda.org/

National Alliance on Mental Illness, 3803 North Fairfax Dr., Suite 100, Arlington, VA 22203, 1-800-950-6264; http://www.nami.org/

WHAT IS BIPOLAR DISORDER?

Bipolar disorder is sometimes called manic-depressive illness. It is indicated by moods that swing between two opposite extremes:

- Periods of mania (when the mood is elevated and the person is very excited or irritable)
- Periods of depression (when the person is sad and withdrawn)

WHAT ARE THE SYMPTOMS OF BIPOLAR DISORDER?

The symptoms of bipolar disorder, depression, are the same as those experienced by a person who gets depressed (but does not have bipolar disorder). They are sadness, fatigue, sleep problems, weight changes, inability to concentrate, loss of interest or pleasure in life, and thoughts or attempts of suicide.

Symptoms of bipolar disorder, mania, include being very excited, irritable, distracted, and unable to sleep. Individuals with bipolar mania have thoughts that race through their head, and sometimes they believe things that are not true. They talk excessively and move about constantly. They may be angry and suspicious, and can become violent. Some manic people spend a lot of money and abuse substances. Some manic patients may have thoughts of suicide. Some people have mixed symptoms in which they experience symptoms of depression part of the day and symptoms of mania part of the day.

Bipolar disorder affects men and women equally. It can occur in childhood, adolescence, adulthood, or late in life.

WHAT CAUSES BIPOLAR DISORDER?

- **Genetic.** Bipolar disorder has a strong hereditary factor. It occurs more often within families, and individuals who have close biological relatives with the illness are more likely to get the disorder themselves.
- **Biological.** Bipolar disorder is thought to be caused by a chemical imbalance in the brain. Neurotransmitters called dopamine and norepinephrine have been found to be elevated in people with manic symptoms.
- **Medication side effects.** Certain medications, such as steroids, amphetamines, antidepressants, and high doses of anticonvulsants and narcotics have the potential for initiating a manic episode.

HOW IS BIPOLAR DISORDER DIAGNOSED?

Bipolar disorder is often difficult to diagnose, and an individual with symptoms should be seen by a mental health professional. A careful history, taken with the help of family if possible, of any and all episodes of depression, mania, or both, must be completed. Patients often deny problems with mania. Other illnesses, such as attention-deficit/hyperactivity disorder, schizophrenia, substance abuse, thyroid disorders, adrenal disorders, and certain neurological disorders, which can all cause mood swings, must be ruled out.

WHAT IS THE TREATMENT FOR BIPOLAR DISORDER?

The goals of treating bipolar disorder are to:

- Treat the episodes of mania and depression when they occur.
- Decrease the number of episodes that occur.
- Help the patient function as effectively as possible between episodes.

Treatment is with mood-stabilizing drugs, such as lithium, valproic acid, carbamazepine, clonazepam, gabapentin, topiramate, oxcarbazepine, or lamotrigine. Antipsychotic medications, such as risperidone, olanzapine, aripiprazole, chlorpromazine, ziprasidone, asenapine, or quetiapine, are sometimes given. Psychotherapy has been shown to be helpful in patients with bipolar disorder to assist in the management of everyday stressors and to help prevent relapse.

OTHER CONTACTS:

Depression and Bipolar Support Alliance (DBSA), 730 Franklin St., Suite 501, Chicago, IL 60654, 1-800-826-3632; http://www.ndmda.org/

National Alliance on Mental Illness, 3803 North Fairfax Dr., Suite 100, Arlington, VA 22203, 1-800-950-6264; http://www.nami.org/

WHAT IS PTSD?

PTSD is an anxiety disorder, the symptoms of which occur following exposure to an extreme traumatic stressor. The stressor that triggers these symptoms is outside the norm of human experience, and includes events such as military combat, violent personal assault, being kidnapped or taken hostage, terrorist attack, being tortured, being a prisoner of war, natural or man-made disasters, severe automobile accidents, or being diagnosed with a life-threatening illness (*DSM-IV-TR,* 2000).

WHAT ARE THE SYMPTOMS OF PTSD?

- Recurrent and distressing thoughts about the event
- Nightmares about the event and sleeping problems
- Flashbacks and reliving the event
- Inability to remember parts of the event
- Avoids people or activities that remind of the event
- Guilt for surviving when others died
- Difficulty concentrating
- Irritability or outbursts of anger
- Exaggerated startle response
- Decreased interest or participation in activities
- Emotional withdrawal

WHAT CAUSES PTSD?

No one really knows why some people develop PTSD while others do not. Some theories include:

- Conditioned learning (People learn throughout their lives to respond to stress in certain ways.)
- Ineffective coping strategies (Some people naturally have stronger ability to cope than others.)
- Extreme severity and long duration of the stressor (It is thought that the more severe the stressor is and the longer it lasts, the more likely the person is to develop PTSD.)
- Absence of support systems (Whether a person has significant others in his or her life to offer support in time of extreme stress affects the outcome of the response.)
- Presence of preexisting psychopathology (Some individuals who already have an emotional problem may be more likely to develop PTSD in response to an extreme stressor.)
- People with a family history of anxiety disorders, who have a history of childhood abuse or neglect, or who experienced early separation from parents seem more highly predisposed to develop PTSD.

HOW IS PTSD DIAGNOSED?

A physical examination to rule out physical illness is conducted. The patient must tell the physician about any anxiety disorders or depression within the family, and mention any other contributing factors, such as a history of having experienced a traumatic event. PTSD is best diagnosed by a mental health professional.

WHAT IS THE TREATMENT FOR PTSD?

Group therapy and family therapy are effective treatments for PTSD in association with prescribed medications. Cognitive-behavioral therapy and eye movement desensitization and reprocessing are also recommended. The following medications have been useful in individuals with PTSD:

- Sertraline (Zoloft) and paroxetine (Paxil) have been approved by the FDA for treatment of PTSD. Other SSRIs (fluoxetine [Prozac], citalopram [Celexa], escitalopram [Lexapro], and fluvoxamine [Luvox]) have also been used.
- Other antidepressants have also been effective: bupropion (Wellbutrin), mirtazapine (Remeron), nefazodone, and venlafaxine (Effexor).
- Tricyclic and MAOI antidepressants have been successful with some individuals.
- Benzodiazepines may relieve anxiety, but are not recommended because they are addictive.
- The antihypertensives propranolol (Inderal) and clonidine (Catapres), as well as lithium and carbamazepine (Tegretol), have been successful in alleviating nightmares, intrusive recollections, insomnia, startle responses, and angry outbursts associated with PTSD.

Continued on the following page

OTHER CONTACTS:

International Society for Traumatic Stress Studies, 60 Revere Dr., Suite 500, Northbrook, IL 60062, 847-480-9028; http://www.istss.org/

National Alliance for the Mentally Ill, 3803 North Fairfax Dr., Suite 100, Arlington, VA 22203, 1-800-950-6264; http://www.nami.org/

WHAT IS OCD?

OCD is an anxiety disorder in which a person has recurring thoughts or images (called **obsessions**) and/or repetitive, ritualistic-type behaviors that the individual is unable to keep from doing (called **compulsions**). An individual with OCD may try to suppress these thoughts or behaviors, but is unable to do so. The individual knows that the thoughts or behaviors are irrational, but feels powerless to stop.

WHAT ARE THE SYMPTOMS OF OCD?

The most common obsessions include:

- Repeated thoughts about contamination (e.g., may lead to fear of shaking hands or touching objects)
- Repeated doubts (e.g., repeatedly wondering if they locked the door or turned off an appliance)
- A need to have things in a certain order (e.g., feels intense anxiety when things are out of place)
- Thoughts of aggression (e.g., to hurt a loved one)
- Sexual imagery (e.g., recurring pornographic image)

The most common compulsions include:

- Washing and cleaning (e.g., excessive hand washing or housecleaning)
- Counting (e.g., counting the number of times that something is done)
- Checking (e.g., checking something that one has done, over and over)
- Requesting or demanding assurances from others
- Repeating actions (e.g., going in and out of a door, or up and down from a chair)
- Ordering (e.g., arranging and rearranging clothes or other items)

The obsessions and compulsions seem to be worse in the face of emotional stress.

WHAT CAUSES OCD?

The exact causes of OCD are unclear. There appear to be certain contributing factors to the disorder. These include:

- **Biochemical.** OCD may be caused by a disturbance in the chemistry of the brain involving the neurotransmitter serotonin.
- **Genetics.** OCD seems to run in families. Researchers are still looking for specific genetic factors that may contribute to an inherited risk.
- **Learning theory.** Some clinicians believe that OCD may be the result of certain patterns of learned behavior in one's early family development.

HOW IS OCD DIAGNOSED?

OCD has differing degrees of severity. Some people are able to hide their illness or learn to live with it. In other instances, individuals may not be able to do anything but carry out their rituals, thereby causing a great deal of interference in their lives. Most individuals wait until the illness is severe enough that it is interfering with their social or occupational functioning before they seek treatment. A diagnosis should be made by a mental health professional.

WHAT IS THE TREATMENT FOR OCD?

Antidepressants have been used with success in the treatment of OCD. Clomipramine (Anafranil) was first to be approved by the FDA for this purpose. Because of their effectiveness and low side-effect profile, the SSRIs have become the first line of treatment for OCD. Other antidepressants that have also shown to be effective include venlafaxine (Effexor) and mirtazapine (Remeron).

In addition to medication, psychosocial techniques, such as cognitive-behavioral therapy, individual psychotherapy, and relaxation training, have been helpful for some individuals with OCD.

OTHER CONTACTS:

The International OCD Foundation, PO Box 961029, Boston, MA 02196, 617-973-5801; http://www.ocfoundation.org/

National Alliance for the Mentally Ill, 3803 North Fairfax Dr., Suite 100, Arlington, VA 22203, 1-800-950-6264; http://www.nami.org/

WHAT IS PANIC DISORDER?

Panic disorder is characterized by periodic attacks of anxiety, feelings of terror, and intense physical discomfort. They usually last about 15 to 30 minutes. The individual feels nervous and fearful between attacks. The attacks can occur spontaneously or in response to a particular situation. They may occur daily, then remit for months, or they may occur weekly for months at a time.

WHAT ARE THE SYMPTOMS OF PANIC DISORDER?

- Fast, pounding heartbeat
- Shortness of breath
- Nausea
- Fear of going insane
- Chills or hot flashes
- Sweating
- A choking feeling
- Dizziness
- Fear of dying
- Trembling or shaking
- Chest pain
- Feelings of unreality
- Numbness

WHAT CAUSES PANIC DISORDER?

The exact cause of panic disorder is unclear. There appear to be certain contributing factors to the disorder:

- **Biochemical.** Panic disorder may be caused by a disturbance in the chemistry of the brain involving the neurotransmitter norepinephrine.
- **Genetics.** Panic disorder seems to run in families. Many people with panic disorder have close relatives with the disorder.
- **Psychodynamics.** This theory suggests that panic disorder may be caused by the inability to solve the early childhood conflict of dependence vs. independence.

HOW IS PANIC DISORDER DIAGNOSED?

A physical examination to rule out physical illness is conducted. The patient should report any anxiety disorders or depression in other family members and other contributing factors, such as excessive caffeine use, recent life changes, or stressful events. Panic disorder is best diagnosed by a mental health professional.

WHAT IS THE TREATMENT FOR PANIC DISORDER?

A combination of psychosocial therapy and medication is the treatment of choice for panic disorder. Medications include: benzodiazepines (alprazolam [Xanax], lorazepam [Ativan], and clonazepam [Klonopin]). Care must be used in taking these medications, because they are addictive. Antidepressants such as the SSRIs are particularly effective and are often first-line treatment for panic disorder. The tricyclics clomipramine [Anafranil] and imipramine [Tofranil] have also been successful in treating this disorder. Individual psychotherapy, cognitive-behavioral therapy, and relaxation training are helpful.

OTHER CONTACTS:

Anxiety Disorders Association of America, 8730 Georgia Ave., Silver Spring, MD 20910, 240-485-1001; http://www.adaa.org/

National Anxiety Foundation, 3135 Custer Dr., Lexington, KY 40517, 606-272-7166 or 1-800-755-1576; http://lexington-online.com/naf.html

National Alliance for the Mentally Ill, 3803 North Fairfax Dr., Suite 100, Arlington, VA 22203, 1-800-950-6264; http://www.nami.org/

WHAT ARE EATING DISORDERS?

The categories of eating disorders include anorexia nervosa, bulimia nervosa, and binge eating. These disorders deal with food obsessions, distorted body images, and obsessional thinness. In reality, they have little to do with food and more to do with psychological and emotional factors. Ninety percent of eating disorders are in women.

WHAT ARE THE SYMPTOMS OF EATING DISORDERS?

In **anorexia nervosa,** individuals have an intense fear of gaining weight. They see themselves as fat, even though they may only weigh 85 percent or less of expected weight. They may eat very little, and they sometimes self-induce vomiting after eating. They exercise excessively. Women generally stop having periods. Blood pressure and temperature are low and the heartbeat is slow. In **bulimia nervosa,** the individual eats huge amounts of food and follows with self-induced vomiting (purging). They often abuse laxatives and diuretics. Their weight is usually within normal range. In **binge eating disorder,** the individual eats huge amounts of food, but does not purge. Weight gain can progress to obesity.

WHAT CAUSES EATING DISORDERS?

- **Genetics.** Eating disorders appear to run in families. There is thought to be a hereditary link
- **Biological.** Eating disorders may be associated with a disturbance in the chemistry of the brain involving the neurotransmitters serotonin and norepinephrine.
- **Family dynamics.** Some clinicians believe that eating behaviors become maladaptive when there are issues of power and control within the family. Perfectionism is expected by the parents in order for the child to earn their love and affection. Distorted eating patterns may be viewed by the adolescent as a way to gain and remain in control.

HOW ARE EATING DISORDERS DIAGNOSED?

Denial (on the part of both the parent and the child) is common in eating disorders. The disorder may progress to a serious condition before treatment is sought. In anorexia nervosa, the individual may be emaciated, not having periods, and may have a distorted self-image. In bulimia, the diagnosis is made if there are at least two bulimic episodes per week for 3 months. Lab work is completed: blood count, electrolytes, protein levels, ECG, and chest x-ray. A bone-density test may be administered.

WHAT IS THE TREATMENT FOR EATING DISORDERS?

Hospitalization for nutritional stabilization is common for anorexia and sometimes for bulimia. For the anorexic person, behavior modification with weight gain is the goal. Cognitive-behavioral therapy, interpersonal psychotherapy, and family therapy are used, along with medication. Medications for eating disorders include antidepressants (the SSRIs) for anorexia, bulimia, and binge eating; appetite stimulants for anorexia; and anorexiants for obesity.

OTHER CONTACTS:

National Association of Anorexia Nervosa and Associated Disorders, P.O. Box 640, Naperville, IL 60566, 630-577-1330; http://www.anad.org/

National Eating Disorders Association, 603 Stewart Street, Suite 803, Seattle, WA 98101, 206-382-3587; http://www.nationaleatingdisorders.org/

WHAT IS SCHIZOPHRENIA?

Schizophrenia is a severe, chronic, and often disabling brain disease. It causes severe mental disturbances that disrupt normal thought, speech, and behavior. It can affect anyone at any age, but most cases develop between adolescence and age 30. Schizophrenia impairs a person's ability to think clearly, make decisions, and relate to others.

WHAT ARE THE SYMPTOMS OF SCHIZOPHRENIA?

- Delusions (false ideas)
- Hallucinations (hearing, seeing, or feeling things that are not there)
- Confused thinking
- Speech that does not make sense
- Lack of feeling or emotional expression
- Lack of pleasure or interest in life
- Lack of ability to complete activities
- Suspiciousness
- Difficulty socializing with others

WHAT CAUSES SCHIZOPHRENIA?

The cause of schizophrenia is unknown. Several theories exist:

- **Genetics.** Genetics appears to play a role, as schizophrenia seems to run in families.
- **Biochemical.** An excess of the neurotransmitter dopamine is thought to play a role in the cause of the disorder. Abnormalities in other neurotransmitters have also been suggested.
- **Brain abnormalities.** Structural and cellular changes in the brain have been noted in people with schizophrenia.
- **Other.** Scientists are currently investigating maternal prenatal viral infections and mild brain damage to the child from complications during birth as contributing to the development of schizophrenia.

HOW IS SCHIZOPHRENIA DIAGNOSED?

To be diagnosed with schizophrenia, a person must have psychotic, "loss-of-reality" symptoms for at least 6 months and show increasing difficulty in normal functioning. The doctor will rule out other problems that cause psychotic symptoms, such as drugs, mania, major depression, autistic disorder, or personality disorders. Diagnosis should be made by a mental health professional.

WHAT IS THE TREATMENT FOR SCHIZOPHRENIA?

Hospitalization may be necessary to treat severe delusions or hallucinations or inability for self-care. A combination of psychosocial therapy and medication has been effective in treating schizophrenia. Individual psychotherapy, behavioral therapy, social skills training, and family therapy are appropriate, along with antipsychotic medication. Conventional antipsychotics include chlorpromazine, fluphenazine, haloperidol [Haldol], thiothixene [Navane], prochlorperazine, trifluoperazine, perphenazine, thioridazine, loxapine, and pimozide [Orap]. Newer atypical antipsychotics have fewer side effects and include risperidone [Risperdal], clozapine [Clozaril], olanzapine [Zyprexa], quetiapine [Seroquel], ziprasidone [Geodon], paliperidone [Invega], iloperidone [Fanapt], asenapine [Saphris], lurasidone [Latuda], and aripiprazole [Abilify]. Medications must be taken daily for maintenance of symptoms. Certain ones may be taken by injection at 1- to 4-week intervals.

OTHER CONTACTS:

National Alliance for the Mentally Ill, 3803 North Fairfax Dr., Suite 100, Arlington, VA 22203, 1-800-950-6264; http://www.nami.org/

World Fellowship for Schizophrenia and Allied Disorders, 19 MacPherson Ave., Toronto, Ontario M5R 1W7, Canada; http://www.world-schizophrenia.org/

WHAT IS ALZHEIMER'S DISEASE?

Alzheimer's disease is a type of dementia characterized by a loss of intellectual abilities involving impairment of memory, judgment, abstract thinking, and coordination of movement and changes in personality. An estimated 4 million people in the United States have Alzheimer's disease.

WHAT ARE THE SYMPTOMS OF ALZHEIMER'S DISEASE?

Early Stages

- Forgetfulness (loses things; forgets names)
- Confusion with performing simple tasks
- Confusion about month or season
- Difficulty making decisions
- Increasing loss of interest in activities
- Depression; anger
- Difficulty completing sentences or finding the right words
- Reduced and/or irrelevant conversation
- Visibly impaired movement or coordination, including slowing of movements, halting gait, and reduced sense of balance

Later Stages

- Unable to dress, groom, and toilet self
- Forgets names of close relatives
- Withdrawal; apathy
- Disorientation to surroundings
- Urinary and fecal incontinence
- Wandering
- Loss of language skills

What Causes Alzheimer's disease?

- **Genetics.** Hereditary factors appear to play a role in the development of Alzheimer's disease.
- **Biological.** Imbalance in the neurotransmitter acetylcholine. Levels of serotonin and norepinephrine may also be affected.
- **Brain changes.** Twisted nerve cell fibers, called neurofibrillary tangles, and a high concentration of plaques of a protein known as beta amyloid are found in the brains of people with Alzheimer's disease.
- **Head injury.** Injury to the head can accelerate the development of Alzheimer's disease in people who are susceptible to it.
- **Down syndrome.** People with Down syndrome are especially susceptible to Alzheimer's disease.

HOW IS ALZHEIMER'S DISEASE DIAGNOSED?

Family members report difficulties with memory, language, behavior, reasoning, and orientation. The physician then conducts a history and physical examination. Diagnostic laboratory tests are performed. CT scans or MRI may be used to rule out tumors or stroke. The neurologist will perform a mental status examination and possibly other cognitive and functional ability tests.

WHAT IS THE TREATMENT FOR ALZHEIMER'S DISEASE?

Treatment for Alzheimer's disease involves assistance with hygiene, dressing, grooming, toileting, and food preparation. Safety is an important issue, particularly as the individual begins to have difficulty with balance and coordination, and if he or she tends to wander. Individuals with Alzheimer's disease require help with all activities of daily living, and as the disease progresses, usually require institutionalization. Some medications have been approved for treating the symptoms of Alzheimer's disease. These include: memantine (Namenda), tacrine (Cognex), donepezil (Aricept), rivastigmine (Exelon), and galantamine (Reminyl). These medications have been shown to slow the progression of cognitive, functional, and behavioral symptoms in some individuals with Alzheimer's disease.

OTHER CONTACTS:

Alzheimer's Association, 225 N. Michigan Ave, Fl. 17, Chicago, IL 60601, 1-800-272-3900; http://www.alz.org/

Alzheimer's Disease Education and Referral Center, PO Box 8250, Silver Spring, MD 20907, 1-800-438-4380; http://www.nia.nih.gov/alzheimers/

WHAT IS ALCOHOLISM?

Alcoholism is a disease in which an individual is dependent upon alcohol. About 9 million persons in the United States have this disease. It is a lifelong illness, and is incurable, and the only effective management is total abstinence from alcohol.

WHAT ARE THE SYMPTOMS OF ALCOHOLISM?

Alcoholism may begin with social drinking or drinking to relieve stress and tension. As the individual continues to drink, tolerance develops, and the amount required to achieve the desired effect increases steadily. This progresses to blackouts—periods of drinking time that the individual is unable to remember. The disease has now progressed to the point that the individual requires alcohol to prevent withdrawal symptoms, yet denial of problems is common. Binges occur leading to physical illness and/or loss of consciousness. Abstaining from alcohol at this point can lead to tremors, hallucinations, convulsions, and severe agitation. Chronic alcoholism leads to many serious physical problems involving the heart, brain, and gastrointestinal system.

WHAT CAUSES ALCOHOLISM?

- **Genetic.** Alcoholism is thought to have a strong hereditary component.
- **Biological.** There may be a connection between alcoholism and certain neurotransmitters that form addictive substances in the brain when they combine with the products of alcohol metabolism.
- **Social learning.** Drinking alcohol may be learned early in the family of origin, thereby leading to a problem with drinking.
- **Cultural.** The incidence of alcohol abuse and dependence is higher in some cultures than others.

HOW IS ALCOHOLISM DIAGNOSED?

Alcoholism is diagnosed when the use of alcohol interferes with any aspect of the individual's life. The individual continues to drink even though he or she understands the negative consequences. When dependence occurs, the individual develops a tolerance and requires more and more of the substance. A syndrome of withdrawal symptoms occurs when the individual stops drinking or drastically cuts down on the amount consumed.

WHAT IS THE TREATMENT FOR ALCOHOLISM?

- **Rehabilitation Programs.** Help the individual get dry and, through therapy, to work toward achieving and maintaining sobriety.
- **Alcoholics Anonymous.** Self-help support groups made up of alcoholics who work to help each other achieve and maintain sobriety.
- **Medications.** Disulfiram (Antabuse) is a deterrent therapy. Individuals who drink alcohol while taking this drug become very ill. Naltrexone (ReVia), nalmefene (Revex), and acamprosate (Campral) have been used with some success in the treatment of alcoholism.

OTHER CONTACTS:

Alcoholics Anonymous, P.O. Box 459, New York, NY 10163, 212-870-3400; http://www.aa.org/

National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism, 5635 Fishers Lane, MSC 9304, Bethesda, MD 20892, 301-443-3860; http://www.niaaa.nih.gov/

WHAT IS ADHD?

ADHD is a behavior disorder that is characterized by hyperactivity, impulsiveness, inattention, or a combination of these behaviors that are more frequent and severe than would be expected for the age. It is usually not diagnosed before age 4, and is more common in boys than it is in girls. ADHD can also be a disorder in adults.

WHAT ARE THE SYMPTOMS OF ADHD?

There are three subtypes of the disorder:

1. **ADHD, Inattentive type:** has difficulty paying attention; does not listen when spoken to; is easily distracted; does not follow through on instructions; has difficulty organizing tasks and activities.
2. **ADHD, Hyperactive-Impulsive type:** has trouble sitting still; gets up out of seat at times when expected to remain seated; cannot play quietly; talks excessively; blurts out answers before questions are completed; has difficulty waiting turn; often interrupts or intrudes on others.
3. **ADHD, Combined type:** displays a combination of behaviors associated with the above two types.

WHAT CAUSES ADHD?

- **Genetics.** Hereditary factors appear to play a role in the development of ADHD.
- **Biochemical.** Abnormal levels of dopamine, norepinephrine, and serotonin have been implicated as a cause of ADHD.
- **Perinatal factors.** Perinatal factors implicated: problem pregnancies and difficult deliveries; maternal smoking and use of alcohol or other drugs during pregnancy; exposure during pregnancy to environmental toxins.
- **Environmental factors.** Exposure to environmental lead may be an influential factor.
- **Early family life.** A chaotic family environment, maternal mental disorder, paternal criminality, and family history of alcoholism, sociopathic behaviors, or hyperactivity may be contributing factors to ADHD.

HOW IS ADHD DIAGNOSED?

ADHD is difficult to diagnose. A mother's description of her child's behavior can be the most accurate and reliable guide for diagnosing ADHD. A detailed history of the child's behavior will be matched against a standardized checklist used to define the disorder. The physician will inquire about problem behaviors at home and school, sibling relationships, recent life changes, family history of ADHD, eating and sleeping patterns, and speech and language development. A medical history will be taken of the child, and also of the mother's pregnancy and delivery. A physical examination will be conducted. Screening tests may be used to test neurological, intellectual, and emotional development.

WHAT IS THE TREATMENT FOR ADHD?

Behavior modification and family therapy, in combination with medication, is used to treat ADHD. Medications include: CNS stimulants, including methylphenidate [Ritalin]; dexmethylphenidate [Focalin]; dextroamphetamine [Dexadrine]; methamphetamine [Desoxyn]; lisdexamfetamine [Vyvanse], and dextroamphetamine/amphetamine mixture [Adderall]. Other medications used for ADHD include atomoxetine [Strattera], the antidepressant bupropion [Wellbutrin], and the alpha-adrenergic agonists clonidine [Catapres] and guanfacine [Intuniv].

OTHER CONTACTS:

National Institute of Mental Health, 6001 Executive Blvd, Rm 8184, MSC 9663, Bethesda, MD 20892, 866-615-6464; http://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd/index.shtml

National Attention Deficit Disorder Association, 15000 Commerce Pkwy, Suite C, Mount Laurel, NJ 08054, 856-439-9099; http://www.add.org/

Care Plan for the Child with Attention-Deficit/Hyperactivity Disorder

NURSING DIAGNOSIS: RISK FOR INJURY

RELATED TO: Impulsive and accident-prone behavior and the inability to perceive self-harm

Outcome Criteria	Nursing Interventions	Rationale
Short-/Long-Term Goal: • Client will be free of injury.	1. Ensure that client has a safe environment. Remove objects from immediate area on which client could injure self as a result of random, hyperactive movements. 2. Identify deliberate behaviors that put the child at risk for injury. Institute consequences for repetition of this behavior. 3. If there is risk of injury associated with specific therapeutic activities, provide adequate supervision and assistance, or limit client's participation if adequate supervision is not possible.	1. Objects that are appropriate to the normal living situation can be hazardous to the child whose motor activities are out of control. 2. Behavior can be modified with aversive reinforcement. 3. Client safety is a nursing priority.

NURSING DIAGNOSIS: IMPAIRED SOCIAL INTERACTION

RELATED TO: Intrusive and immature behavior

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will interact in age-appropriate manner with nurse in one-to-one relationship within 1 week. **Long-Term Goal:** • Client will observe limits set on intrusive behavior and will demonstrate ability to interact appropriately with others.	1. Develop a trusting relationship with the child. Convey acceptance of the child separate from the unacceptable behavior. 2. Discuss with client which behaviors are and are not acceptable. Describe in a matter-of-fact manner the consequences of unacceptable behavior. Follow through. 3. Provide group situations for client.	1. Unconditional acceptance increases feelings of self-worth. 2. Aversive reinforcement can alter undesirable behaviors. 3. Appropriate social behavior is often learned from the positive and negative feedback of peers.

Continued on the following page

NURSING DIAGNOSIS: LOW SELF-ESTEEM
RELATED TO: Dysfunctional family system and negative feedback

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will independently direct own care and activities of daily living within 1 week. **Long-Term Goal:** • Client will demonstrate increased feelings of self-worth by verbalizing positive statements about self and exhibiting fewer demanding behaviors.	1. Ensure that goals are realistic. 2. Plan activities that provide opportunities for success. 3. Convey unconditional acceptance and positive regard. 4. Offer recognition of successful endeavors and positive reinforcement for attempts made. Give immediate positive feedback for acceptable behavior.	1. Unrealistic goals set client up for failure, which diminishes self-esteem. 2. Success enhances self-esteem. 3. Affirmation of client as worthwhile human being may increase self-esteem 4. Positive reinforcement enhances self-esteem and may increase the desired behaviors.

NURSING DIAGNOSIS: NONCOMPLIANCE (WITH TASK EXPECTATIONS)
RELATED TO: Low frustration tolerance and short attention span

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will participate in and cooperate during therapeutic activities. **Long-Term Goal:** • Client will complete assigned tasks willingly and independently or with a minimum of assistance.	1. Provide an environment for task efforts that is as free of distractions as possible. 2. Provide assistance on a one-to-one basis, beginning with simple, concrete instructions. 3. Ask client to repeat instructions to you. 4. Establish goals that allow client to complete a part of the task, rewarding each step-completion with a break for physical activity. 5. Gradually decrease the amount of assistance given, while assuring the client that assistance is still available if deemed necessary.	1. Client is highly distractible and is unable to perform in the presence of even minimal stimulation. 2. Client lacks the ability to assimilate information that is complicated or has abstract meaning. 3. Repetition of the instructions helps to determine client's level of comprehension. 4. Short-term goals are not so overwhelming to one with such a short attention span. The positive reinforcement (physical activity) increases self-esteem and provides incentive for client to pursue the task to completion. 5. This encourages the client to perform independently while providing a feeling of security with the presence of a trusted individual.

Care Plan for the Child with Autistic Disorder

NURSING DIAGNOSIS: RISK FOR SELF-MUTILATION
RELATED TO: Neurological alterations

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will demonstrate alternative behavior (e.g., initiating interaction between self and nurse) in response to anxiety within specified time. (Length of time required for this objective will depend on severity and chronicity of the disorder.) **Long-Term Goal:** • Client will not harm self.	1. Work with the child on a one-to-one basis. 2. Try to determine if the self-mutilative behavior occurs in response to increasing anxiety, and if so, to what the anxiety may be attributed. 3. Try to intervene with diversion or replacement activities and offer self to the child as anxiety level starts to rise. 4. Protect the child when self-mutilative behaviors occur. Devices such as a helmet, padded hand mitts, or arm covers may provide protection when the risk for self-harm exists.	1. One-to-one interaction facilitates trust. 2. Mutilative behaviors may be averted if the cause can be determined and alleviated. 3. Diversion and replacement activities may provide needed feelings of security and substitute for self-mutilative behaviors. 4. Client safety is a priority nursing intervention.

NURSING DIAGNOSIS: IMPAIRED SOCIAL INTERACTION
RELATED TO: Inability to trust; neurological alterations

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will demonstrate trust in one caregiver (as evidenced by facial responsiveness and eye contact) within specified time (depending on severity and chronicity of disorder). **Long-Term Goal:** • Client will initiate social interactions (physical, verbal, nonverbal) with caregiver by discharge from treatment.	1. Assign a limited number of caregivers to the child. Ensure that warmth, acceptance, and availability are conveyed. 2. Provide child with familiar objects, such as familiar toys or a blanket. Support child's attempts to interact with others. 3. Give positive reinforcement for eye contact with something acceptable to the child (e.g., food, familiar object). Gradually replace with social reinforcement (e.g., touch, smiling, hugging).	1. Warmth, acceptance, and availability, along with consistency of assignment, enhance the establishment and maintenance of a trusting relationship. 2. Familiar objects and presence of a trusted individual provide security during times of distress. 3. Being able to establish eye contact is essential to the child's ability to form satisfactory interpersonal relationships.

Continued on the following page

NURSING DIAGNOSIS: IMPAIRED VERBAL COMMUNICATION
RELATED TO: Withdrawal into the self; inadequate sensory stimulation; neurological alterations.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will establish trust with one caregiver (as evidenced by facial responsiveness and eye contact) by specified time (depending on severity and chronicity of disorder). **Long-Term Goal:** • Client will establish a means of communicating needs and desires to others.	1. Maintain consistency in assignment of caregivers. 2. Anticipate and fulfill the child's needs until communication can be established. 3. Seek clarification and validation. 4. Give positive reinforcement when eye contact is used to convey nonverbal expressions.	1. Consistency facilitates trust and enhances the caregiver's ability to understand the child's attempts to communicate. 2. Anticipating needs helps to minimize frustration while the child is learning communication skills. 3. Validation ensures that the intended message has been conveyed. 4. Positive reinforcement increases self-esteem and encourages repetition.

NURSING DIAGNOSIS: DISTURBED PERSONAL IDENTITY
RELATED TO: Inadequate sensory stimulation; neurological alterations

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will name own body parts as separate and individual from those of others. **Long-Term Goal:** • Client will develop ego identity (evidenced by ability to recognize physical and emotional self as separate from others) by time of discharge from treatment.	1. Assist child to recognize separateness during self-care activities, such as dressing and feeding. 2. Assist the child in learning to name own body parts. This can be facilitated by the use of mirrors, drawings, and pictures of the child. Encourage appropriate touching of, and being touched by, others.	1. Recognition of body parts during dressing and feeding increases the child's awareness of self as separate from others. 2. All of these activities may help increase the child's awareness of self as separate from others.

Care Plan for Child/Adolescent with Conduct Disorder

NURSING DIAGNOSIS: RISK FOR OTHER-DIRECTED VIOLENCE

RELATED TO: Characteristics of temperament, peer rejection, negative parental role models, dysfunctional family dynamics

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will discuss feelings of anger with nurse or therapist. **Long-Term Goal:** • Client will not harm others or others' property.	1. Observe client's behavior frequently through routine activities and interactions. Become aware of behaviors that indicate a rise in agitation. 2. Redirect violent behavior with physical outlets for suppressed anger and frustration. 3. Encourage client to express anger and act as a role model for appropriate expression of anger. 4. Ensure that a sufficient number of staff is available to indicate a show of strength if necessary. 5. Administer tranquilizing medication, if ordered, or use mechanical restraints or isolation room only if situation cannot be controlled with less restrictive means.	1. Recognition of behaviors that precede the onset of aggression may provide the opportunity to intervene before violence occurs. 2. Excess energy is released through physical activities inducing a feeling of relaxation. 3. Discussion of situations that create anger may lead to more effective ways of dealing with them. 4. This conveys an evidence of control over the situation and provides physical security for staff. 5. It is the client's right to expect the use of techniques that ensure safety of the client and others by the least restrictive means.

NURSING DIAGNOSIS: IMPAIRED SOCIAL INTERACTION

RELATED TO: Negative parental role models; impaired peer relations leading to inappropriate social behavior

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will interact in age-appropriate manner with nurse in one-to-one relationship within 1 week.	1. Develop a trusting relationship with the client. Convey acceptance of the person separate from the unacceptable behavior. 2. Discuss with client which behaviors are and are not acceptable. Describe in matter-of-fact manner the consequence of unacceptable behavior. Follow through.	1. Unconditional acceptance increases feeling of self-worth. 2. Aversive reinforcement can alter or extinguish undesirable behaviors.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will be able to interact with staff and peers using age-appropriate, acceptable behaviors.	3. Provide group situations for client.	3. Appropriate social behavior is often learned from the positive and negative feedback of peers.

NURSING DIAGNOSIS: DEFENSIVE COPING
RELATED TO: Low self-esteem and dysfunctional family system

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize personal responsibility for difficulties experienced in interpersonal relationships within (time period reasonable for client). **Long-Term Goal:** • Client will accept responsibility for own behaviors and interact with others without becoming defensive.	1. Explain to client the correlation between feelings of inadequacy and the need for acceptance from others and how these feelings provoke defensive behaviors, such as blaming others for own behaviors. 2. Provide immediate, matter-of-fact, nonthreatening feedback for unacceptable behaviors. 3. Help identify situations that provoke defensiveness and practice through role-play more appropriate responses. 4. Provide immediate positive feedback for acceptable behaviors.	1. Recognition of the problem is the first step in the change process toward resolution. 2. Client may not realize how these behaviors are being perceived by others. 3. Role-playing provides confidence to deal with difficult situations when they actually occur. 4. Positive feedback encourages repetition, and immediacy is significant for these children who respond to immediate gratification.

NURSING DIAGNOSIS: LOW SELF-ESTEEM
RELATED TO: Lack of positive feedback and unsatisfactory parent–child relationship

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will participate in own self-care and discuss with nurse aspects of self about which he or she feels good.	1. Ensure that goals are realistic. 2. Plan activities that provide opportunities for success.	1. Unrealistic goals set client up for failure, which diminishes self-esteem. 2. Success enhances self-esteem.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will demonstrate increased feelings of self-worth by verbalizing positive statements about self and exhibiting fewer manipulative behaviors.	3. Convey unconditional acceptance and positive regard. 4. Set limits on manipulative behavior. Take caution not to reinforce manipulative behaviors by providing desired attention. Identify the consequences of manipulation. administer consequences matter-of-factly when manipulation occurs. 5. Help client understand that he or she uses this behavior in order to try to increase own self-esteem. Interventions should reflect other actions to accomplish this goal.	3. Communicating that client is a worthwhile human being may increase self-esteem. 4. Aversive consequences may work to decrease unacceptable behaviors. 5. When the client feels better about self, the need to manipulate others will diminish.

Care Plan for the Child with Gender Identity Disorder

NURSING DIAGNOSIS: DISTURBED PERSONAL IDENTITY

RELATED TO: Parenting patterns that encourage culturally unacceptable behaviors for assigned gender

EVIDENCED BY: Statements of desiring to be of the opposite gender; exhibiting behaviors culturally associated with the opposite gender

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will verbalize knowledge of behaviors that are appropriate and culturally acceptable for assigned gender. • Client will verbalize desire for congruence between personal feelings and behavior of assigned gender. **Long-Term Goals:** • Client will demonstrate behaviors that are appropriate and culturally acceptable for assigned gender. • Client will express personal satisfaction and feelings of being comfortable in assigned gender.	1. Spend time with client and show positive regard. 2. Be aware of own feelings and attitudes toward this client and his or her behavior. 3. Allow client to describe his or her perception of the problem. 4. Discuss with client the types of behaviors that are more culturally acceptable. Practice these behaviors through role-playing or with play therapy strategies (e.g., male and female dolls). Positive reinforcement or social attention may be given for use of appropriate behaviors. No response is given for opposite-gender-stereotype behaviors.	1. Trust and unconditional acceptance are essential to the establishment of a therapeutic nurse-client relationship. 2. Attitudes influence behavior. The nurse must not allow negative attitudes to interfere with the effectiveness of interventions. 3. It is important to know how the client perceives the problem before attempting to correct misperceptions. 4. The goal is to enhance culturally appropriate same-gender behaviors, but not necessarily to extinguish all coexisting opposite-gender behaviors.

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NURSING DIAGNOSIS: IMPAIRED SOCIAL INTERACTION
RELATED TO: Social and culturally unacceptable behaviors
EVIDENCED BY: Peer rejection and identification with members of the opposite gender

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize possible reasons for ineffective interactions with others. **Long-Term Goal:** • Client will interact with others using culturally acceptable behaviors.	1. Once client feels comfortable with the new behaviors in role-playing or one-to-one nurse-client interactions, they may be tried in group situations. If possible, remain with client during interactions with others. Observe client behaviors and the responses he or she elicits from others. Give social attention (e.g., smile, nod) to desired behaviors. Follow up these "practice" sessions with one-to-one processing of the interaction. Give positive reinforcement for efforts. Offer support if client is feeling hurt from peer ridicule. Matter-of-factly discuss the behaviors that elicited the ridicule. Offer no personal reaction to the behavior.	1. The goal is to create a trusting, nonthreatening atmosphere for the client in an attempt to change behavior and improve social interactions. Long-term studies have not yet revealed the significance of therapy with these children or psychosexual relationship development in adolescence or adulthood. One variable that must be considered is the evidence of psychopathology within the families of many of these children.

NURSING DIAGNOSIS: LOW SELF-ESTEEM
RELATED TO: Rejection by peers
EVIDENCED BY: Difficulty accepting positive reinforcement; self-negating verbalizations; inability to form close, personal relationships

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize positive statements about self, including past accomplishments and future prospects.	1. Encourage child to engage in activities in which he or she is likely to achieve success. Help the child to focus on aspects of his or her life for which positive feelings exist. Discourage rumination about situations that are perceived as failures or over which client has no control. Give positive reinforcement for these behaviors.	1. Success and positive feedback enhance self-esteem.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will verbalize and demonstrate behaviors that indicate self-satisfaction with assigned gender, ability to interact with others, and a sense of self as a worthwhile person.	2. Help client identify behaviors or aspects of life he or she would like to change. If realistic, assist child in problem solving to find ways to bring about the change. 3. Offer to be available for support when the child is feeling rejected by peers.	2. Having some control over his or her life may decrease feelings of powerlessness and increase feelings of self-worth. 3. Having an available support person who does not judge the child's behavior and who provides unconditional acceptance assists the child to progress toward acceptance of self as a worthwhile person.

Care Plan for the Child with Mental Retardation

NURSING DIAGNOSIS: RISK FOR INJURY
RELATED TO: Altered physical mobility or aggressive behavior

Outcome Criteria	Nursing Interventions	Rationale
Short-/Long-Term Goal: • Client will not experience injury.	1. Create a safe environment for the client. 2. Ensure that small items are removed from area where client will be ambulating and that sharp items are out of reach. 3. Store items that client uses frequently within easy reach. 4. Pad siderails and headboard of client with history of seizures. 5. Prevent physical aggression and acting out behaviors by learning to recognize signs that client is becoming agitated.	1–5. Client safety is a nursing priority.

NURSING DIAGNOSIS: SELF-CARE DEFICIT
RELATED TO: Altered physical mobility or lack of maturity

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will be able to participate in aspects of self-care. **Long-Term Goal:** • Client will have all self-care needs met.	1. Identify aspects of self-care that may be within the client's capabilities. Work on one aspect of self-care at a time. Provide simple, concrete explanations. Offer positive feedback for efforts. 2. When one aspect of self-care has been mastered to the best of the client's ability, move on to another. Encourage independence but intervene when client is unable to perform.	1. Positive reinforcement enhances self-esteem and encourages repetition of desirable behaviors. 2. Client comfort and safety are nursing priorities.

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NURSING DIAGNOSIS: IMPAIRED VERBAL COMMUNICATION
RELATED TO: Developmental alteration

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will establish trust with caregiver and a means of communication of needs. **Long-Term Goals:** • Client's needs are being met through established means of communication. • If client cannot speak or communicate by other means, needs are met by caregiver's anticipation of client's needs.	1. Maintain consistency of staff assignment over time. 2. Anticipate and fulfill client's needs until satisfactory communication patterns are established. Learn (from family, if possible) special words client uses that are different from the norm. Identify nonverbal gestures or signals that client may use to convey needs if verbal communication is absent. Practice these communications skills repeatedly.	1. Consistency of staff assignments facilitates trust and the ability to understand client's actions and communications. 2. Some children with mental retardation, particularly at the severe level, can only learn by systematic habit training.

NURSING DIAGNOSIS: IMPAIRED SOCIAL INTERACTION
RELATED TO: Speech deficiencies or difficulty adhering to conventional social behavior

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will attempt to interact with others in the presence of trusted caregiver. **Long-Term Goal:** • Client will be able to interact with others using behaviors that are socially acceptable and appropriate to developmental level.	1. Remain with client during initial interactions with others on the unit. 2. Explain to other clients the meaning behind some of the client's nonverbal gestures and signals. Use simple language to explain to client which behaviors are acceptable and which are not. Establish a procedure for behavior modification with rewards for appropriate behaviors and aversive reinforcement for inappropriate behaviors.	1. Presence of a trusted individual provides a feeling of security. 2. Positive, negative, and aversive reinforcements can contribute to desired changes in behavior. These privileges and penalties are individually determined as staff learns the likes and dislikes of the client.

Care Plan for the Child/Adolescent with Oppositional Defiant Disorder

NURSING DIAGNOSIS: NONCOMPLIANCE WITH THERAPY

RELATED TO: Negative temperament; denial of problems; underlying hostility

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will participate in and cooperate during therapeutic activities. **Long-Term Goal:** • Client will complete assigned tasks willingly and independently or with a minimum of assistance.	1. Set forth a structured plan of therapeutic activities. Start with minimum expectations and increase as client begins to manifest evidence of compliance. 2. Establish a system of rewards for compliance with therapy and consequences for noncompliance. Ensure that the rewards and consequences are concepts of value to the client. 3. Convey acceptance of the client separate from the undesirable behaviors being exhibited. ("It is not *you*, but your *behavior*, that is unacceptable".)	1. Structure provides security and one or two activities may not seem as overwhelming as the whole schedule of activities presented at one time. 2. Positive, negative, and aversive reinforcements can contribute to desired changes in behavior. 3. Unconditional acceptance enhances self-worth and may contribute to a decrease in the need for passive–aggression toward others.

NURSING DIAGNOSIS: DEFENSIVE COPING

RELATED TO: Retarded ego development; low self-esteem; unsatisfactory parent/child relationship

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize personal responsibility for difficulties experienced in interpersonal relationships within (time period reasonable for client).	1. Help client recognize that feelings of inadequacy provoke defensive behaviors, such as blaming others for problems, and the need to "get even." 2. Provide immediate, nonthreatening feedback for passive–aggressive behavior. 3. Help identify situations that provoke defensiveness, and use role-play to practice more appropriate responses.	1. Recognition of the problem is the first step toward initiating change. 2. Because client denies responsibility for problems, he or she is denying the inappropriateness of behavior. 3. Role-playing provides confidence to deal with difficult situations when they actually occur.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will accept responsibility for own behaviors and interact with others without becoming defensive.	4. Provide immediate positive feedback for acceptable behaviors.	4. Positive feedback encourages repetition, and immediacy is significant for these children who respond to immediate gratification.

NURSING DIAGNOSIS: LOW SELF-ESTEEM
RELATED TO: Lack of positive feedback; retarded ego development

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will participate in own self-care and discuss with nurse aspects of self about which he or she feels good.	1. Ensure that goals are realistic.	1. Unrealistic goals set client up for failure, which diminishes self-esteem.
	2. Plan activities that provide opportunities for success.	2. Success enhances self-esteem.
	3. Convey unconditional acceptance and positive regard.	3. Affirmation of client as worthwhile human being may increase self-esteem.
Long-Term Goal: • Client will demonstrate increased feelings of self-worth by verbalizing positive statements about self and exhibiting fewer manipulative behaviors.	4. Set limits on manipulative behavior. Take caution not to reinforce manipulative behaviors by providing desired attention. Identify the consequences of manipulation. Administer consequences matter-of-factly when manipulation occurs.	4. Aversive reinforcement may work to decrease unacceptable behaviors.
	5. Help client understand that he or she uses this behavior in order to try to increase own self-esteem. Interventions should reflect other actions to accomplish this goal.	5. When client feels better about self, the need to manipulate others will diminish.

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NURSING DIAGNOSIS: IMPAIRED SOCIAL INTERACTION
RELATED TO: Negative temperament; underlying hostility; manipulation of others

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will interact in age-appropriate manner with nurse in one-to-one relationship within 1 week. **Long-Term Goal:** • Client will be able to interact with staff and peers using age-appropriate, acceptable behaviors.	1. Develop a trusting relationship with the client. Convey acceptance of the person separate from the unacceptable behavior. 2. Explain to the client about passive-aggressive behavior. Explain how these behaviors are perceived by others. Describe which behaviors are not acceptable and role-play more adaptive responses. Give positive feedback for acceptable behaviors. 3. Provide peer group situations for the client.	1. Unconditional acceptance increases feelings of self-worth and may serve to diminish feelings of rejection that have accumulated over a long period. 2. Role-playing is a way to practice behaviors that do not come readily to the client, making it easier when the situation actually occurs. Positive feedback enhances repetition of desirable behaviors. 3. Appropriate social behavior is often learned from the positive and negative feedback of peers. Groups also provide an atmosphere for using the behaviors rehearsed in role-play.

Care Plan for the Child or Adolescent with Tourette's Disorder

NURSING DIAGNOSIS: RISK FOR SELF-DIRECTED OR OTHER-DIRECTED VIOLENCE
RELATED TO: Low tolerance for frustration

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will seek out staff or support person at any time if thoughts of harming self or others should occur. • Client will not harm self or others. **Long-Term Goal:** • Client will not harm self or others.	1. Observe client's behavior frequently through routine activities and interactions. Become aware of behaviors that indicate a rise in agitation. 2. Monitor for self-destructive behavior and impulses. A staff member may need to stay with the client to prevent self-mutilation. 3. Provide hand coverings and other restraints that prevent the client from self-mutilative behaviors. 4. Redirect violent behavior with physical outlets for frustration.	1. Stress commonly increases tic behaviors. Recognition of behaviors that precede the onset of aggression may provide the opportunity to intervene before violence occurs. 2. Client safety is a nursing priority. 3. Provide immediate external controls against self-aggressive behaviors. 4. Excess energy is released through physical activities and a feeling of relaxation is induced.

NURSING DIAGNOSIS: IMPAIRED SOCIAL INTERACTION
RELATED TO: Impulsiveness; oppositional and aggressive behavior

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will develop a one-to-one relationship with a nurse or support person within 1 week. **Long-Term Goal:** • Client will be able to interact with staff and peers using age-appropriate, acceptable behaviors.	1. Develop a trusting relationship with the client. Convey acceptance of the person separate from the unacceptable behavior. 2. Discuss with client which behaviors are and are not acceptable. Describe in matter-of-fact manner the consequences of unacceptable behavior. Follow through. 3. Provide group situations for client.	1. Unconditional acceptance increases feelings of self-worth. 2. Aversive reinforcement can alter undesirable behaviors. 3. Appropriate social behavior is often learned from the positive and negative feedback of peers.

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NURSING DIAGNOSIS: LOW SELF-ESTEEM
RELATED TO: Shame associated with tic behaviors

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize positive aspects about self not associated with tic behaviors. **Long-Term Goal:** • Client will exhibit increased feeling of self-worth as evidenced by verbal expression of positive aspects about self, past accomplishments, and future prospects.	1. Convey unconditional acceptance and positive regard. 2. Set limits on manipulative behavior. Take caution not to reinforce manipulative behaviors by providing desired attention. Identify the consequences of manipulation. Administer consequences matter-of-factly when manipulation occurs. 3. Help client understand that he or she uses manipulation to try to increase own self-esteem. Interventions should reflect other actions to accomplish this goal. 4. If client chooses to suppress tics in the presence of others, provide a specified "tic time," during which he or she "vents" tics, feelings, and behaviors (alone or with staff). 5. Ensure that client has regular one-to-one time with nursing staff.	1. Communication of client as a worthwhile human being may increase self-esteem. 2. Aversive consequences may work to decrease or extinguish unacceptable behaviors. 3. When client feels better about self, the need to manipulate others will diminish. 4. Allows for release of tics and assists in sense of control and management of symptoms (Rosner & Pollice, 1991).* 5. Provides opportunity for educating about illness and teaching management tactics. Assists in exploring feelings around illness and incorporating illness into a healthy sense of self (Rosner & Pollice, 1991).

*SOURCE: Rosner, T.A., & Pollice, S.A. (1991). Tourette's syndrome. *Journal of Psychosocial Nursing*, *29* (1), 4–9.

Care Plan for the Client with Adjustment Disorder

NURSING DIAGNOSIS: COMPLICATED GRIEVING
RELATED TO: Real or perceived loss of any concept of value to the individual
EVIDENCED BY: Interference with life functioning, developmental regression, or somatic complaints

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize feelings and express anger at having experienced a loss. **Long-Term Goal:** • Client will be able to function adequately at age-appropriate level with evidence of progression toward resolution of grief.	1. Determine stage of grief in which client is fixed. Identify behaviors associated with this stage. 2. Develop trusting relationship with the client. Show empathy and caring. Be honest and keep all promises. 3. Convey an accepting attitude so that the client is not afraid to express feelings openly. 4. Allow client to express anger. Do not become defensive if initial expression of anger is displaced on the nurse. Assist client to explore angry feelings so that they may be directed toward the intended object or person. 5. Assist client to discharge pent-up anger through participation in large motor activities (e.g., brisk walks, jogging, volleyball, punching bag, exercise bike). 6. Explain to the client the normal stages of grief and the behaviors associated with each stage. Help client to understand that feelings such as guilt and anger toward the lost concept are appropriate and acceptable during the grief process.	1. Accurate baseline assessment data are necessary to plan effective care for the grieving client. 2. Trust is the basis for a therapeutic relationship. 3. An accepting attitude conveys to the client that you believe he or she is a worthwhile person. Trust is enhanced. 4. Verbalization of feelings in a nonthreatening environment may help client come to terms with unresolved issues. 5. Physical exercise provides a safe and effective method for discharging pent-up tension. 6. Knowledge of the availability of the feelings associated with normal grieving may help to relieve some of the guilt that these responses generate.

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Outcome Criteria	Nursing Interventions	Rationale
	7. Encourage client to review personal perception of the loss or change. With support and sensitivity, point out reality of the situation in areas where misrepresentations are expressed.	7. Client must give up idealized perception and be able to accept both positive and negative aspects about the painful life change before the grief process is complete.
	8. Communicate to client that crying is acceptable. Use of touch is generally therapeutic, although specific knowledge about the client is important before using it.	8. Use of touch is considered inappropriate in some cultures.
	9. Assist client in solving problems as he or she attempts to determine methods for more adaptive coping with the stressor. Provide positive feedback for strategies identified and decisions made.	9. Positive reinforcement enhances self-esteem and encourages repetition of desirable behaviors.
	10. Encourage client to reach out for spiritual support during this time in whatever form is desirable. Assess client's spiritual needs and assist as necessary in their fulfillment.	10. Spiritual support can enhance successful adaptation to painful life experiences.

NURSING DIAGNOSIS: RISK-PRONE HEALTH BEHAVIOR
RELATED TO: Change in health status requiring modification in lifestyle
EVIDENCED BY: Inability to problem solve or set realistic goals for the future

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will discuss with primary nurse the kinds of lifestyle changes that will occur because of the change in health status.	1. Encourage client to talk about lifestyle prior to the change in health status. Discuss coping mechanisms that were used at stressful times in the past.	1. Identify the client's strengths so that they may be used to facilitate adaptation to the change in health status.
	2. Encourage client to discuss the health change and particularly to express anger associated with it.	2. Anger is a normal stage in the grieving process and if not released in an appropriate manner, may be turned inward on the self, leading to pathological depression.

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Outcome Criteria	Nursing Interventions	Rationale
• With the help of primary nurse, client will formulate a plan of action for incorporating those changes into his or her lifestyle. • Client will demonstrate movement toward independence, considering change in health status. **Long-Term Goal:** • Client will demonstrate competence to function independently to his or her optimal level of ability, considering change in health status.	3. Encourage client to express fears associated with the change or alteration in lifestyle that the change has created. 4. Provide assistance with activities of daily living as required, but encourage independence to the limit that client's ability will allow. Give positive feedback for activities accomplished independently. 5. Help client with decision making regarding incorporation of change into lifestyle. Identify problems the change is likely to create. Discuss alternative solutions, weighing potential benefits and consequences of each alternative. Support client's decision in the selection of an alternative. 6. Use role-play to practice stressful situations that might occur in relation to the health status change. 7. Ensure that client and family are fully knowledgeable regarding the physiology of the change in health status and its necessity for optimal wellness. Encourage them to ask questions, and provide printed material explaining the change to which they may refer. Ensure that client can identify resources within the community from which he or she may seek assistance in adapting to the change in health status.	3. Change often creates a feeling of disequilibrium, and the individual may respond with fears that are irrational or unfounded. He or she may benefit from feedback that corrects misperceptions about how life will be with the change in health status. 4. Independent accomplishments and positive feedback enhance self-esteem and encourage repetition of desired behaviors. Successes also provide hope that adaptive functioning is possible and decrease feelings of powerlessness. 5. The high degree of anxiety that usually accompanies a major lifestyle change often interferes with an individual's ability to solve problems and to make appropriate decisions. Client may need assistance with this process in an effort to progress toward successful adaptation. 6. This type of anticipatory guidance arms the client with a measure of security and serves to decrease anxiety. 7. Increased knowledge enhances successful adaptation.

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NURSING DIAGNOSIS: DEFENSIVE COPING
RELATED TO: Dysfunctional Family System
EVIDENCED BY: Disregard for societal norms and laws; absence of guilty feelings; inability to delay gratification

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize personal responsibility for difficulties experienced in interpersonal relationships within (time period reasonable for client). **Long-Term Goal:** • Client will demonstrate ability to interact with others without becoming defensive, rationalizing behaviors, or expressing grandiose ideas.	1. From the onset, client should be made aware of which behaviors are acceptable and which are not. Explain consequences of violation of the limits. A consequence must involve something of value to the client. All staff must be consistent in enforcing these limits. Consequences should be administered in a matter-of-fact manner immediately following the infraction. 2. Do not attempt to coax or convince client to do the "right thing." Do not use the words "You should (or shouldn't)…"; instead, use "You will be expected to…" The ideal would be for client to eventually internalize societal norms, beginning with this step-by-step, "either/or" approach (*either* you do [don't do] this, *or* this will occur). 3. Provide positive feedback or reward for acceptable behaviors. 4. Begin to increase the length of time requirement for acceptable behavior in order to achieve the reward. For example, 2 hours of acceptable behavior may be exchanged for a phone call, 4 hours for 2 hours of television; 1 day of acceptable behavior for a recreational therapy bowling activity, 5 days for a weekend pass.	1. Because client cannot (or will not) impose own limits on maladaptive behaviors, they must be delineated and enforced by staff. Undesirable consequences may help to decrease repetition of these behaviors. 2. Explanations must be concise, concrete, and clear, with little or no capacity for misinterpretation. 3. Positive reinforcement enhances self-esteem and encourages repetition of desirable behaviors. 4. This type of intervention may assist the client in learning to delay gratification.

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Outcome Criteria	Nursing Interventions	Rationale
	5. A milieu unit provides the appropriate environment for the client with antisocial personality.	5. The democratic approach, with specific rules and regulations, community meetings, and group therapy sessions emulates the type of societal situation in which the client must learn to live. Feedback from peers is often more effective than confrontation from an authority figure. The client learns to follow the rules of the group as a positive step in the progression toward internalizing the rules of society.
	6. Help client to gain insight into his or her own behaviors. Often these individuals rationalize to such an extent that they deny that what they have done is wrong (e.g., "The owner of this store has so much money, he'll never miss the little bit I take. He has everything, and I have nothing. It's no fair! I deserve to have some of what he has.")	6. Client must come to understand that certain behaviors will not be tolerated within the society and that severe consequences will be imposed on those individuals who refuse to comply. Client must *want* to become a productive member of society before he or she can be helped.
	7. Talk about past behaviors with client. Discuss behaviors that are acceptable by society and those which are not. Help client identify ways in which he or she has exploited others. Encourage client to explore how he or she would feel if the circumstances were reversed.	7. An attempt may be made to enlighten the client to the sensitivity of others by promoting self-awareness in an effort to help the client gain insight into his or her own behavior.
	8. Throughout relationship with client, maintain attitude of "It is not *you*, but your *behavior*, that is unacceptable."	8. An attitude of acceptance promotes feelings of dignity and self-worth.

Care Plan for the Client with Body Dysmorphic Disorder

NURSING DIAGNOSIS: DISTURBED BODY IMAGE

RELATED TO: Repressed severe anxiety

EVIDENCED BY: Preoccupation with imagined defect; verbalizations that are out of proportion to any actual physical abnormality that may exist; and numerous visits to plastic surgeons or dermatologists seeking relief

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding that changes in bodily structure or function are exaggerated out of proportion to the change that actually exists. **Long-Term Goal:** • Client will verbalize realistic perception of body appearance.	1. Assess client's perception of his or her body image. Keep in mind that this image is real to the client. 2. Help client to see that his or her body image is distorted or that it is out of proportion in relation to the significance of an actual physical anomaly. 3. Encourage verbalization of fears and anxieties associated with identified stressful life situations. Discuss alternative adaptive coping strategies. 4. Involve client in activities that reinforce a positive sense of self not based on appearance. 5. Make referrals to support groups of individuals with similar histories (e.g., Adult Children of Alcoholics [ACOA], Victims of Incest, Survivors of Suicide [SOS], Adults Abused as Children).	1. Assessment information is necessary in developing an accurate plan of care. Denial of the client's feelings impedes the development of a trusting, therapeutic relationship. 2. Recognition that a misperception exists is necessary before the client can accept reality and reduce the significance of the imagined defect. 3. Verbalization of feelings with a trusted individual may help the client come to terms with unresolved issues. Knowledge of alternative coping strategies may help the client respond to stress more adaptively in the future. 4. When the client is able to develop self-satisfaction based on accomplishments and unconditional acceptance, significance of the imagined defect or minor physical anomaly will diminish. 5. Having a support group of understanding, empathic peers can help the client accept the reality of the situation, correct distorted perceptions, and make adaptive life changes.

Care Plan for the Client with Borderline Personality Disorder

NURSING DIAGNOSIS: RISK FOR SELF-MUTILATION

RELATED TO: Parental emotional deprivation (unresolved fears of abandonment)

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will seek out staff member if feelings of harming self emerge. • Client will not harm self. **Long-Term Goal:** • Client will not harm self.	1. Observe client's behavior frequently. Do this through routine activities and interactions; avoid appearing watchful and suspicious.	1. Close observation is required so that intervention can occur if required to ensure client's (and others') safety.
	2. Secure a verbal contract from client that he or she will seek out staff member when urge for self-mutilation is felt.	2. Discussing feelings of self-harm with a trusted individual provides a degree of relief to the client. A contract gets the subject out in the open and places some of the responsibility for his or her safety with the client. An attitude of acceptance of the client as a worthwhile individual is conveyed.
	3. If self-mutilation occurs, care for client's wounds in a matter-of-fact manner. Do not give positive reinforcement to this behavior by offering sympathy or additional attention.	3. Lack of attention to the maladaptive behavior may decrease repetition of its use.
	4. Encourage client to talk about feelings he or she was having just before this behavior occurred.	4. To problem solve the situation with the client, knowledge of the precipitating factors is important.
	5. Act as a role model for appropriate expression of angry feelings, and give positive reinforcement to client when attempts to conform are made.	5. It is vital that the client expresses angry feelings because suicide and other self-destructive behaviors are often viewed as a result of anger turned inward on the self.
	6. Remove all dangerous objects from client's environment.	6. Client safety is a nursing priority.
	7. If warranted by high acuity of the situation, staff may need to be assigned on a one-to-one basis.	7. Because of their extreme fear of abandonment, clients with this disorder should not be left alone at a stressful time as it may cause an acute rise in anxiety and agitation levels.

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NURSING DIAGNOSIS: COMPLICATED GRIEVING

RELATED TO: Maternal deprivation during rapprochement phase of development (internalized as a loss, with fixation in anger stage of grieving process)

EVIDENCED BY: Depressed mood, acting-out behaviors

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will discuss with nurse or therapist maladaptive patterns of expressing anger. **Long-Term Goal:** • Client will be able to identify true source of anger, accept ownership of the feelings, and express them in a socially acceptable manner in an effort to initiate progression through the grief process.	1. Convey an accepting attitude—one that creates a nonthreatening environment for the client to express feelings. Be honest and keep all promises. 2. Identify the function that anger, frustration, and rage serve for the client. Allow him or her to express these feelings within reason. 3. Encourage client to discharge pent-up anger through participation in large motor activities (e.g., brisk walks, jogging, physical exercises, volleyball, punching bag, exercise bike). 4. Explore with client the true source of the anger. This is a painful therapy that often leads to regression as the client deals with the feelings of early abandonment. 5. As anger is displaced onto the nurse or therapist, caution must be taken to guard against the negative effects of countertransference (see Chapter 7). These are very difficult clients who have the capacity for eliciting a whole array of negative feelings from the therapist. 6. Explain the behaviors associated with the normal grieving process. Help the client recognize his or her position in this process.	1. An accepting attitude conveys to the client that you believe he or she is a worthwhile person. Trust is enhanced. 2. Verbalization of feelings in a nonthreatening environment may help client come to terms with unresolved issues. 3. Physical exercise provides a safe and effective method for discharging pent-up tension. 4. Reconciliation of the feelings associated with this stage is necessary before progression through the grieving process can continue. 5. The existence of negative feelings by the nurse or therapist must be acknowledged, but they must not be allowed to interfere with the therapeutic process. 6. Knowledge of the acceptability of the feelings associated with normal grieving may help to relieve some of the guilt that these responses generate.

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Outcome Criteria	Nursing Interventions	Rationale
	7. Help client to understand appropriate ways to express anger. Give positive reinforcement for behaviors used to express anger appropriately. Act as a role model.	7. Positive reinforcement enhances self-esteem and encourages repetition of desirable behaviors.
	8. Set limits on acting-out behaviors and explain consequences of violation of those limits. Be supportive, yet consistent and firm in caring for this client.	8. Client lacks sufficient self-control to limit maladaptive behaviors, so assistance is required from staff. Without consistency on the part of all staff members working with this client, however, a positive outcome will not be achieved.

NURSING DIAGNOSIS: IMPAIRED SOCIAL INTERACTION
RELATED TO: Extreme fears of abandonment and engulfment
EVIDENCED BY: Alternating clinging and distancing behaviors and staff splitting

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will discuss with nurse or therapist behaviors that impede the development of satisfactory interpersonal relationships. **Long-Term Goals:** • Client will interact with others in the therapy setting in both social and therapeutic activities without difficulty by time of discharge from treatment.	1. Encourage client to examine these behaviors (to recognize that they are occurring).	1. Client may be unaware of splitting or of clinging and distancing pattern of interaction with others. Recognition must occur before change can occur.
	2. Help client realize that you will be available, without reinforcing dependent behaviors.	2. Knowledge of your availability may provide needed security for the client.
	3. Give positive reinforcement for independent behaviors.	3. Positive reinforcement enhances self-esteem and encourages repetition of desirable behaviors.
	4. Rotate staff members who work with the client to avoid client's developing dependence on particular individuals.	4. Client must learn to relate to more than one staff member in an effort to decrease use of splitting, and diminish fears of abandonment.
	5. Explore feelings that relate to fears of abandonment and engulfment with client. Help client understand that clinging and distancing behaviors are engendered by these fears.	5. Exploration of feelings with a trusted individual may help client come to terms with unresolved issues.

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Outcome Criteria	Nursing Interventions	Rationale
• Client will exhibit no evidence of splitting or clinging and distancing behaviors in relationships by time of discharge from treatment.	6. Help client understand how these behaviors interfere with satisfactory relationships. 7. Assist client to work toward achievement of object constancy. Be available, without promoting dependency.	6. Client may be unaware of others' perception of him or her and why these behaviors are not acceptable to others. 7. This may help client resolve fears of abandonment and develop the ability to establish satisfactory intimate relationships.

Care Plan for Primary Caregiver of Client with Chronic Mental Illness

NURSING DIAGNOSIS: CAREGIVER ROLE STRAIN

RELATED TO: Severity and duration of the care receiver's illness and lack of respite and recreation for the caregiver

EVIDENCED BY: Feelings of stress in relationship with care receiver, feelings of depression and anger, family conflict around issues of providing care

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Caregivers will verbalize understanding of ways to facilitate the caregiver role. **Long-Term Goal:** • Caregivers will demonstrate effective problem-solving skills and develop adaptive coping mechanisms to regain equilibrium.	1. Assess prospective caregivers' abilities to anticipate and fulfill client's unmet needs. Provide information to assist caregivers with this responsibility. Ensure that caregivers encourage client to be as independent as possible. 2. Ensure that caregivers are aware of available community support systems from whom they can seek assistance when required. Examples include respite care services, day treatment centers, and adult day-care centers. 3. Encourage caregivers to express feelings, particularly anger. 4. Encourage participation in support groups comprised of members with similar life situations. Provide information about support groups that may be helpful: a. National Alliance for the Mentally Ill— (800) 950-NAMI b. American Association on Mental Retardation— (800) 424-3688 c. Alzheimer's Association—(800) 272-3900	1. Caregivers may be unaware of what the client can realistically accomplish. They may be unaware of the nature of the illness. 2. Caregivers require relief from the pressures and strain of providing 24-hour care for their loved one. Studies have shown that abuse arises out of caregiving situations that place overwhelming stress on the caregivers. 3. Release of these emotions can serve to prevent psychopathology, such as depression or psychophysiological disorders, from occurring. 4. Hearing others who are experiencing the same problems discuss ways in which they have coped may help caregiver adopt more adaptive strategies. Individuals who are experiencing similar life situations provide empathy and support for each other.

Care Plan for the Client with a Cognitive Disorder

NURSING DIAGNOSIS: RISK FOR TRAUMA
RELATED TO: Impairments in cognitive and psychomotor functioning

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will call for assistance when ambulating or carrying out other activities (if it is within his or her cognitive ability). • Client will maintain a calm demeanor, with minimal agitated behavior. **Long-Term Goal:** • Client will not experience physical injury.	The following measures may be instituted: a. Arrange furniture and other items in the room to accommodate client's disabilities. b. Store frequently used items within easy access. c. Do not keep bed in an elevated position. Pad siderails and headboard if client has history of seizures. Keep bedrails up when client is in bed (if regulations permit). d. Assign room near nurses' station; observe frequently. e. Assist client with ambulation. f. Keep a dim light on at night. g. If client is a smoker, cigarettes and lighter or matches should be kept at the nurses' station and dispensed only when someone is available to stay with client while he or she is smoking. h. Frequently orient client to place, time, and situation. i. If client is prone to wander, provide an area within which wandering can be carried out safely. j. Soft restraints may be required if client is very disoriented and hyperactive.	To ensure client safety.

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NURSING DIAGNOSIS: DISTURBED THOUGHT PROCESSES
RELATED TO: Cerebral degeneration
EVIDENCED BY: Disorientation, confusion, memory deficits, and inaccurate interpretation of the environment

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will utilize measures provided (e.g., clocks, calendars, room identification) to maintain reality orientation. • With assistance from caregiver, client will be able to interrupt nonreality-based thinking. **Long-Term Goal:** • Client will interpret the environment accurately and maintain reality orientation to the best of his or her cognitive ability.	1. Frequently orient client to reality. Use clocks and calendars with large numbers that are easy to read. Notes and large, bold signs may be useful as reminders. Allow client to have personal belongings. 2. Keep explanations simple. Use face-to-face interaction. Speak slowly and do not shout. 3. Discourage rumination of delusional thinking. Talk about real events and real people. 4. Monitor for medication side effects.	1. All of these items serve to help maintain orientation and aid in memory and recognition. 2. These interventions facilitate comprehension. Shouting may create discomfort, and in some instances, may provoke anger. 3. Rumination promotes disorientation. Reality orientation increases sense of self-worth and personal dignity. 4. Physiological changes in the elderly can alter the body's response to certain medications. Toxic effects may intensify altered thought processes.

NURSING DIAGNOSIS: SELF-CARE DEFICIT
RELATED TO: Disorientation, confusion, and memory deficits
EVIDENCED BY: Inability to fulfill ADLs

Outcome Criteria	Interventions	Rationale
Short-Term Goal: • Client will participate in ADLs with assistance from caregiver.	1. Provide a simple, structured environment: a. Identify self-care deficits and provide assistance as required. Promote independent actions as able. b. Allow plenty of time for client to perform tasks.	1. To minimize confusion.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goals: • Client will accomplish ADLs to the best of his or her ability. • Unfulfilled needs will be met by caregivers.	c. Provide guidance and support for independent actions by talking the client through the task one step at a time. d. Provide a structured schedule of activities that does not change from day to day. e. ADLs should follow usual routine as closely as possible. f. Provide for consistency in assignment of daily caregivers. 2. Perform ongoing assessment of client's ability to fulfill nutritional needs, ensure personal safety, follow medication regimen, and communicate need for assistance with activities that he or she cannot accomplish independently. 3. Assess prospective caregivers' ability to anticipate and fulfill client's unmet needs. Provide information to assist caregivers with this responsibility. Ensure that caregivers are aware of available community support systems from which they may seek assistance when required. Examples include adult day care centers, housekeeping and homemaker services, respite-care services, or the local chapter of a national support organization: a. For Parkinson's disease information: National Parkinson Foundation Inc. 1501 NW 9th Ave. Miami, FL 33136-1494 1-800-327-4545 b. For Alzheimer's disease information: Alzheimer's Association 225 N. Michigan Ave., Fl. 17 Chicago, IL 60601-7633 1-800-272-3900	2. Client safety and security are nursing priorities. 3. To ensure provision and continuity of client care.

Care Plan for the Client with Conversion Disorder

NURSING DIAGNOSIS: DISTURBED SENSORY PERCEPTION
RELATED TO: Repressed severe anxiety
EVIDENCED BY: Loss or alteration in physical functioning, without evidence of organic pathology; "la belle indifference"

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding of emotional problems as a contributing factor to alteration in physical functioning. **Long-Term Goal:** • Client will demonstrate recovery of lost or altered function.	1. Monitor physician's ongoing assessments, laboratory reports, and other data to ensure that possibility of organic pathology is clearly ruled out.	1. Failure to do so may jeopardize client safety.
	2. Identify primary or secondary gains that the physical symptom is providing for the client (e.g., increased dependency, attention, protection from experiencing a stressful event).	2. These are considered to be etiological factors and will be used to assist in problem resolution.
	3. Do not focus on the disability, and encourage client to be as independent as possible. Intervene only when client requires assistance.	3. Positive reinforcement would encourage continual use of the maladaptive response for secondary gains, such as dependency.
	4. Do not allow the client to use the disability as a manipulative tool to avoid participation in therapeutic activities. Withdraw attention if client continues to focus on physical limitation.	4. Lack of reinforcement may help to extinguish the maladaptive response.
	5. Encourage client to verbalize fears and anxieties. Help identify physical symptoms as a coping mechanism that is used in times of extreme stress.	5. Clients with conversion disorder are usually unaware of the psychological implications of their illness.
	6. Help client identify coping mechanisms that he or she could use when faced with stressful situations, rather than retreating from reality with a physical disability.	6. Client needs assistance with problem solving at this severe level of anxiety.
	7. Give positive reinforcement for identification or demonstration of alternative, more adaptive coping strategies.	7. Positive reinforcement enhances self-esteem and encourages repetition of desirable behaviors.

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NURSING DIAGNOSIS: SELF-CARE DEFICIT
RELATED TO: Loss or alteration in physical functioning
EVIDENCED BY: Need for assistance to carry out self-care activities, such as eating, dressing, hygiene, and toileting

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will perform self-care needs independently, to the extent that physical ability will allow. **Long-Term Goal:** • Client will be able to perform self-care activities independently and demonstrate a willingness to do so.	1. Assess client's level of disability. Note areas of strength and impairment. 2. Encourage client to perform self-care to his or her level of ability. Intervene when client is unable to perform. 3. Maintain nonjudgmental attitude when providing assistance to the client. The physical symptom is not within the client's conscious control and is very real to him or her. 4. Assist as required with self-care deficits: a. Feed client, if necessary, or provide assistance with containers, positioning, and so forth. b. Bathe client, or assist with bath, as required. c. Assist with dressing, oral hygiene, combing hair, applying make-up. d. Provide bedpan, commode or assistance to bathroom, as required. 5. Avoid fostering dependency by intervening when client is capable of performing independently. Allow ample time to complete these activities to the best of client's ability without assistance. Provide positive reinforcement for independent accomplishments. 6. Help client understand the purpose this disability is serving for him or her. Discuss honest feelings.	1. This information will be used to plan care for the client. 2. Successful performance of independent activities enhances self-esteem. 3. A judgmental attitude interferes with the nurse's ability to provide therapeutic care for the client. 4. Client comfort and safety are nursing priorities. 5. Success and positive reinforcement enhance self-esteem and encourage repetition of desirable behaviors. 6. Self-disclosure and exploration of feelings with a trusted individual may help client fulfill unmet needs and confront unresolved issues.

Care Plan for the Client with Depersonalization Disorder

NURSING DIAGNOSIS: DISTURBED SENSORY–PERCEPTION (VISUAL/KINESTHETIC)
RELATED TO: Repressed severe anxiety and underdeveloped ego
EVIDENCED BY: Alteration in the perception or experience of the self or the environment

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize adaptive ways of coping with stress. **Long-Term Goal:** • Client will demonstrate the ability to perceive stimuli correctly and maintain a sense of reality during stressful situations.	1. Provide support and encouragement during times of depersonalization. Clients manifesting these symptoms may express fear and anxiety at experiencing such behaviors. They do not understand the response and may express a fear of going insane.	1. Support and encouragement from a trusted individual provide a feeling of security when fears and anxieties are manifested.
	2. Explain the depersonalization behaviors and the purpose they usually serve for the client.	2. This knowledge may help to minimize fears and anxieties associated with their occurrence.
	3. Explain the relationship between severe anxiety and depersonalization behaviors. Help relate these behaviors to times of severe psychological stress that client has experienced.	3. The client may be unaware that the occurrence of depersonalization behaviors is related to severe anxiety. Knowledge of this relationship is the first step in the process of behavioral change.
	4. Explore past experiences and possibly repressed painful situations, such as trauma or abuse.	4. Traumatic experiences may predispose individuals to dissociative disorders.
	5. Discuss these painful experiences with client, and encourage him or her to deal with the feelings associated with these situations. Work to resolve the conflicts these repressed feelings have nurtured.	5. Conflict resolution will serve to decrease the need for the dissociative response to anxiety.
	6. Discuss ways the client may more adaptively respond to stress, and use role-play to practice using these new methods.	6. Having practiced through role-play helps to prepare client to face stressful situations by using these new behaviors when they occur in real life.

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NURSING DIAGNOSIS: ANXIETY (SEVERE TO PANIC)
RELATED TO: Fears of losing control or going insane
EVIDENCED BY: Somatic complaints, obsessive thoughts, and disturbances in the sense of time

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will maintain anxiety at manageable level. **Long-Term Goal:** • Client will verbalize understanding of purpose depersonalization behaviors fulfill, thereby decreasing fears and anxieties associated with experiencing them.	1. Maintain a calm, nonthreatening manner while working with the client. 2. Reassure client of his or her safety and security. This can be conveyed by the physical presence of the nurse. Do not leave the client alone at this time. 3. Use simple words and brief messages, spoken calmly and clearly. 4. Explain to client what is happening. Assure the client that the experiencing of depersonalization behaviors does not mean that he or she is going crazy. 5. When depersonalization behaviors have diminished and anxiety has been reduced, explore with the client the stressful situation that may have precipitated the response. 6. Discuss with the client ways in which he or she might respond to stressful situations that would be less likely to result in depersonalization behaviors. 7. Use role-play to practice new, more adaptive coping strategies.	1. Anxiety is contagious and may be transferred from staff to a client or vice versa. Client develops feeling of security in presence of calm staff person. 2. The client may fear for his or her life. The presence of a trusted individual provides client with a feeling of security and assurance of Personal safety. 3. In an intensely anxious situation, the client is unable to comprehend anything but the most elemental communication. 4. The feeling of a lack of control over behavior he or she does not understand will contribute to anxiety. Explanations should offer some relief. 5. The client may be unaware that the occurrence of depersonalization behaviors is related to severe anxiety. 6. This may have been the client's way of dealing with stress for a long time. He or she may need help to identify alternative coping strategies. 7. Role-play allows the client to practice and be better prepared to deal with the stressful situation should it recur. Being prepared provides a feeling of security and offers a sense of control to the client.

Care Plan for the Depressed Client

NURSING DIAGNOSIS: RISK FOR SUICIDE

RELATED TO: Depressed mood, feelings of worthlessness, anger turned inward on the self, misinterpretations of reality

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will seek out staff when feeling urge to harm self. • Client will make short-term verbal (or written) contract with nurse not to harm self. • Client will not harm self. **Long-Term Goal:** • Client will not harm self.	1. Ask client directly: "Have you thought about harming yourself in any way? If so, what do you plan to do? Do you have the means to carry out this plan?"	1. The risk of suicide is greatly increased if the client has developed a plan and particularly if means exist for the client to execute the plan.
	2. Create a safe environment for the client. Remove all potentially harmful objects from client's access (sharp objects, straps, belts, ties, glass items, alcohol). Supervise closely during meals and medication administration. Perform room searches as deemed necessary.	2. Client safety is a nursing priority.
	3. Formulate a short-term verbal or written contract that the client will not harm self. When time is up, make another, and so forth. Secure a promise that the client will seek out staff when feeling suicidal.	3. A degree of the responsibility for his or her safety is given to the client. Increased feelings of self-worth may be experienced when client feel accepted unconditionally regardless of thoughts or behavior.
	4. Maintain close observation of client. Depending on level of suicide precaution, provide one-to-one contact, constant visual observation, or every-15-minute checks. Place in room close to nurse's station; do not assign to private room. Accompany to off-ward activities if attendance is indicated. May need to accompany to bathroom.	4. Close observation is necessary to ensure that client does not harm self in any way. Being alert for suicidal and escape attempts facilitates being able to prevent or interrupt harmful behavior.
	5. Maintain special care in administration of medications.	5. Prevents saving up to overdose or discarding and not taking.

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Outcome Criteria	Nursing Interventions	Rationale
	6. Make rounds at frequent, ***irregular*** intervals (especially at night, toward early morning, at change of shift, or other predictably busy times for staff).	6. Prevents staff surveillance from becoming predictable. To be aware of client's location is important, especially when staff is busy, unavailable, or less observable.
	7. Encourage client to express honest feelings, including anger. Provide hostility release if needed.	7. Depression and suicidal behaviors may be viewed as anger turned inward on the self. If this anger can be verbalized in a nonthreatening environment, the client may be able to eventually resolve these feelings.

NURSING DIAGNOSIS: COMPLICATED GRIEVING

RELATED TO: Real or perceived loss, bereavement overload

EVIDENCED BY: Denial of loss, inappropriate expression of anger, idealization of or obsession with lost object, inability to carry out activities of daily living.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will express anger about the loss • Client will verbalize behaviors associated with normal grieving. **Long-Term Goal:** • Client will be able to recognize his or her own position in the grief process, while progressing at own pace toward resolution.	1. Assess stage of fixation in grief process.	1. Accurate baseline data are required in order to plan accurate care.
	2. Develop trust. Show empathy, concern, and unconditional positive regard.	2. Developing trust provides the basis for a therapeutic relationship.
	3. Explore feelings of anger and help client direct them toward the intended object or person. Promote the use of large motor activities for relieving pent-up tension.	3. Until client can recognize and accept personal feelings regarding the loss, grief work cannot progress. Physical exercise is a safe and effective way of relieving internalized anger.
	4. Teach normal behaviors associated with grieving.	4. Understanding of the grief process will help prevent feelings of guilt generated by these responses.
	5. Help client with honest review of relationship with lost object.	5. Only when the client is able to see both positive and negative aspects related to the lost object will the grieving process be complete.

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NURSING DIAGNOSIS: LOW SELF-ESTEEM

RELATED TO: Learned helplessness, feelings of abandonment by significant other, impaired cognition fostering negative view of self

EVIDENCED BY: Expressions of worthlessness, hypersensitivity to slights or criticism, negative and pessimistic outlook

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize areas he or she likes about self. **Long-Term goal:** • By time of discharge from treatment, the client will exhibit increased feelings of self-worth as evidenced by verbal expression of positive aspects of self, past accomplishments, and future prospects.	1. Be accepting of client and spend time with him or her even though pessimism and negativism may seem objectionable. Focus on strengths and accomplishments and minimize failures. 2. Promote attendance in therapy groups that offer client simple methods of accomplishment. Encourage client to be as independent as possible. 3. Encourage client to recognize areas of change and provide assistance toward this effort. 4. Teach assertiveness and communication techniques.	1. Interventions that focus on the positive contribute toward feelings of self-worth. 2. Success and independence promote feelings of self-worth. 3. Client will need assistance with problem solving. 4. Effective communication and assertiveness techniques enhance self-esteem.

NURSING DIAGNOSIS: POWERLESSNESS

RELATED TO: Dysfunctional grieving process, lifestyle of helplessness

EVIDENCED BY: Feelings of lack of control over life situation, overdependence on others to fulfill needs.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will participate in decision-making regarding own care within 5 days.	1. Allow client to participate in goal setting and decision-making regarding own care. 2. Ensure that goals are realistic and that client is able to identify areas of life situation that are realistically under his or her control.	1. Providing client with choices will increase his or her feelings of control. 2. Realistic goals will avoid setting client up for further failures.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will be able to effectively problem-solve ways to take control of his or her life situation by time of discharge from treatment, thereby decreasing feelings of powerlessness.	3. Encourage client to verbalize feelings about areas that are not within his or her ability to control.	3. Verbalization of unresolved issues may help client accept what cannot be changed.

NURSING DIAGNOSIS: SPIRITUAL DISTRESS
RELATED TO: Dysfunctional grieving over loss of valued object
EVIDENCED BY: Anger toward God, questioning meaning of own existence, inability to participate in usual religious practices.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will express beliefs and values about spiritual issues with nurse. **Long-Term Goal:** • Client will identify meaning and purpose in life that reinforce hope, peace, contentment, and self-satisfaction.	1. Be accepting and nonjudgmental when client expresses anger and bitterness toward God. Stay with client. 2. Encourage client to ventilate feelings related to meaning of own existence in the face of current loss. 3. Encourage client as part of grief work to reach out to previous religious practices for support. Encourage client to discuss these practices and how they provided support in the past. 4. Reassure client that he or she is not alone when feeling inadequate in the search for life's answers. 5. Contact spiritual leader of client's choice, if he or she requests.	1. The nurse's presence and nonjudgmental attitude increase the client's feelings of self-worth and promote trust in the relationship. 2. Client may believe he or she cannot go on living without lost object. Catharsis can provide relief and put life back into realistic perspective. 3. Client may find comfort in religious rituals with which he or she is familiar. 4. Validation of client's feelings and the assurance that others share them offers reassurance and an affirmation of acceptability. 5. These individuals serve to provide relief from spiritual distress and often can do so when other support persons cannot.

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NURSING DIAGNOSIS: HOPELESSNESS
RELATED TO: Absence of support systems and perception of worthlessness
EVIDENCED BY: Verbal cues (despondent content, "I can't"); decreased affect; lack of initiative; suicidal ideas or attempts

Outcome Criteria	Nursing Interventions	Rationales
Short-Term Goal: • Client will demonstrate some self-control by participating in the decision-making of his or her own care. **Long-Term Goal:** • Client will verbalize a measure of hope and demonstrate acceptance of life situations over which he or she has no control.	1. Identify stressors in client's life that precipitated current crisis. 2. Determine coping behaviors previously used and client's perception of effectiveness then and now. 3. Encourage client to explore and verbalize feelings and perceptions. 4. Provide expressions of hope to client in positive, low-key manner (e.g., "I know you feel you cannot go on, but I believe that things can get better for you. What you are feeling is temporary. It is okay if you don't see it just now. You are very important to the people who care about you.") 5. Help client identify areas of life situation that are under own control. 6. Identify sources that client may use after discharge when crises occur or feelings of hopelessness and possible suicidal ideation prevail.	1. Important to identify causative or contributing factors in order to plan appropriate assistance. 2. It is important to identify client's strengths and encourage their use in current crisis situation. 3. Identification of feelings underlying behaviors helps client to begin process of taking control of own life. 4. Even though the client feels hopeless, it is helpful to hear positive expressions from others. The client's current state of mind may prevent him or her from identifying anything positive in life. It is important to accept the client's feelings in a nonjudgmental manner and to affirm the individual's personal worth and value. 5. The client's emotional condition may interfere with ability to problem solve. Assistance may be required to perceive the benefits and consequences of available alternatives accurately. 6. Client should be made aware of local suicide hotlines or other local support services from which he or she may seek assistance following discharge from the hospital. A concrete plan provides hope in the face of a crisis situation.

Care Plan for Psychiatric Home Health Care of Depressed Elderly (Mrs. C)

NURSING DIAGNOSIS: COMPLICATED GRIEVING
RELATED TO: Death of husband
EVIDENCED BY: Symptoms of depression such as withdrawal, anorexia, weight loss, difficulty sleeping, and dysphoric/tearful mood

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Mrs. C will discuss feelings about husband's death with nurse. **Long-Term Goal:** • Mrs. C will demonstrate adaptive grieving behaviors and evidence of progression toward resolution.	1. Assess Mrs. C's position in the grief process. 2. Develop a trusting relationship by showing empathy and caring. Be honest and keep all promises. Show genuine positive regard. 3. Explore feelings of anger and help Mrs. C direct them toward the source. Help her understand it is appropriate and acceptable to have feelings of anger and guilt about her husband's death. 4. Encourage Mrs. C to review honestly the relationship she had with her husband. With support and sensitivity, point out reality of the situation in areas where misrepresentations may be expressed. 5. Determine if Mrs. C has spiritual needs that are going unfulfilled. If so, contact spiritual leader for intervention with Mrs. C. 6. Refer Mrs. C to physician for medication evaluation.	1. Accurate baseline data are required to plan accurate care for Mrs. C. 2. These interventions provide the basis for a therapeutic relationship 3. Knowledge of acceptability of the feelings associated with normal grieving may help to relieve some of the guilt that these responses generate. 4. Mrs. C must give up an idealized perception of her husband. Only when she is able to see both positive and negative aspects about the relationship will the grieving process be complete. 5. Recovery may be blocked if spiritual distress is present and care is not provided. 6. Antidepressant therapy may help Mrs. C to function while confronting the dynamics of her depression.

Continued on the following page

NURSING DIAGNOSIS: RISK FOR INJURY
RELATED TO: Dizziness and weakness from lack of activity, low blood pressure, and poor nutritional status

Outcome Criteria	Nursing Interventions	Rationale
Short-/Long-Term Goal: • Mrs. C will not experience physical harm or injury.	1. Assess vital signs at every visit. Report to physician should they fall below baseline.	1. Client safety is a nursing priority.
	2. Encourage Mrs. C to use walker until strength has returned.	2. The walker will assist Mrs. C from falling.
	3. Visit Mrs. C during mealtimes and sit with her while she eats. Encourage her niece to do the same. Ensure that easy to prepare, nutritious foods for meals and snacks are available in the house and that they are items that Mrs. C. likes.	3. She is more likely to eat what is convenient and what she enjoys.
	4. Contact local meal delivery service (e.g., Meals on Wheels) to deliver some of Mrs. C's meals.	4. This would ensure that she receives at least one complete and nutritious meal each day.
	5. Weigh Mrs. C each week.	5. Weight gain is a measurable, objective means of assessing whether Mrs. C is eating.
	6. Ensure that diet contains sufficient fluid and fiber.	6. Adequate dietary fluid and fiber will help to alleviate constipation. She may also benefit from a daily stool softener.

NURSING DIAGNOSIS: SOCIAL ISOLATION
RELATED TO: Depressed mood and feelings of worthlessness
EVIDENCED BY: Staying home alone, refusing to leave apartment

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Mrs. C verbalizes interest in participating in social activities.	1. As nutritional status is improving and strength is gained, encourage Mrs. C to become more active. Take walks with her; help her perform simple tasks around her house.	1. Increased activity enhances both physical and mental status.

Continued on the following page

Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Mrs. C will renew contact with friends and participate in social activities.	2. Assess lifelong patterns of relationships. 3. Help her identify present relationships that are satisfying and activities that she considers interesting. 4. Consider the feasibility of a pet. 5. Suggest possible alternatives that Mrs. C may consider as she seeks to participate in social activities. These may include foster grandparent programs, senior citizens centers, church activities, craft groups, and volunteer activities. Help her to locate individuals with whom she may attend some of these activities.	2. Basic personality characteristics will not change. Mrs. C will very likely keep the same style of relationship development that she had in the past. 3. She is the person who truly knows what she likes, and these personal preferences will facilitate success in reversing social isolation. 4. There are many documented studies of the benefits to elderly individuals of companion pets. 5. She is more likely to attend and participate if she does not have to do so alone.

Care Plan for the Client with Dissociative Amnesia

NURSING DIAGNOSIS: DISTURBED THOUGHT PROCESSES
RELATED TO: Severe psychological stress and repression of anxiety
EVIDENCED BY: Loss of Memory

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding that loss of memory is related to stressful situation and begin discussing stressful situation with nurse or therapist. **Long-Term Goal:** • Client will recover deficits in memory and develop more adaptive coping mechanisms to deal with stress.	1. Obtain as much information as possible about the client from family and significant others if possible. Consider likes, dislikes, important people, activities, music, pets. 2. Do not flood client with data regarding his or her past life. 3. Instead, expose client to stimuli that represent pleasant experiences from the past such as smells associated with enjoyable activities, beloved pets, and music known to have been pleasurable to the client. As memory begins to return, engage client in activities that may provide additional stimulation. 4. Encourage client to discuss situations that have been especially stressful and to explore the feelings associated with those times. 5. Identify specific conflicts that remain unresolved, and assist client to identify possible solutions. Provide instruction regarding more adaptive ways to respond to anxiety.	1. A comprehensive baseline assessment is important for the development of an effective plan of care. 2. Individuals who are exposed to painful information from which the amnesia is providing protection may decompensate even further into a psychotic state. 3. Recall may occur during activities that simulate life experiences. 4. Verbalization of feelings in a nonthreatening environment may help client come to terms with unresolved issues that may be contributing to the dissociative process. 5. Unless these underlying conflicts are resolved, any improvement in coping behaviors must be viewed as only temporary.

Continued on the following page

NURSING DIAGNOSIS: POWERLESSNESS
RELATED TO: Inability to cope effectively with severe anxiety
EVIDENCED BY: Verbalizations of frustration over lack of control and dependence on others

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will participate in decision making regarding own self-care. **Long-Term Goal:** • Client will be able to effectively problem solve ways to take control of life situation.	1. Allow client to take as much responsibility as possible for own self-care practices. 2. Provide positive feedback for decisions made. Respect client's right to make those decisions independently, and refrain from attempting to influence him or her toward those that may seem more logical. 3. Assist client to set realistic goals for the future. 4. Help client identify areas of life situation that he or she can control. 5. Help client identify areas of life situation that are not within his or her ability to control. Encourage verbalization of feelings related to this inability. 6. Identify ways in which client can achieve. Encourage participation in these activities, and provide positive reinforcement for participation, as well as for achievement. 7. Encourage client's participation in supportive self-help groups.	1. Providing client with choices will increase feelings of control. 2. Positive feedback encourages repetition of desirable behaviors. 3. Unrealistic goals set client up for failure and reinforce feelings of powerlessness. 4. Client's memory deficits may interfere with his or her ability to solve problems. Assistance is required to perceive the benefits and consequences of available alternatives accurately. 5. This intervention helps client learn to deal with unresolved issues and accept what cannot be changed. 6. Positive reinforcement enhances self-esteem and encourages repetition of undesirable behaviors. 7. This intervention helps client learn to deal with unresolved issues and accept what cannot be changed.

Care Plan for the Client with a Dissociative Disorder

NURSING DIAGNOSIS: DISTURBED THOUGHT PROCESSES
RELATED TO: Severe psychological stress and repression of anxiety
EVIDENCED BY: Loss of Memory

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding that loss of memory is related to stressful situation and begin discussing stressful situation with nurse or therapist.	1. Obtain as much information as possible about the client from family and significant others if possible. Consider likes, dislikes, important people, activities, music, and pets.	1. A comprehensive baseline assessment is important for the development of an effective plan of care.
	2. Do not flood client with data regarding his or her past life.	2. Individuals who are exposed to painful information from which the amnesia is providing protection may decompensate even further into a psychotic state.
Long-Term Goal: • Client will recover deficits in memory and develop more adaptive coping mechanisms to deal with stress.	3. Instead, expose client to stimuli that represent pleasant experiences from the past such as smells associated with enjoyable activities, beloved pets, and music known to have been pleasurable to the client. As memory begins to return, engage client in activities that may provide additional stimulation.	3. Recall may occur during activities that simulate life experiences.
	4. Encourage client to discuss situations that have been especially stressful and to explore the feelings associated with those times.	4. Verbalization of feelings in a nonthreatening environment may help client come to terms with unresolved issues that may be contributing to the dissociative process.
	5. Identify specific conflicts that remain unresolved, and assist client to identify possible solutions. Provide instruction regarding more adaptive ways to respond to anxiety.	5. Unless these underlying conflicts are resolved, any improvement in coping behaviors must be viewed as only temporary.

Continued on the following page

NURSING DIAGNOSIS: INEFFECTIVE COPING
RELATED TO: Severe psychosocial stressor or substance abuse and repressed severe anxiety
EVIDENCED BY: Sudden travel away from home with inability to recall previous identity

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding that he or she is employing dissociative behaviors in times of psychosocial stress.	1. Reassure client of safety and security through your presence. Dissociative behaviors may be frightening to the client.	1. Presence of a trusted individual provides feeling of security and assurance of freedom from harm.
	2. Identify stressor that precipitated severe anxiety.	2. This information is necessary for the development of an effective plan of client care and problem resolution.
Long -Term Goal: • Client will demonstrate more adaptive ways of coping in stressful situations than resorting to dissociation.	3. Explore feelings that client experienced in response to the stressor. Help client understand that the disequilibrium felt is acceptable in times of severe stress.	3. Client's self-esteem is preserved by the knowledge that others may experience these behaviors under similar circumstances.
	4. As anxiety level decreases and memory returns, use exploration and an accepting, nonthreatening environment to encourage client to identify repressed traumatic experiences that contribute to chronic anxiety.	4. Client must confront and deal with painful issues to achieve resolution.
	5. Have client identify methods of coping with stress in the past and determine whether the response was adaptive or maladaptive.	5. In times of extreme anxiety, client is unable to evaluate appropriateness of response. This information is necessary for client to develop a plan of action for the future.
	6. Help client define more adaptive coping strategies. Make suggestions of alternatives that might be tried. Examine benefits and consequences of each alternative. Assist client in the selection of those that are most appropriate for him or her.	6. Depending on current level of anxiety, client may require assistance with problem solving and decision making.
	7. Provide positive reinforcement for client's attempts to change.	7. Positive reinforcement enhances self-esteem and encourages repetition of desired behaviors.

Continued on the following page

Outcome Criteria	Nursing Interventions	Rationale
	8. Identify community resources to which the individual may go for support if past maladaptive coping patterns return.	8. Knowledge alone that this type of support exists may provide the client with a feeling of security. Use of the resources may help to keep the client from decompensating.

NURSING DIAGNOSIS: DISTURBED PERSONAL IDENTITY
RELATED TO: Childhood trauma/abuse
EVIDENCED BY: The presence of more than one personality within the individual

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding of the existence of multiple personalities within the self and be able to recognize stressful situations that precipitate transition from one to another. **Long-Term Goal:** • Client will verbalize understanding of the need for, enter into, and cooperate with long-term therapy for this disorder, with the ultimate goal being integration into one personality.	1. The nurse must develop a trusting relationship with the original personality and with each of the subpersonalities. 2. Help client understand the existence of the subpersonalities and the need each serves in the personal identity of the individual. 3. Help client identify stressful situations that precipitate transition from one personality to another. Carefully observe and record these transitions. 4. Use nursing interventions necessary to deal with maladaptive behaviors associated with individual subpersonalities. For example, if one personality is suicidal, precautions must be taken to guard against client's self-harm. If another personality has a tendency toward physical hostility, precautions must be taken to protect others. 5. Help subpersonalities to understand that their "being" will not be destroyed but rather integrated into a unified identity within the individual.	1. Trust is the basis of a therapeutic relationship. Each of the personalities views itself as a separate entity and must initially be treated as such. 2. Client may initially be unaware of the dissociative response. knowledge of the needs each personality fulfills is the first step in the integration process. 3. Identification of stressors is required to assist client in responding more adaptively and to eliminate the need for transition to another personality. 4. The safety of client and others is a nursing priority. 5. Because subpersonalities function as separate entities, the idea of total elimination generates fear and defensiveness.

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Outcome Criteria	Nursing Interventions	Rationale
	6. Provide support during disclosure of painful experiences and reassurance when client becomes discouraged with lengthy treatment.	6. Positive reinforcement may encourage repetition of desirable behaviors.

NURSING DIAGNOSIS: **DISTURBED SENSORY PERCEPTION (VISUAL/KINESTHETIC)**
RELATED TO: Severe psychological stress and repression of anxiety
EVIDENCED BY: Alteration in the perception or experience of the self or the environment

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize adaptive ways of coping with stress. **Long-Term Goal:** • Client will demonstrate the ability to perceive stimuli correctly and maintain a sense of reality during stressful situations.	1. Provide support and encouragement during times of depersonalization. Clients manifesting these symptoms may express fear and anxiety at experiencing such behaviors. They do not understand the response and may express a fear of going insane.	1. Support and encouragement from a trusted individual provide a feeling of security when fears and anxieties are manifested.
	2. Explain the depersonalization behaviors and the purpose they usually serve for the client.	2. This knowledge may help to minimize fears and anxieties associated with their occurrence.
	3. Explain the relationship between severe anxiety and depersonalization behaviors. Help relate these behaviors to times of severe psychological stress that client has experienced.	3. The client may be unaware that the occurrence of depersonalization behaviors is related to severe anxiety. Knowledge of this relationship is the first step in the process of behavioral change.
	4. Explore past experiences and possibly repressed painful situations, such as trauma or abuse.	4. Traumatic experiences may predispose individuals to dissociative disorders.
	5. Discuss these painful experiences with client, and encourage him or her to deal with the feelings associated with these situations. Work to resolve the conflicts these repressed feelings have nurtured.	5. Conflict resolution will serve to decrease the need for the dissociative response to anxiety.
	6. Discuss ways the client may more adaptively respond to stress, and use role-play to practice using these new methods.	6. Having practiced through role-play helps to prepare client to face stressful situations by using these new behaviors when they occur in real life.

Care Plan for the Client with Dissociative Fugue

NURSING DIAGNOSIS: RISK FOR OTHER-DIRECTED VIOLENCE

RELATED TO: Fear of unknown circumstances surrounding emergence from fugue state

Outcome Criteria	Nursing Interventions	Rationale
Short-/Long-Term Goal: • Client will not harm self or others.	1. Maintain low level of stimuli in client's environment (low lighting, few people, simple decor, low noise level). 2. Observe client's behavior frequently. 3. Remove all dangerous objects from client's environment. 4. Try to redirect violent behavior with physical outlets for the client's anxiety (e.g., punching bag). 5. Staff should maintain and convey a calm attitude to client. 6. Have sufficient staff available to indicate a show of strength to client if it becomes necessary. 7. Administer tranquilizing medications as ordered by physician. Monitor medication for its effectiveness and for any adverse side effects.	1. Anxiety level rises in stimulating environment. Individuals may be perceived as threatening by a fearful and agitated client. 2. Close observation is necessary so that intervention can occur if required to ensure client's (and others') safety. 3. This will prevent the confused and agitated client from using them to harm self or others. 4. Physical exercise is a safe and effective way of relieving pent-up tension. 5. Anxiety is contagious and can be transmitted from staff to client. 6. This shows the client evidence of control over the situation and provides some physical security for staff. 7. The avenue of the "least restrictive alternative" (see Chap. 5) must be selected when planning intervention for a psychiatric client.

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Outcome Criteria	Nursing Interventions	Rationale
	8. If the client is not calmed by "talking down" or by medication, use of mechanical restraints may be necessary. Be sure to have sufficient staff available to assist. Follow protocol established by the institution in executing this intervention. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requires that the physician re-evaluate and issue a new order for restraints every 4 hours for adults age 18 and older. If the client has previously refused medication, administer it after restraints have been applied. Most states consider this intervention appropriate in emergency situations or in the event that a client is likely to harm self or others. Never use restraints as a punitive measure; they should be used as a protective measure for a client who is out of control. Observe the client in restraints every 15 minutes (or according to institutional policy). Ensure that circulation to extremities is not compromised (check temperature, color, pulse). Assist client with needs related to nutrition, hydration, and elimination. Position client so that comfort is facilitated and aspiration can be prevented.	8. Client safety is a nursing priority.
	9. As agitation decreases, assess client's readiness for restraint removal or reduction. Remove one restraint at a time, while assessing client's response.	9. This minimizes risk of injury to client and staff.

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NURSING DIAGNOSIS: INEFFECTIVE COPING
RELATED TO: Severe psychosocial stressor or substance abuse and repressed severe anxiety
EVIDENCED BY: Sudden travel away from home with inability to recall previous identity

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will verbalize understanding that he or she is employing dissociative behaviors in times of psychosocial stress. **Long-Term Goal:** • Client will de onstrate more adaptive ways of coping in stressful situations than resorting to dissociation.	1. Reassure client of safety and security through your presence. Dissociative behaviors may be frightening to the client. 2. Identify stressor that precipitated severe anxiety. 3. Explore feelings that client experienced in response to the stressor. Help client understand that the disequilibrium felt is acceptable in times of severe stress. 4. As anxiety level decreases and memory returns, use exploration and an accepting, nonthreatening environment to encourage client to identify repressed traumatic experiences that contribute to chronic anxiety. 5. Have client identify methods of coping with stress in the past and determine whether the response was adaptive or maladaptive. 6. Help client define m ore adaptive coping strategies. Make suggestions of alternatives that might be tried. Examine benefits and consequences of each alternative. Assist client in the selection of those that are most appropriate for him or her. 7. Provide positive reinforcement for client's attempts to change. 8. Identify community resources to which the individual may go for support if past maladaptive coping patterns return.	1. Presence of a trusted individual provides feeling of security and assurance of freedom from harm. 2. This information is necessary for the development of an effective plan of client care and problem resolution. 3. Client's self-esteem is preserved by the knowledge that others may experience these behaviors under similar circumstances. 4. Client must confront and deal with painful issues to achieve resolution. 5. In times of extreme anxiety, client is unable to evaluate appropriateness of response. This information is necessary for client to develop a plan of action for the future. 6. Depending on current level of anxiety, client may require assistance with problem solving and decision making. 7. Positive reinforcement enhances self-esteem and encourages repetition of desired behaviors. 8. Knowledge alone that this type of support exists may provide the client with a feeling of security. Use of the resources may help to keep the client from decompensating.

Care Plan for the Client with Dissociative Identity Disorder

NURSING DIAGNOSIS: RISK FOR SUICIDE
RELATED TO: Unresolved grief and self-blame associated with childhood abuse

Outcome Criteria	Nursing Interventions	Rationale
Short-/Long-Term Goal: • Client will not harm self.	1. Assess suicidal or harmful intent. Discuss consideration of a plan and availability of means. Assess sudden changes in behavior. 2. Help client identify stressful precipitating factors that initiate emergence of the "suicidal" personality. 3. Establish trust and secure a promise that client seek out support when self-destructive impulses are present. 4. Seek assistance from another, strong-willed personality. 5. Assist the client in identifying alternative behaviors to self-destructive behaviors (e.g., verbal or written expression; physical activity). 6. If necessary, place in isolation or provide physical restraint in a non-punitive manner. 7. Assess physical and emotional status every 15 minutes while in restraints. 8. Administer antidepressant and antianxiety medications as ordered by physician.	1. Impulse control may be impaired. Sudden changes may signal a switch to the "suicidal" personality. 2. Early detection allows time to manipulate the environment to Reduce the possibility of injury. 3. This allows the client to assume some of the responsibility for his or her behavior, while still offering assistance if self-control is lacking. 4. A strong-willed personality may help to control the behavior of the "suicidal" personality. 5. These activities may provide a nondestructive alternative in the face of overwhelming aggressive impulses. 6. External controls will ensure client safety when internal controls fail. 7. Client safety and security are nursing priorities. 8. Depression is common and the client may become frustrated with the long-term treatment (sometimes in excess of 10 years). Anxiolytics may be required to reduce anxiety until internal controls are achieved.

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NURSING DIAGNOSIS: DISTURBED PERSONAL IDENTITY
RELATED TO: Childhood trauma/abuse
EVIDENCED BY: The presence of more than one personality within the individual

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding of the existence of multiple personalities within the self and be able to recognize stressful situations that precipitate transition from one to another. **Long-Term Goal:** • Client will verbalize understanding of the need for, enter into, and cooperate with long-term therapy for this disorder, with the ultimate goal being integration into one personality.	1. The nurse must develop a trusting relationship with the original personality and with each of the subpersonalities. 2. Help client understand the existence of the subpersonalities and the need each serves in the personal identity of the individual. 3. Help client identify stressful situations that precipitate transition from one personality to another. Carefully observe and record these transitions. 4. Use nursing interventions necessary to deal with maladaptive behaviors associated with individual subpersonalities. For example, if one personality is suicidal, precautions must be taken to guard against client's self-harm. If another personality has a tendency toward physical hostility, precautions must be taken to protect others. 5. Help subpersonalities to understand that their "being" will not be destroyed but rather integrated into a unified identity within the individual. 6. Provide support during disclosure of painful experiences and reassurance when client becomes discouraged with lengthy treatment.	1. Trust is the basis of a therapeutic relationship. Each of the personalities views itself as a separate entity and must initially be treated as such. 2. Client may initially be unaware of the dissociative response. Knowledge of the needs each personality fulfills is the first step in the integration process. 3. Identification of stressors is required to assist client in responding more adaptively and to eliminate the need for transition to another personality. 4. The safety of client and others is a nursing priority. 5. Because subpersonalities function as separate entities, the idea of total elimination generates fear and defensiveness. 6. Positive reinforcement may encourage repetition of desirable behaviors.

Care Plan for Client with Eating Disorders: Anorexia Nervosa and Bulimia Nervosa

NURSING DIAGNOSIS: IMBALANCED NUTRITION: LESS THAN BODY REQUIREMENTS. DEFICIENT FLUID VOLUME (RISK FOR OR ACTUAL)

RELATED TO: Refusal to eat/drink; self-induced vomiting; abuse of laxatives/diuretics

EVIDENCED BY: Loss of weight; poor muscle tone and skin turgor; lanugo; bradycardia; hypotension; cardiac arrhythmias; pale, dry mucous membranes

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will gain ____pounds per week (amount to be established by client, nurse, and dietitian). **Long-Term Goal:** • Client will achieve 80% of body weight and be free of signs and symptoms of malnutrition/dehydration.	1. Dietitian will determine number of calories required to provide adequate nutrition and realistic weight gain. 2. Explain to the client that privileges and restrictions will be based on compliance with treatment and direct weight gain. Do not focus on food and eating. 3. Weigh client daily, immediately upon arising and following first voiding. Always use same scale, if possible. Keep strict record of intake and output. Assess skin turgor and integrity regularly. Assess moistness and color of oral mucous membranes. 4. Stay with client during established time for meals (usually 30 min) and for at least 1 hour following meals. 5. If weight loss occurs, use restrictions. Client must understand that if nutritional status deteriorates, tube feedings will be initiated. This is implemented in a matter-of-fact, nonpunitive way.	1. Adequate calories are required to allow a weight gain of 2–3 pounds per week. 2. The real issues have little to do with food or eating patterns. Focus on the control issues that have precipitated these behaviors. 3. These assessments are important measurements of nutritional status and provide guidelines for treatment. 4. Lengthy mealtimes put excessive focus on food and eating and provide client with attention and reinforcement. The hour following meals may be used to discard food stashed from tray or to engage in self-induced vomiting. 5. Restrictions and limits must be established and carried out consistently to avoid power struggles, to encourage client compliance with therapy, and to ensure client safety.

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NURSING DIAGNOSIS: INEFFECTIVE DENIAL

RELATED TO: Retarded ego development and fear of losing the only aspect of life over which client perceives Some Control (eating)

EVIDENCED BY: Inability to admit the impact of maladaptive eating behaviors on life pattern

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding that his or her eating behaviors are maladaptive and may even be life-threatening. **Long-Term Goal:** • Client will demonstrate the ability to cope with issues of control in a more adaptive manner.	1. Develop a trusting relationship. Convey positive regard. 2. Avoid arguing or bargaining with the client who is resistant to treatment. State matter-of-factly which behaviors are unacceptable and how privileges will be restricted for noncompliance. 3. Encourage client to verbalize feelings regarding role within the family and issues related to dependence/independence, the intense need for achievement, and sexuality. Help client recognize ways in which he or she can gain control over these problematic areas of life.	1. Trust and unconditional acceptance promote dignity and self-worth and provide a strong foundation for a therapeutic relationship. 2. The person who is denying a problem and who also has a weak ego will use manipulation to achieve control. Consistency and firmness by staff will decrease use of these behaviors. 3. When client feels control over major life issues, the need to gain control through maladaptive eating behaviors will diminish.

NURSING DIAGNOSIS: DISTURBED BODY IMAGE/LOW SELF-ESTEEM

RELATED TO: Retarded ego development and dysfunctional family system

EVIDENCED BY: Distorted body image, difficulty accepting positive reinforcement, depressed mood and self-deprecating thoughts

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbally acknowledge misperception of body image as "fat" within specified time (depending on severity and chronicity of condition).	1. Help client to develop a realistic perception of body image and relationship with food. Compare specific measurement of the client's body with the client's perceived calculations.	1. There may be a large discrepancy between the actual body size and the client's perception of his or her body size. Client needs to recognize that the misperception of body image is unhealthy and that maintaining control through maladaptive eating behaviors is dangerous—even life threatening.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term-Goal: • Client will demonstrate an increase in self-esteem as manifested by verbalizing positive aspects of self and exhibiting less preoccupation with own appearance as a more realistic body image is developed by time of discharge from therapy.	2. Promote feelings of control within the environment through participation and independent decision-making. Through positive feedback, help client learn to accept self as is, including weaknesses as well as strengths. 3. Help client realize that perfection is unrealistic, and explore this need with him or her.	2. Client must come to understand that he or she is a capable, autonomous individual who can perform outside the family unit and who is not expected to be perfect. Control of his or her life must be achieved in other ways besides dieting and weight loss. 3. As client begins to feel better about self, identifies positive self-attributes, and develops the ability to accept certain personal inadequacies, the need for unrealistic achievement should diminish.

Care Plan for the Client with an Eating Disorder: Obesity

NURSING DIAGNOSIS: IMBALANCED NUTRITION: MORE THAN BODY REQUIREMENTS
RELATED TO: Compulsive Overeating
EVIDENCED BY: Weight of more than 20% over expected body weight for age and height; BMI ≥ 30

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding of what must be done to lose weight. **Long-Term Goal:** • Client will demonstrate change in eating patterns resulting in a steady weight loss.	1. Encourage the client to keep a diary of food intake.	1. A food diary provides the opportunity for client to gain a realistic picture of the amount of food ingested and provides a database on which to tailor the dietary program.
	2. Discuss feelings and emotions associated with eating.	2. This helps to identify when client is eating to satisfy an emotional need rather than a physiological one.
	3. With input from the client, formulate an eating plan that includes food from the required food groups with emphasis on low-fat intake. It is helpful to keep the plan as similar to client's usual eating pattern as possible.	3. Diet must eliminate calories while maintaining adequate nutrition. Client is more likely to stay on the eating plan if he or she is able to participate in its creation and it deviates as little as possible from usual types of foods.
	4. Identify realistic increment goals for weekly weight loss.	4. Reasonable weight loss (1-2 pounds per week) results in more lasting effects. Excessive, rapid weight loss may result in fatigue and irritability and ultimately lead to failure in meeting goals for weight loss. Motivation is more easily sustained by meeting "stair-step" goals.
	5. Plan progressive exercise program tailored to individual goals and choice.	5. Exercise may enhance weight loss by burning calories and reducing appetite, increasing energy, toning muscles, and enhancing sense of well-being and accomplishment. Walking is an excellent choice for overweight individuals.
	6. Discuss the probability of reaching plateaus when weight remains stable for extended periods.	6. Client should know this is likely to happen as changes in metabolism occur. Plateaus cause frustration, and client may need additional support during these times to remain on the weight-loss program.

Continued on the following page

Outcome Criteria	Nursing Interventions	Rationale
	7. Provide instruction about medications to assist with weight loss if ordered by physician.	7. Appetite-suppressant drugs (e.g., sibutramine) and others that have weight loss as a side effect (e.g., fluoxetine) may be helpful to someone who is severely overweight. They should be used for this purpose for only a short period while the individual attempts to adjust to the new pattern of eating.

NURSING DIAGNOSIS: DISTURBED BODY IMAGE/LOW SELF-ESTEEM
RELATED TO: Dissatisfaction with appearance
EVIDENCED BY: Verbalization of negative feelings about the way he or she looks and desire to lose weight

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will begin to accept self based on self-attributes rather than on appearance. **Long-Term Goal:** • Client will pursue loss of weight as desired.	1. Assess client's feelings and attitudes about being obese.	1. Obesity and compulsive eating behaviors may have deep-rooted psychological implications, such as compensation for lack of love and nurturing or a defense against intimacy.
	2. Ensure that the client has privacy during self-care activities.	2. The obese individual may be sensitive or self-conscious about his or her body.
	3. Have client recall coping patterns related to food in family of origin and explore how these may affect current situation.	3. Parents are role models for their children. Maladaptive eating behaviors are learned within the family system and are supported through positive reinforcement. Food may be substituted by the parent for affection and love, and eating is associated with a feeling of satisfaction, becoming the primary defense.
	4. Determine client's motivation for weight loss and set goals.	4. The individual may harbor repressed feelings of hostility, which may be expressed inward on the self. Because of a poor self-concept, the person often has difficulty with relationships. When the motivation is to lose weight for someone else, successful weight loss is less likely to occur.

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Outcome Criteria	Nursing Interventions	Rationale
	5. Help client identify positive self-attributes. Focus on strengths and past accomplishments unrelated to physical appearance. 6. Refer client to support or therapy group.	5. It is important that self-esteem not be tied solely to size of the body. Client needs to recognize that obesity need not interfere with positive feelings regarding self-concept and self-worth. 6. Support groups can provide companionship, increase motivation, decrease loneliness and social ostracism, and give practical solutions to common problems. Group therapy can be helpful in dealing with underlying psychological concerns.

Care Plan for the Elderly Client

NURSING DIAGNOSIS: RISK FOR TRAUMA
RELATED TO: Confusion, disorientation, muscular weakness, spontaneous fractures, falls

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will call for assistance when ambulating or carrying out other activities. • Client will not experience injury. **Long-Term Goal:** • Client will not experience injury.	1. The following measures may be instituted: a. Arrange furniture and other items in the room to accommodate client's disabilities. b. Store frequently used items within easy access. c. Keep bed in unelevated position. Pad siderails and headboard if client has history of seizures. Keep bedrails up when client is in bed (if permitted by institutional policy). d. Assign room near nurses' station; observe frequently. e. Assist client with ambulation. f. Keep a dim light on at night. g. If client is a smoker, cigarettes and lighter or matches should be kept at the nurses' station and dispensed only when someone is available to stay with client while he or she is smoking. h. Frequently orient client to place, time, and situation. i. Soft restraints may be required if client is very disoriented and hyperactive.	1. To ensure client safety.

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NURSING DIAGNOSIS: DISTURBED THOUGHT PROCESSES
RELATED TO: Age-related changes that result in cerebral anoxia
EVIDENCED BY: Short-term memory loss, confusion, or disorientation.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will accept explanations from nurse regarding inaccurate interpretations within the environment. **Long-Term Goal:** • Client will interpret the environment accurately and maintain reality orientation to the best of his or her cognitive ability.	1. Frequently orient client to reality. Use clocks and calendars with large numbers that are easy to read. Notes and large, bold signs may be useful as reminders. Allow client to have personal belongings. 2. Keep explanations simple. Use face-to-face interaction. Speak slowly and do not shout. 3. Discourage rumination of delusional thinking. Talk about real events and real people. 4. Monitor for medication side effects.	1. To help maintain orientation and aid in memory and recognition. 2. To facilitate comprehension. Shouting may create discomfort, and in some instances, may provoke anger. 3. Rumination promotes disorientation. Reality orientation increases sense of self-worth and personal dignity. 4. Physiological changes in the elderly can alter the body's response to certain medications. Toxic effects may intensify altered thought processes.

NURSING DIAGNOSIS: SELF-CARE DEFICIT (SPECIFY)
RELATED TO: Weakness, disorientation, confusion, or memory deficits
EVIDENCED BY: Inability to fulfill activities of daily living

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will participate in ADLs with assistance from caregiver.	1. Provide a simple, structured environment: a. Identify self-care deficits and provide assistance as required. Promote independent actions as able. b. Allow plenty of time for client to perform tasks.	1. To minimize confusion.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goals: • Client will accomplish activities of daily living to the best of his or her ability. • Unfulfilled needs will be met by caregivers.	c. Provide guidance and support for independent actions by talking the client through the task one step at a time. d. Provide a structured schedule of activities that do not change from day to day. e. Activities of daily living should follow home routine as closely as possible. f. Allow consistency in assignment of daily caregivers.	

NURSING DIAGNOSIS: CAREGIVER ROLE STRAIN

RELATED TO: Severity and duration of the care receiver's illness; lack of respite and recreation for the caregiver

EVIDENCED BY: Feelings of stress in relationship with care receiver; feelings of depression and anger; family conflict around issues of providing care.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Caregivers will verbalize understanding of ways to facilitate the caregiver role. **Long-Term Goal:** • Caregivers will demonstrate effective problem-solving skills and develop adaptive coping mechanisms to regain equilibrium.	1. Assess prospective caregivers' ability to anticipate and fulfill client's unmet needs. Provide information to assist caregivers with this responsibility. Ensure that caregivers are aware of available community support systems from which they can seek assistance when required. Examples include adult day-care centers, housekeeping and homemaker services, respite care services, or a local chapter of the Alzheimer's Disease and Related Disorders Association. This organization sponsors a nationwide 24-hour hot line to provide information and link families who need assistance with nearby chapters and affiliates. The hot-line number is 800-621-0379.	1. Caregivers require relief from the pressures and strain of providing 24-hour care for their loved one Studies have shown that elder abuse arises out of caregiving situations that place overwhelming stress on the caregivers.

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Outcome Criteria	Nursing Interventions	Rationale
	2. Encourage caregivers to express feelings, particularly anger.	2. Release of these emotions can serve to prevent psychopathology, such as depression or psychophysiological disorders, from occurring.
	3. Encourage participation in support groups composed of members with similar life situations.	3. Hearing others who are experiencing the same problems discuss ways in which they have coped may help caregiver adopt more adaptive strategies. Individuals who are experiencing similar life situations provide empathy and support for each other.

NURSING DIAGNOSIS: LOW SELF-ESTEEM
RELATED TO: Loss of pre-retirement status
EVIDENCED BY: Verbalization of negative feelings about self and life

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will discuss feelings associated with age-related life changes. **Long-Term Goal:** • Client will demonstrate increased feelings of self-worth by expressing positive aspects of self and past accomplishments.	1. Encourage client to express honest feelings in relation to loss of prior status. Acknowledge pain of loss. Support client through process of grieving. 2. If lapses in memory are occurring, devise methods for assisting client with memory deficit. Examples: a. Name sign on door identifying client's room. b. Identifying sign on outside of dining room door. c. Identifying sign on outside of restroom door. d. Large clock, with oversized numbers and hands, appropriately placed. e. Large calendar, indicating one day at a time, with month, day, and year in bold print.	1. Client may be fixed in anger stage of grieving process, which is turned inward on the self, resulting in diminished self-esteem. 2. These aids may assist client to function more independently, thereby increasing self-esteem.

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Outcome Criteria	Nursing Interventions	Rationale
	f. Printed, structured daily schedule, with one copy for client and one posted on unit wall. g. "News board" on unit wall where current news of national and local interest may be posted.	
	3. Encourage client's attempts to communicate. If verbalizations are not understandable, express to client what you think he or she intended to say. It may be necessary to reorient client frequently.	3. The ability to communicate effectively with others may enhance self-esteem.
	4. Encourage reminiscence and discussion of life review (see Table 24-4). Also discuss present-day events. Sharing picture albums, if possible, is especially good.	4. Reminiscence and life review help client resume progression through the grief process associated with disappointing life events and increase self-esteem as successes are reviewed.
	5. Encourage participation in group activities. May need to accompany client at first, until he or she feels secure that the group members will be accepting, regardless of limitations in verbal communication.	5. Positive feedback from group members will increase self-esteem.
	6. Encourage client to be as independent as possible in self-care activities. Provide written schedule of tasks to be performed. Intervene in areas where client requires assistance.	6. The ability to perform independently preserves self-esteem.

NURSING DIAGNOSIS: DISTURBED SENSORY PERCEPTION

RELATED TO: Age-related alterations in sensory transmission

EVIDENCED BY: Decreased visual acuity, hearing loss, diminished sensitivity to taste and smell, and increased touch threshold

Outcome Criteria	Nursing Interventions*	Rationale
Short-Term Goal: • Client will attain optimal level of sensory stimulation.	1. The following nursing strategies are indicated: a. Provide meaningful sensory stimulation to all special senses through conversation, touch, music, or pleasant smells.	1. To assist client with diminished sensory perception and because client safety is a nursing priority.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will not experience injury due to diminished sensory perception.	b. Encourage wearing of glasses, hearing aids, prostheses, and other adaptive devices. c. Use bright, contrasting colors in the environment. d. Provide large-print reading materials, such as books, clocks, calendars, and educational materials. e. Maintain room lighting that distinguishes day from night and that is free of shadows and glare. f. Teach client to scan the environment to locate objects. g. Help client to locate food on plate using "clock" system, and describe food if client is unable to visualize; assist with feeding as needed. h. Arrange physical environment to maximize functional vision. i. Place personal items and call light within client's field of vision. j. Teach client to watch the person who is speaking. k. Reinforce wearing of hearing aid; if client does not have an aid, may consider a communication device (e.g., amplifier). l. Communicate clearly, distinctly, and slowly, using a low-pitched voice and facing client; avoid overarticulation. m. Remove as much unnecessary background noise as possible. n. Do not use slang or extraneous words. o. As speaker, position self at eye level and no farther than 6 feet away. p. Get the client's attention before speaking. q. Avoid speaking directly into the client's ear. r. If the client does not understand what is being said, rephrase the statement rather than simply repeating it. s. Help client select foods from the menu that will ensure a discrimination between various tastes and smells. t. Ensure that food has been properly cooled so that client with diminished pain threshold is not burned. u. Ensure that bath or shower water is appropriate temperature. v. Use backrubs and massage as therapeutic touch to stimulate sensory receptors.	

*The interventions for this nursing diagnosis were adapted from Rogers-Seidl (1997). *Geriatric Nursing Care Plans* (2nd ed.). St. Louis: C.V. Mosby.

Care Plan for the Individual Who Expresses Anger Inappropriately

NURSING DIAGNOSIS: INEFFECTIVE COPING
RELATED TO: (Possible) negative role modeling; dysfunctional family system
EVIDENCED BY: Yelling, name calling, hitting others, and temper tantrums as expressions of anger.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will be able to recognize anger in self and take responsibility before losing control. **Long-Term Goal:** • Client will demonstrate adaptive coping strategies for use when hostile or angry feelings occur.	1. Remain calm when dealing with an angry client. 2. Set verbal limits on behavior. Clearly delineate the consequences of inappropriate expression of anger and always follow through. 3. Have the client keep a diary of angry feelings, what triggered them, and how they were handled. 4. Avoid touching the client when he or she becomes angry. 5. Help the client determine the true source of the anger. 6. It may be constructive to ignore initial derogatory remarks by the client. 7. Help the client find alternate ways of releasing tension, such as physical outlets, and more appropriate ways of expressing anger, such as seeking out staff when feelings emerge. 8. Role model appropriate ways of expressing anger assertively, such as, "I dislike being called names. I get angry when I hear you saying those things about me."	1. Anger expressed by the nurse will most likely incite increased anger in the client. 2. Consistency in enforcing the consequences is essential if positive outcomes are to be achieved. Inconsistency creates confusion and encourages testing of limits. 3. This provides a more objective measure of the problem. 4. The client may view touch as threatening and could become violent. 5. Many times anger is being displaced onto a safer object or person. If resolution is to occur, the first step is to identify the source of the problem. 6. Lack of feedback often extinguishes an undesirable behavior. 7. Client will likely need assistance to problem solve more appropriate ways of behaving. 8. Role modeling is one of the strongest methods of learning.

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NURSING DIAGNOSIS: RISK FOR SELF-DIRECTED OR OTHER-DIRECTED VIOLENCE
RELATED TO: (Possibly) having been nurtured in an atmosphere of violence.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • The client will not harm self or others. • The client will verbalize anger rather than hit others. **Long-Term Goal:** • The client will express anger in a socially acceptable manner. • The client will not harm self or others. 	1. Observe client for escalation of anger (called the prodromal syndrome): increased motor activity, pounding, slamming, tense posture, defiant affect, clenched teeth and fists, arguing, demanding, and challenging or threatening staff. 2. When these behaviors are observed, first ensure that sufficient staff are available to help with a potentially violent situation. Attempt to defuse the anger beginning with the least restrictive means. 3. Techniques for dealing with aggression include: a. Talking down. Say, "John, you seem very angry. Let's go to your room and talk about it." (Ensure that client does not position self between door and nurse.) b. Physical Outlets. "Maybe it would help if you punched your pillow or the punching bag for a while" or "I'll stay here with you if you want." c. Medication. If agitation continues to escalate, offer client choice of taking medication voluntarily. If he or she refuses, reassess the situation to determine if harm to self or others is imminent.	1. Violence may be prevented if risks are identified in time. 2. The initial consideration must be having enough help to diffuse a potentially violent situation. Client rights must be honored, while preventing harm to client and others. 3. Aggression control techniques promote safety and reduce risk of harm to client and others: a. Promotes a trusting relationship and may prevent the client's anxiety from escalating. b. Provides effective way for client to release tension associated with high levels of anger. c. Provides the least restrictive method of controlling client behavior.

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Outcome Criteria	Nursing Interventions	Rationale
	d. Call for assistance. Remove self and other clients from the immediate area. Call violence code, push "panic" button, call for assault team, or institute measures established by institution. Sufficient staff to indicate a show of strength may be enough to deescalate the situation, and client may agree to take the medication.	d. Client and staff safety are of primary concern.
	e. Restraints. If client is not calmed by "talking down" or by medication, use of mechanical restraints and/or seclusion may be necessary. Be sure to have sufficient staff available to assist. Figures 10-3, 10-4, and 10-5 illustrate ways in which staff can safely and appropriately deal with an out-of-control client. Follow protocol for restraints/seclusion established by the institution. JCAHO (2000) requires that the physician reissue a new order for restraints every 4 hours for adults and every 1–2 hours for children and adolescents. If the client has previously refused medication, administer after restraints have been applied. Most states consider this intervention appropriate in emergency situations or if a client would likely harm self or others.	e. Clients who do not have internal control over their own behavior may require external controls, such as mechanical restraints, in order to prevent harm to self or others.

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Outcome Criteria	Nursing Interventions	Rationale
	f. Observation and documentation. Observe the client in restraints every 15 minutes (or according to institutional policy). Ensure that circulation to extremities is not compromised (check temperature, color, pulses). Assist client with needs related to nutrition, hydration, and elimination. Position client so that comfort is facilitated and aspiration can be prevented. Document all observations.	f. Client well-being is a nursing priority.
	g. Ongoing Assessment. As agitation decreases, assess client's readiness for restraint removal or reduction. With assistance from other staff members, remove one restraint at a time, while assessing client's response. This minimizes the risk of injury to client and staff.	g. Gradual removal of the restraints allows for testing of the client's self-control. Client and staff safety are of primary concern.
	h. Staff debriefing. It is important when a client loses control for staff to follow-up with a discussion about the situation. Tardiff (2003)* states, "The violent episode should be discussed in terms of what happened, what would have prevented it, why seclusion or restraint was used (if it was), and how the client or the staff felt in terms of using seclusion and restraint." It is also important to discuss the situation with other clients who witnessed the episode. It is important that they understand what happened. Some clients may fear that they could be secluded or restrained at some time for no apparent reason.	h. Debriefing diminishes the emotional impact of the intervention and provides an opportunity to clarify the need for the intervention, offer mutual feedback, and promote client's self-esteem (Norris & Kennedy, 1992).*

*SOURCES: Tardiff, K.J. (2003). Violence. In R.E. Hales & S.C. Yudofsky (Eds.), *Textbook of Clinical Psychiatry* (4th ed.). Washington, DC: American Psychiatric Publishing; and Norris, M.K., & Kennedy, C.W. (1992). How patients perceive the seclusion process. *Journal of Psychosocial Nursing and Mental Health Services*, *30* (3), 7–13.

Care Plan for the Grieving Person

NURSING DIAGNOSIS: RISK FOR COMPLICATED GRIEVING

RELATED TO: Loss of a valued concept/object; loss of a loved one

EVIDENCED BY: Feelings of sadness, anger, guilt, self-reproach, anxiety, loneliness, fatigue, helplessness, shock, yearning, and Numbness.

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goals: • Client will acknowledge awareness of the loss. • Client will express feelings about the loss. • Client will verbalize own position in the grief process. **Long-Term Goal:** • Client will progress through the grief process in a healthful manner toward resolution.	1. Assess client's stage in the grief process. 2. Develop trust. Show empathy, concern, and unconditional positive regard. 3. Help the client actualize the loss by talking about it. "When did it happen? How did it happen?" and so forth. 4. Help the client identify and express feelings. Some of the more problematic feelings include a. Anger. The anger may be directed at the deceased, at God, displaced onto others, or retroflected inward on the self. Encourage the client to. examine this anger and validate the appropriateness of this feeling. b. Guilt. The client may feel that he or she did not do enough to prevent the loss. Help the client by reviewing the circumstances of the loss and the reality that it could not be prevented. c. Anxiety and helplessness. Help the client to recognize the way that life was managed before the loss. Help the client to put the feelings of helplessness into perspective by pointing out ways that he or she managed situations effectively without help from others. Role-play life events and assist with decision-making situations.	1. Accurate baseline data are required to provide appropriate assistance. 2. Developing trust provides the basis for a therapeutic relationship. 3. Reviewing the events of the loss can help the client come to full awareness of the loss. 4. Until client can recognize and accept personal feelings regarding the loss, grief work cannot progress. a. Many people will not admit to angry feelings, believing it is inappropriate and unjustified. Expression of this emotion is necessary to prevent fixation in this stage of grief. b. Feelings of guilt prolong resolution of the grief process. c. The client may have fears that he or she may not be able to carry on alone.

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Outcome Criteria	Nursing Interventions	Rationale
	5. Interpret normal behaviors associated with grieving and provide client with adequate time to grieve.	5. Understanding of the grief process will help prevent feelings of guilt generated by these responses. Individuals need adequate time to accommodate to the loss and all its ramifications. This involves getting past birthdays and anniversaries of which the deceased was a part.
	6. Provide continuing support. If this is not possible by the nurse, then offer referrals to support groups. Support groups of individuals going through the same experiences can be very helpful for the grieving individual.	6. The availability of emotional support systems facilitates the grief process.
	7. Identify pathological defenses that the client may be using (e.g., drug/alcohol use, somatic complaints, social isolation). Assist the client in understanding why these are not healthy defenses and how they delay the process of grieving.	7. The bereavement process is impaired by behaviors that mask the pain of the loss.
	8. Encourage the client to make an honest review of the relationship with that which has been lost. Journal keeping is a facilitative tool with this intervention.	8. Only when the client is able to see both positive and negative aspects related to the loss will the grieving process be complete.

NURSING DIAGNOSIS: RISK FOR SPIRITUAL DISTRESS

RELATED TO: Dysfunctional grieving over loss of valued object

EVIDENCED BY: Anger toward God, questioning meaning of own existence, inability to participate in usual religious practices.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will identify meaning and purpose in life, moving forward with hope for the future.	1. Be accepting and nonjudgmental when client expresses anger and bitterness toward God. Stay with the client.	1. The nurse's presence and nonjudgmental attitude increase the client's feelings of self-worth and promote trust in the relationship.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will express achievement of support and personal satisfaction from spiritual practices.	2. Encourage the client to ventilate feelings related to meaning of own existence in the face of current loss. 3. Encourage the client as part of grief work to reach out to previously used religious practices for support. Encourage client to discuss these practices and how they provided support in the past. 4. Ensure client that he or she is not alone when feeling inadequate in the search for life's answers. 5. Contact spiritual leader of client's choice, if he or she requests.	2. Client may believe he or she cannot go on living without lost object. Catharsis can provide relief and put life back into realistic perspective. 3. Client may find comfort in religious rituals with which he or she is familiar. 4. Validation of client's feelings and assurance that they are shared by others offer reassurance and an affirmation of acceptability. 5. These individuals serve to provide relief from spiritual distress and often can do so when other support persons cannot.

Care Plan for the Client with HIV Disease*

NURSING DIAGNOSIS: INEFFECTIVE PROTECTION

RELATED TO: Compromised immune status secondary to diagnosis of HIV disease

EVIDENCED BY: Laboratory values indicating decreased numbers of T4 cells and presence of opportunistic infections manifested by fever, night sweats, diarrhea, weight loss, fatigue, malaise, swollen lymph glands, cough, dyspnea, rash, skin lesions, white patches in mouth, headache, anorexia, bleeding, bruising, and various neurological effects.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will exhibit no new signs or symptoms of infection. **Long-Term Goal:** • Client safety and comfort will be maximized.	1. Implement universal blood and body fluid precautions. 2. Wash hands with antibacterial soap before entering and on leaving client's room. 3. Monitor vital signs at regular intervals. 4. Monitor complete blood counts (CBCs) for leukopenia/neutropenia. 5. Monitor for signs and symptoms of specific opportunistic infections. 6. Protect client from individuals with infections. 7. Maintain meticulous sterile technique for dressing changes and any invasive procedure. 8. Administer antibiotics as ordered. 9. Provide low-residue, high-protein, high-calorie, soft, bland diet. Maintain hydration with adequate fluid intake. 10. Obtain daily weight and record intake and output. 11. Monitor serum electrolytes and CBCs. 12. If client is unable to eat, provide isotonic tube feedings as tolerated. Check for gastric residual frequently.	1–8. To prevent infection in an Immunocompromised individual. 9–16. To restore nutritional status and decrease nausea/vomiting and diarrhea.

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Outcome Criteria	Nursing Interventions	Rationale
	13. If client is unable to tolerate oral intake/tube feedings, consult physician regarding possibility of parenteral hyperalimentation. Observe hyperalimentation administration site for signs of infection. 14. Administer antidiarrheals and antiemetics as ordered. 15. Perform frequent oral care. Promote prevention and healing of lesions in the mouth. 16. Have the client eat small, frequent meals with high-calorie snacks rather than three large meals per day. 17. Monitor skin condition for signs of redness and breakdown. 18. Reposition client every 1 to 2 hours. 19. Encourage ambulation and chair activity as tolerated. 20. Use "egg crate" mattress or air mattress on bed. 21. Wash skin daily with soap and rinse well with water. 22. Apply lotion to skin to maintain skin softness. 23. Provide wound care as ordered for existing pressure sores or lesions. 24. Cleanse skin exposed to diarrhea thoroughly and protect rectal area with ointment. 25. Apply artificial tears to eyes as appropriate. 26. Perform frequent oral care; apply ointment to lips.	17–26. To promote improvement of skin and mucous membrane integrity.

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Outcome Criteria	Nursing Interventions	Rationale
	27. Assess respiratory status frequently: a. Monitor depth, rate, and rhythm of respirations. b. Auscultate lung fields every 2 hour and p.r.n. c. Monitor arterial blood gases. d. Check color of skin, nail beds, and sclerae. e. Assess sputum for color, odor, and viscosity. 28. Encourage coughing and deep-breathing exercises. 29. Provide humidified oxygen as ordered. 30. Suction as needed using sterile technique. 31. Space nursing care to allow client adequate rest periods between procedures. 32. Administer analgesics or sedatives judiciously to prevent respiratory depression. 33. Administer bronchodilators and antibiotics as ordered.	27–33. To maximize oxygen consumption and minimize respiratory distress.
	34. Follow protocol for maintenance of skin integrity. 35. Provide safe environment to minimize falling or bumping into objects. 36. Provide soft toothbrush or "toothette" swabs for cleaning teeth and gums. 37. Ensure that client does not take aspirin or other medications that increase the potential for bleeding. 38. Clean up areas contaminated by client's blood with household bleach diluted 1:10 with water.	34–38. To minimize the potential for easy bleeding caused by HIV-induced thrombocytopenia.

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Outcome Criteria	Nursing Interventions	Rationale
	39. Provide frequent tepid water sponge baths. 40. Provide antipyretic as ordered by physician (avoid aspirin). 41. Place client in cool room, with minimal clothing and bed covers. 42. Encourage intake of cool liquids (if not contraindicated).	39–42. To maintain near-normal body temperature.

NURSING DIAGNOSIS: INTERRUPTED FAMILY PROCESSES

RELATED TO: Crisis associated with having a family member diagnosed with HIV disease

EVIDENCED BY: Difficulty making decisions that affect all family members; inability to meet physical, emotional, spiritual, and security needs of its members

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Family members will express feelings regarding loved one's diagnosis and prognosis. **Long-Term Goal:** • Family will verbalize areas of dysfunction and demonstrate ability to cope more effectively.	1. Create an environment that is comfortable, supportive, private, and promotes trust. 2. Encourage each individual member to express feelings regarding loved one's diagnosis and prognosis. 3. If the client is homosexual, and this is family's first awareness, help them deal with guilt and shame they may experience. Help parents to understand they are not responsible, and their child is still the same individual they have always loved. 4. Serve as facilitator between client's family and homosexual partner. The family may have difficulty accepting the partner as a person who is as significant as a spouse. Clarify roles and responsibilities of family and partner. Do this by bringing both parties together to define and distribute the tasks involved in the client's care.	1. Basic needs of the family must be met before crisis resolution can be attempted. 2. Each individual is unique and must feel that his or her private needs can be met within the family constellation 3. Resolving guilt and shame enables family members to respond adaptively to the crisis. Their response can affect the client's remaining future and the family's future as well. 4. By minimizing the lack of legally defined roles, and by focusing on the need for making realistic decisions about the client's care, communication and resolution of conflict is enhanced.

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Outcome Criteria	Nursing Interventions	Rationale
	5. Encourage use of stress management techniques (e.g., relaxation exercises, guided imagery, attendance at support group meetings for significant others of AIDS clients).	5. Reduction of stress and support from others who share similar experiences enables individuals to begin to think more clearly and develop new behaviors to cope with this situational crisis.
	6. Provide educational information about AIDS and opportunity to ask questions and express concerns.	6. Many misconceptions about the disease abound within the public domain. Clarification may calm some of the family's fears and facilitate interaction with the client.
	7. Make family referrals to community organizations that provide supportive help or financial assistance to clients with HIV disease.	7. Extended care can place a financial burden on client and family members. Respite care may provide family members with occasional much-needed relief away from the stress of physical and emotional caregiving responsibilities.

NURSING DIAGNOSIS: DEFICIENT KNOWLEDGE (PREVENTION OF TRANSMISSION AND PROTECTION OF THE CLIENT)

RELATED TO: Lack of exposure to accurate information

EVIDENCED BY: Inaccurate statements by client and family

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client and family verbalize understanding about disease process, modes of transmission, and prevention of infection.	1. Teach that HIV cannot be contracted from: a. Casual or household contact with an individual with HIV infection. b. Shaking hands, hugging, social (dry) kissing, holding hands, or other non-sexual physical contact. c. Touching unsoiled linens or clothing, money, furniture, or other inanimate objects. d. Being near someone who has HIV disease at work, school, stores, restaurants, elevators.	All of this information may be given to client and significant others in an effort to clarify misconceptions, calm fears, and support an environment of appropriate interventions for care of the client with HIV disease.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goals: • Client and family demonstrate ability to execute precautions for preventing transmission of HIV and infection of the client. • Transmission of HIV and infection of the client are prevented.	e. Toilet seats, bathtubs, towels, showers, or swimming pools. f. Dishes, silverware, or food handled by a person with HIV disease. g. Animals (pets may transmit opportunistic organisms). h. (Very unlikely spread by) coughing, sneezing, spitting, kissing, tears, saliva. 2. HIV dies quickly outside the body because it requires living tissue to survive. It is readily killed by soap, cleansers, hot water, and disinfectants. 3. Teach client to protect self from infections by taking the following precautions: a. Avoid unpasteurized milk or milk products.	Raw or improperly washed foods may transmit microbes.
	b. Cook all raw vegetables and fruits before eating. c. Cook all meals well before eating.	
	d. Avoid direct contact with persons with known contagious illnesses. e. Consult physician before getting a pet.	Pets require extra infection control precautions because of the opportunistic organisms carried by animals.
	f. Avoid touching animal feces, urine, emesis, litter boxes, aquariums, or bird cages. Always wear mask and gloves when cleaning up after a pet.	Vaccination with live organisms may be fatal to severely immunosuppressed persons.
	g. Avoid traveling in countries with poor sanitation.	
	h. Avoid vaccines or vaccinations that contain live organisms.	Smoking predisposes to respiratory infections.
	i. Exercise regularly. j. Control stress factors. A counselor or support group may be helpful. k. Stop smoking. l. Maintain good personal hygiene.	

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Outcome Criteria	Nursing Interventions	Rationale
	4. Teach client/significant others about prevention of transmission: a. Do not donate blood, plasma, body organs, tissues, or semen. b. Inform physician, dentists, and anyone providing care that you have HIV disease. c. Do not share needles or syringes. d. Do not share personal items, such as toothbrushes, razors, or other implements that may be contaminated with blood or body fluids. e. Do not eat or drink from the same dinnerware and utensils without washing them between uses. f. Avoid becoming pregnant if at risk for HIV infection. g. Engage in only "safer" sexual practices (those *not* involving exchange of body fluids). h. Avoid sexual practices medically classified as "unsafe," such as anal or vaginal intercourse and oral sex. i. Avoid the use of recreational drugs because of their immunosuppressive effects. 5. Teach the home caregiver(s) to protect self from HIV infection by taking the following precautions: a. Wash hands thoroughly with liquid antibiotic soap before and after each client contact. Use moisturizing lotion afterward to prevent dry, cracking skin. b. Wear gloves when in contact with blood or body fluids (e.g., open wounds, suctioning, feces). Gown or aprons may be worn if soiling is likely.	

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Outcome Criteria	Nursing Interventions	Rationale
	c. Wear a mask: (1) When client has a productive cough and tuberculosis has not been ruled out. (2) To protect client if caregiver has a cold. (3) During suctioning. d. Bag disposable gloves and masks with client's trash. e. Dispose of the following in the toilet: (1) Organic material on clothes or linen before laundering. (2) Blood or body fluids. (3) Soiled tissue or toilet paper. (4) Cleaners or disinfectants used to clean contaminated articles. (5) Solutions contaminated with blood or body fluids. f. Double-bag client's trash and soiled dressings in an impenetrable, plastic bag. *Tie* the bag shut and discard with household trash. g. Do not recap needles, syringes, and other sharp items. Use puncture-proof covered containers for disposal (e.g., coffee cans, jars). h. Place soiled linen and clothing in a plastic bag and tie shut until washed. Launder these separately from other laundry. Use bleach or other disinfectant in hot water. i. When house cleaning, all equipment used in care of the client, as well as bathroom and kitchen surfaces, should be cleaned with a 1:10 dilute bleach solution. j. Mops, sponges, and other items used for cleaning should be reserved specifically for that purpose.	

* The interventions for this care plan have been adapted from "Nursing Care Plan for the AIDS Patient," written by the nursing staff of Hospice, Inc., Wichita, KS.

Care Plan for Client with Hypochondriasis

NURSING DIAGNOSIS: FEAR (OF HAVING A SERIOUS DISEASE)
RELATED TO: Past experience with life-threatening illness of self or significant others
EVIDENCED BY: Preoccupation with and unrealistic interpretation of bodily signs and sensations

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding of situations that precipitate fears and anxiety. **Long-Term Goal:** • Client will verbalize irrationality of fear and interpret bodily sensations correctly.	1. Monitor physician's ongoing assessments and laboratory reports. 2. Refer all new physical complaints to physician. 3. Assess function client's illness is fulfilling for him or her (e.g., unfulfilled needs for dependency, nurturing, caring, attention, or control). 4. Identify times during which preoccupation with physical symptoms is worse. Determine extent of correlation of physical complaints with times of increased anxiety. 5. Convey empathy. Let client know that you understand how a specific symptom may conjure up fears of previous life-threatening illness. 6. Initially allow client a limited amount of time (e.g., 10 minutes each hour) to discuss physical symptoms. 7. Help client determine what techniques may be most useful for him or her to implement when fear and anxiety are exacerbated (e.g., relaxation techniques; mental imagery; thought-stopping techniques; physical exercise).	1. Organic pathology must be clearly ruled out. 2. To assume that all physical complaints are hypochondriacal would place client's safety in jeopardy. 3. This information may provide insight into reasons for maladaptive behavior and provide direction for planning client care. 4. Client is unaware of the psychosocial implications of the physical complaints. Knowledge of the relationship is the first step in the process for creating change. 5. Unconditional acceptance and empathy promote a therapeutic nurse/client relationship. 6. Because this has been his or her primary method of coping for so long, complete prohibition of this activity would likely raise client's anxiety level significantly, further exacerbating the hypochondriacal behavior. 7. All of these techniques are effective in reducing anxiety and may assist client in the transition from focusing on fear of physical illness to the discussion of honest feelings.

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Outcome Criteria	Nursing Interventions	Rationale
	8. Gradually increase the limit on amount of time spent each hour in discussing physical symptoms. If client violates the limits, withdraw attention.	8. Lack of positive reinforcement may help to extinguish maladaptive behavior.
	9. Encourage client to discuss feelings associated with fear of serious illness.	9. Verbalization of feelings in a nonthreatening environment facilitates expression and resolution of disturbing emotional issues. When the client can express feelings directly, there is less need to express them through physical symptoms.
	10. Role-play the client's plan for dealing with the fear the next time it assumes control and before it becomes disabling through the exacerbation of physical symptoms.	10. Anxiety and fears are minimized when client has achieved a degree of comfort through practicing a plan for dealing with stressful situations in the future.

NURSING DIAGNOSIS: CHRONIC LOW SELF-ESTEEM
RELATED TO: Unfulfilled childhood needs for nurturing and caring
EVIDENCED BY: Transformation of internalized anger into physical complaints and hostility toward others

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goals: • Client will discuss fear of failure with nurse or therapist. • Client will verbalize things he or she likes about self.	1. Convey acceptance, unconditional positive regard, and remain nonjudgmental at all times.	1. Offering the client respect and dignity adds to feelings of self-worth.
	2. Encourage client to participate in decision making regarding care as well as life situations.	2. Feelings of personal control decreases feelings of powerlessness.
	3. Help client to recognize and focus on strengths and accomplishments. Minimize attention given to past (real or perceived) failures.	3. Lack of attention may help to eliminate negative ruminations.
	4. Encourage participation in group activities.	4. Through participation in these activities, client may receive positive feedback and support from peers.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will demonstrate acceptance of self as a person of worth, as evidenced by setting realistic goals, limiting physical complaints and hostility toward others, and verbalizing positive prospects for the future.	5. Ensure that client is not becoming increasingly dependent. Withdraw attention at times when client is focusing on physical symptoms. 6. Ensure that therapy groups offer client simple methods of achievement. Offer recognition and positive feedback for actual accomplishments. 7. Teach assertiveness techniques and effective communication techniques. 8. Offer positive feedback when client responds to stressful situation with coping strategies other then physical complaints.	5. Independent functioning increases feelings of self-worth. Lack of reinforcement may help to extinguish maladaptive behaviors. 6. Successes and recognition increase self-esteem. 7. Self-esteem is enhanced by the ability to interact with others in an effective manner. 8. Positive feedback enhances self-esteem and encourages repetition of desirable behaviors.

Care Plan for the Client with an Impulse Control Disorder

NURSING DIAGNOSIS: RISK FOR OTHER-DIRECTED VIOLENCE
RELATED TO: Dysfunctional family system; possible genetic or physiological influences
EVIDENCED BY: Episodes of violent, aggressive, or assaultive behavior

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will recognize signs of increasing tension, anxiety, and agitation, and report to staff (or others) for assistance with intervention. **Long-Term Goal:** • Client will not harm others or the property of others.	1. Convey an accepting attitude toward this client. Feelings of rejection are undoubtedly familiar to him or her. Work on development of trust. Be honest, keep all promises, and convey the message that it is not him or her but the behavior that is unacceptable. 2. Maintain low level of stimuli in client's environment (low lighting, few people, simple decor, low noise level). 3. Remove all potentially dangerous objects from the client's environment. Help client identify the true object of his or her hostility. 4. Staff should maintain and convey a calm attitude. 5. Help client recognize the signs that tension is increasing and ways in which violence can be averted. 6. Explain to client that should explosive behavior occur, staff will intervene in whatever way is required (e.g., tranquilizing medication, restraints, isolation) to protect client and others.	1. An attitude of acceptance promotes feelings of self-worth. Trust is the basis of a therapeutic relationship. 2. A stimulating environment may increase agitation and promote aggressive behavior. 3. Client safety is a nursing priority. Because of weak ego development, client may be unable to use ego defense mechanisms correctly. Helping him or her recognize this in a nonthreatening manner may help reveal unresolved issues so that they may be confronted. 4. Anxiety is contagious and can be transferred from staff to client. A calm attitude provides client with a feeling of safety and security. 5. Activities that require physical exertion are helpful in relieving pent-up tension. 6. This conveys to the client evidence of control over the situation and provides a feeling of safety and security.

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NURSING DIAGNOSIS: INEFFECTIVE COPING

RELATED TO: Possible hereditary factors, physiological alterations, dysfunctional family, or unresolved developmental issues

EVIDENCED BY: Inability to control impulse to gamble, steal, set fires, or pull out own hair

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will verbalize adaptive ways to cope with stress by means other than impulsive behaviors.	1. Help client gain insight into his or her own behaviors. Often these individuals rationalize to such an extent that they deny that what they have done is wrong.	1. Client must come to understand that certain behaviors will not be tolerated within the society and that severe consequences will be imposed upon those individuals who refuse to comply. Client must *want* to become a productive member of society before he or she can be helped.
Long-Term Goal: • Client will be able to delay gratification and use adaptive coping strategies in response to stress.	2. Talk about past behaviors with client. Discuss behaviors that are acceptable by societal norms and those that are not. Help client identify ways in which he or she has exploited others. Encourage client to explore how he or she would feel if the circumstances were reversed.	2. An attempt may be made to enlighten the client to the sensitivity of others by promoting self-awareness in an effort to assist the client to gain insight into his or her own behavior.
	3. Throughout relationship with client, maintain attitude of "It is not you, but your behavior, that is unacceptable."	3. An attitude of acceptance promotes feelings of dignity and self-worth.
	4. Work with client to increase the ability to delay gratification. Reward desirable behaviors and provide immediate positive feedback.	4. Rewards and positive feedback enhance self-esteem and encourage repetition of desirable behaviors.
	5. Help client identify and practice more adaptive strategies for coping with stressful life situations.	5. The impulse to perform the maladaptive behavior may be so great that the client is unable to see any other alternatives to relieve stress.

Care Plan for the Client Experiencing a Manic Episode

NURSING DIAGNOSIS: RISK FOR INJURY
RELATED TO: Extreme hyperactivity
EVIDENCED BY: Increased agitation and lack of control over purposeless and potentially injurious movements

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will no longer exhibit potentially injurious movements after 24 hours with administration of tranquilizing medication. **Long-Term Goal:** • Client will not experience physical injury	1. Reduce environmental stimuli. Assign private room with simple decor, on quiet unit if possible. Keep lighting and noise level low. 2. Remove hazardous objects and substances (including smoking materials). 3. Stay with the client who is hyperactive and agitated. 4. Provide physical activities. 5. Administer tranquilizing medication as ordered by physician.	1. Client is extremely distractible and responses to even the slightest stimuli are exaggerated. A milieu unit may be too stimulating. 2. Rationality is impaired, and client may harm self inadvertently. 3. Nurse's presence may offer support and provide feeling of security for the client. 4. Physical activities help relieve pent-up tension. 5. Antipsychotics are common, and are very effective for providing rapid relief from symptoms of hyperactivity.

NURSING DIAGNOSIS: RISK FOR VIOLENCE: SELF-DIRECTED OR OTHER-DIRECTED
RELATED TO: Manic excitement, delusional thinking, hallucinations

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client's agitation will be maintained at manageable level with the administration of tranquilizing medication during first week of treatment (decreasing risk of violence to self or others).	1. Maintain low level of stimuli in client's environment 2. Observe client's behavior at least every 15 minutes. 3. Ensure that all sharp objects, glass or mirrored items, belts, ties, smoking materials have been removed from client's environment.	1. This will minimize anxiety, agitation, and suspiciousness. 2. This is important so that intervention can occur if required to ensure client's (and others') safety. 3. These objects must be removed so that client cannot use them to harm self or others.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will not harm self or others.	4. Redirect violent behavior with physical outlets. 5. Maintain and convey a calm attitude to client. Respond matter-of-factly to verbal hostility. 6. Have sufficient staff to indicate a show of strength to client if necessary. 7. Offer tranquilizing medication. If client refuses, use of mechanical restraints may be necessary. 8. Medication may then be administered following application of mechanical restraints. Observe client every 15 minutes. 9. Remove restraints gradually, one at a time.	4. Physical activity is good for relieving pent-up tension and hostility. 5. Anxiety is contagious and can be transmitted from staff to client. 6. This conveys evidence of control over the situation and provides some physical security for staff. 7. Client should be offered an avenue of the "least restrictive alternative." 8. This ensures that needs for circulation, nutrition, hydration, and elimination are met. Client safety is a nursing priority. 9. Gradual removal of restraints minimizes potential for injury to client and staff.

NURSING DIAGNOSIS: IMBALANCED NUTRITION: LESS THAN BODY REQUIREMENTS
RELATED TO: Refusal or inability to sit still long enough to eat
EVIDENCED BY: Weight loss, amenorrhea

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will consume sufficient finger foods and between-meal snacks to meet recommended daily allowances of nutrients. **Long-Term Goal:** • Client will exhibit no signs or symptoms of malnutrition.	1. Provide high-protein, high-calorie, nutritious finger foods and drinks that can be consumed "on the run." 2. Have juice and snacks on the unit at all times. 3. Maintain accurate record of intake, output, calorie count, and weight. Monitor daily laboratory values. 4. Provide favorite foods. 5. Supplement diet with vitamins and minerals.	1. Client has difficulty sitting still long enough to eat a meal. 2. Nutritious intake is required on a regular basis to compensate for increased caloric requirement as a result of hyperactivity. 3. These are important nutritional assessment data. 4. This encourages eating. 5. To improve nutritional status.

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Outcome Criteria	Nursing Interventions	Rationale
	6. Walk or sit with client while he or she eats.	6. The nurse's presence offers support and encouragement to client to eat food that will maintain physical wellness.

NURSING DIAGNOSIS: IMPAIRED SOCIAL INTERACTION
RELATED TO: Egocentric and narcissistic behavior
EVIDENCED BY: Inability to develop satisfying relationships and manipulation of others for own desires

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize which of his or her interaction behaviors are appropriate and which are inappropriate within 1 week. **Long-Term Goal:** • Client will demonstrate use of appropriate interaction skills as evidenced by lack of, or marked decrease in, manipulation of others to fulfill own desires.	1. Recognize that manipulative behaviors help to reduce feelings of insecurity by increasing feelings of power and control. 2. Set limits on manipulative behaviors. Explain what is expected and the consequences if limits are violated. Terms of the limitations must be agreed on by all staff who will be working with the client. 3. Ignore attempts by client to argue, bargain, or charm his or her way out of the limit setting. 4. Give positive reinforcement for nonmanipulative behaviors. 5. Discuss consequences of client's behavior and how attempts are made to attribute them to others. 6. Help client identify positive aspects about self, recognize accomplishments, and feel good about them.	1. Understanding the motivation behind the behavior may facilitate greater acceptance of the individual. 2. Consequences for violation of limits must be consistently administered, or behavior will not be eliminated. 3. Lack of feedback may decrease these behaviors. 4. Positive reinforcement enhances self-esteem and promotes repetition of desirable behaviors. 5. Client must accept responsibility for own behavior before adaptive change can occur. 6. As self-esteem is increased, client will feel less need to manipulate others for own gratification.

Care Plan for the Client with Obsessive–Compulsive Disorder

NURSING DIAGNOSIS: INEFFECTIVE COPING
RELATED TO: Underdeveloped ego, punitive superego; avoidance learning; possible biochemical changes
EVIDENCED BY: Ritualistic behavior or obsessive thoughts

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Within 1 week, client will decrease participation in ritualistic behaviors by half. **Long-Term Goal:** • By time of discharge from treatment, client will demonstrate ability to cope effectively without resorting to obsessive-compulsive behaviors or increased dependency.	1. Work with client to determine types of situations that increase anxiety and result in ritualistic behaviors. 2. Initially meet the client's dependency needs as required. Encourage independence and give positive reinforcement for independent behaviors. 3. In the beginning of treatment, allow plenty of time for rituals. Do not be judgmental or verbalize disapproval of the behavior. 4. Support client's efforts to explore the meaning and purpose of the behavior. 5. Provide structured schedule of activities for client, including adequate time for completion of rituals. 6. Gradually begin to limit amount of time allotted for ritualistic behavior as client becomes more involved in other activities. 7. Give positive reinforcement for nonritualistic behaviors. 8. Help client learn ways of interrupting obsessive thoughts and ritualistic behavior with techniques such as thought stopping, relaxation, and physical exercise.	1. Recognition of precipitating factors is the first step in teaching the client to interrupt the escalating anxiety. 2. Sudden and complete elimination of all avenues for dependency would create intense anxiety on the part of the client. Positive reinforcement enhances self-esteem and encourages repetition of desired behaviors. 3. To deny client this activity may precipitate panic anxiety. 4. Client may be unaware of the relationship between emotional problems and compulsive behaviors. Recognition is important before change can occur. 5. Structure provides a feeling of security for the anxious client. 6. Anxiety is minimized when client is able to replace ritualistic behaviors with more adaptive ones. 7. Positive reinforcement enhances self-esteem and encourages repetition of desired behaviors. 8. Knowledge and practice of coping techniques that are more adaptive will help client change and let go of maladaptive responses to anxiety.

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NURSING DIAGNOSIS: INEFFECTIVE ROLE PERFORMANCE
RELATED TO: Need to perform rituals
EVIDENCED BY: Inability to fulfill usual patterns of responsibility

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will verbalize understanding that ritualistic behaviors interfere with role performance in order to cope with severe anxiety. **Long-Term Goal:** • Client will be able to resume role-related responsibilities by time of discharge from treatment..	1. Determine client's previous role within the family and extent to which this role is altered by the illness. Identify roles of other family members. 2. Discuss client's perception of role expectations. 3. Encourage client to discuss conflicts evident within the family system. Identify how client and other family members have responded to this conflict. 4. Explore available options for changes or adjustments in role. Practice through role-play. 5. Encourage family participation in the development of plans to effect positive change, and work to resolve the cause of the anxiety from which the client seeks relief through use of ritualistic behaviors. 6. Give client lots of positive reinforcement for ability to resume role responsibilities by decreasing need for ritualistic behaviors.	1. This is important assessment data for formulating an appropriate plan of care. 2. Determine if client's perception of his or her role expectations are realistic. 3. Identifying specific stressors, as well as adaptive and maladaptive responses within the system, is necessary before assistance can be provided in an effort to create change. 4. Planning and rehearsal of potential role transitions can reduce anxiety. 5. Input from the individuals who will be directly involved in the change will increase the likelihood of a positive outcome. 6. Positive reinforcement enhances self-esteem and promotes repetition of desired behaviors.

Care Plan for the Client with Pain Disorder

NURSING DIAGNOSIS: CHRONIC PAIN
RELATED TO: Repressed anxiety and learned maladaptive coping skills
EVIDENCED BY: Verbal complaints of pain, with evidence of psychological contributing factors, and excessive use of analgesics

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will verbalize understanding of correlation between pain and psychological problems. **Long-Term Goal:** • Client will verbalize relief from pain while demonstrating more adaptive coping strategies for dealing with life situation.	1. Monitor physician's ongoing assessments and laboratory reports. 2. Recognize and accept that the pain is indeed real to the client even though no organic etiology can be identified. 3. Observe and record the duration and intensity of the pain. Note factors that precipitate the onset of pain. 4. Provide pain medication as prescribed by physician. 5. Provide nursing comfort measures (e.g., backrub, warm bath, heating pad) with a matter-of-fact approach that does not reinforce the pain behavior. 6. Offer attention at times when client is not focusing on pain. 7. Identify activities that serve to distract client from focus on self and pain. 8. Encourage verbalization of feelings. Explore meaning that pain holds for client. Help client connect symptoms of pain to times of increased anxiety and to identify specific situations that cause anxiety to rise. 9. Encourage client to identify alternative methods of coping with stress.	1. Organic pathology must be clearly ruled out. 2. Denying the client's feelings is nontherapeutic and hinders the development of a trusting relationship 3. Identification of the precipitating stressor is important for assessment and care planning. 4. Client comfort and safety are nursing priorities. 5. Comfort measures may provide some relief from pain. Secondary gains from physical symptoms may prolong maladaptive behaviors. 6. Positive reinforcement encourages repetition of adaptive behaviors. 7. These distracters serve in a therapeutic manner as a transition from focus on self and pain to focus on unresolved psychological issues. 8. Verbalization of feelings in a nonthreatening environment facilitates expression and resolution of disturbing emotional issues. 9. Alternative stress management techniques may avert the use of pain as a maladaptive response to stress.

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Outcome Criteria	Nursing Interventions	Rationale
	10. Explore ways to intervene as symptoms begin to intensify (e.g., visual or auditory distractions, mental imagery, deep-breathing exercises, application of hot or cold compresses, relaxation exercises).	10. These techniques are adaptive ways of preventing the pain from becoming disabling.
	11. Provide positive reinforcement for times when client is not focusing on pain.	11. Positive reinforcement, in the form of the nurse's presence and attention, may encourage a continuation of these more adaptive behaviors.

NURSING DIAGNOSIS: SOCIAL ISOLATION
RELATED TO: Preoccupation with self and pain
EVIDENCED BY: Seeking to be alone; refusal to participate in therapeutic activities

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will attend therapy activities accompanied by trusted staff member. **Long-Term Goal:** • Client will voluntarily spend time with other clients and staff members in group activities.	1. Spend more time with the client after setting limits on attention-seeking behaviors. Withdraw presence if ruminations about pain begin.	1. The nurse's presence conveys a sense of worthiness to the client. Lack of reinforcement of maladaptive behaviors may help to decrease their repetition.
	2. Increase amount of attention given during times when client is not focusing on pain.	2. This separates the person from the behavior. The client experiences unconditional acceptance without a need for the pain behavior.
	3. Describe to the client how the focus on pain and self discourages others from wanting to spend time with him or her.	3. Client may not realize how own behavior is perceived and may result in alienation from others.
	4. Teach client to recognize the differences among passive, assertive, and aggressive behaviors and the importance of respecting the human rights of others while protecting one's own basic human rights.	4. These assertive techniques enhance self-esteem and f facilitate communication and mutual acceptance in interpersonal relationships.
	5. Provide positive feedback for any attempts at social interaction in which the client's focus is on others rather than on self or pain.	5. Positive feedback enhances self-esteem and encourages repetition of desirable behaviors.

Care Plan for the Client with Panic Disorder or Generalized Anxiety Disorder

NURSING DIAGNOSIS: PANIC ANXIETY
RELATED TO: Real or perceived threat to biological integrity or self-concept
EVIDENCED BY: Any or all of the physical symptoms identified by the ***DSM-IV-TR***

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize ways to intervene in escalating anxiety within 1 week. **Long-Term Goal:** • Client will be able to recognize symptoms of onset of anxiety and to intervene before reaching panic level by time of discharge from treatment.	1. Stay with the client and offer reassurance of safety and security. 2. Maintain a calm, nonthreatening, matter-of-fact approach. 3. Use simple words and brief messages, spoken calmly and clearly, to explain hospital experiences. 4. Keep immediate surroundings low in stimuli (dim lighting, few people, simple decor). 5. Administer tranquilizing medication, as ordered by physician. Assess for effectiveness and for side effects. 6. When level of anxiety has been reduced, explore possible reasons for occurrence. 7. Teach signs and symptoms of escalating anxiety, and ways to interrupt its progression (relaxation techniques, deep-breathing exercises, and meditation, or physical exercise, brisk walks, and jogging).	1. The client may fear for his or her life. Presence of a trusted individual provides a feeling of security and assurance of personal safety. 2. Anxiety is contagious and may be transferred from staff to client or vice versa. Client develops a feeling of security in the presence of a calm staff person. 3. In an intensely anxious situation, the client is unable to comprehend anything but the most elemental communication. 4. A stimulating environment may increase level of anxiety. 5. Antianxiety medication provides relief from the immobilizing effects of anxiety. 6. Recognition of precipitating factor(s) is the first step in teaching client to interrupt escalation of anxiety. 7. Relaxation techniques result in a physiological response opposite that of the anxiety response. Physical activities discharge excess energy in a healthful manner.

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NURSING DIAGNOSIS: POWERLESSNESS

RELATED TO: Impaired Cognition

EVIDENCED BY: Verbal expressions of no control over life situation and nonparticipation in decision-making related to own care or life situation.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will participate in decision making regarding own care within 5 days. **Long-Term Goal:** • Client will be able to effectively problem solve ways to take control of life situation, thereby decreasing feelings of powerlessnessand anxiety.	1. Allow client to take as much responsibility as possible for self-care practices. Examples include: a. Allow client to establish own schedule for self-care activities. b. Include client in setting goals of care. c. Provide client with privacy as need is determined. d. Provide positive feedback for decisions made. Respect client's right to make those decisions independently, and refrain from attempting to influence him or her toward those that may seem more logical.	1. Providing choices will increase client's feelings of control.
	2. Assist client to set realistic goals.	2. Unrealistic goals set the client up for failure and reinforce feelings of powerlessness.
	3. Help identify areas of life situation that client can control.	3. Client's emotional condition interferes with the ability to solve problems. Assistance is required to perceive the benefits and consequences of available alternatives accurately.
	4. Help client identify areas of life situation that are not within his or her ability to control. Encourage verbalization of feelings related to this inability.	4. This will assist the client to deal with unresolved issues and learn to accept what cannot be changed.

Care Plan for Clients with Phobic Disorders

NURSING DIAGNOSIS: FEAR

RELATED TO: Causing embarrassment to self in front of others, being in a place from which one is unable to escape, or a specific stimulus

EVIDENCED BY: Behavior directed toward avoidance of the feared object or situation

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will discuss phobic object or situation with nurse or therapist within 5 days. **Long-Term Goal:** • Client will be able to function in presence of phobic object or situation without experiencing panic anxiety by time of discharge from treatment.	1. Reassure client that he or she is safe. 2. Explore client's perception of the threat to physical integrity or threat to self-concept. 3. Discuss reality of the situation with client to recognize aspects that can be changed and those that cannot. 4. Include client in making decisions related to selection of alternative coping strategies. (e.g., client may choose either to avoid the phobic stimulus or to attempt to eliminate the fear associated with it.) 5. If client elects to work on elimination of the fear, techniques of desensitization or implosion therapy may be employed. (See explanation of these techniques under "Treatment Modalities" at the end of this chapter.) 6. Encourage client to explore underlying feelings that may be contributing to irrational fears, and to face them rather than suppress them.	1. At the panic level of anxiety, client may fear for his or her own life. 2. It is important to understand client's perception of the phobic object or situation to assist with the desensitization process. 3. Client must accept the reality of the situation (aspects that cannot change) before the work of reducing the fear can progress. 4. Allowing the client choices provides a measure of control and serves to increase feelings of self-worth. 5. Fear is decreased as the physical and psychological sensations diminish in response to repeated exposure to the phobic stimulus under nonthreatening conditions. 6. Exploring underlying feelings may help the client to confront unresolved conflicts and develop more adaptive coping abilities.

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NURSING DIAGNOSIS: SOCIAL ISOLATION
RELATED TO: Fears of being in a place from which one is unable to escape
EVIDENCED BY: Staying alone; refusing to leave room or home

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will willingly attend therapy activities accompanied by trusted support person within 1 week. **Long-Term Goal:** • Client will voluntarily spend time with other clients and staff members in group activities by time of discharge from treatment.	1. Convey an accepting attitude and unconditional positive regard. Make brief, frequent contacts. Be honest and keep all promises. 2. Attend group activities with client if it may be frightening for him or her. 3. Be cautious with touch. Allow client extra space and an avenue for exit if anxiety becomes overwhelming. 4. Administer tranquilizing medications as ordered by physician. Monitor for effectiveness and adverse side effects. 5. Discuss with client signs and symptoms of increasing anxiety and techniques to interrupt the response (e.g., relaxation exercises, "thought stopping") 6. Give recognition and positive reinforcement for voluntary interactions with others.	1. These interventions increase feelings of self-worth and facilitate a trusting relationship. 2. The presence of a trusted individual provides emotional security. 3. A person in panic anxiety may perceive touch as threatening. 4. Antianxiety medications, such as diazepam, chlordiazepoxide, or alprazolam, help to reduce level of anxiety in most individuals, thereby facilitating interactions with others. 5. Maladaptive behaviors, such as withdrawal and suspiciousness, are manifested during times of increased anxiety. 6. This enhances self-esteem and encourages repetition of acceptable behaviors.

Care Plan for the Client with Posttraumatic Stress Disorder

NURSING DIAGNOSIS: POST-TRAUMA SYNDROME

RELATED TO: Distressing event considered to be outside the range of usual human experience

EVIDENCED BY: Flashbacks, intrusive recollections, nightmares, psychological numbness related to the event, dissociation, or amnesia

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will begin a healthy grief resolution, initiating the process of psychological healing. **Long-Term Goal:** • The client will integrate the traumatic experience into his or her persona, renew significant relationships, and establish meaningful goals for the future.	1. a. Assign the same staff as often as possible. b. Use a nonthreatening, matter-of-fact, but friendly approach. c. Respect client's wishes regarding interaction with individuals of opposite sex at this time (especially important if the trauma was rape). d. Be consistent; keep all promises; convey acceptance; spend time with client. 2. Stay with client during periods of flashbacks and nightmares. Offer reassurance of safety and security and that these symptoms are not uncommon following a trauma of the magnitude he or she has experienced. 3. Obtain accurate history from significant others about the trauma and the client's specific response. 4. Encourage the client to talk about the trauma at his or her own pace. Provide a nonthreatening, private environment, and include a significant other if the client wishes. Acknowledge and validate client's feelings as they are expressed.	1. All of these interventions serve to facilitate a trusting relationship. 2. Presence of a trusted individual may calm fears for personal safety and reassure client that he or she is not "going crazy." 3. Various types of traumas elicit different responses in clients (e.g., human-engendered traumas often generate a greater degree of humiliation and guilt in victims than trauma associated with natural disasters). 4. This debriefing process is the first step in the progression toward resolution.

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Outcome Criteria	Nursing Interventions	Rationale
	5. Discuss coping strategies used in response to the trauma, as well as those used during stressful situations in the past. Determine those that have been most helpful, and discuss alternative strategies for the future. Include available support systems, including religious and cultural influences. Identify maladaptive coping strategies (e.g., substance use, psychosomatic responses) and practice more adaptive coping strategies for possible future post-trauma responses.	5. Resolution of the post-trauma response is largely dependent on the effectiveness of the coping strategies employed.
	6. Assist the individual to try to comprehend the trauma if possible. Discuss feelings of vulnerability and the individual's "place" in the world following the trauma.	6. Post-trauma response is largely a function of the shattering of basic beliefs the victim holds about self and world. Assimilation of the event into one's persona requires that some degree of meaning associated with the event be incorporated into the basic beliefs, which will affect how the individual eventually comes to reappraise self and world (Epstein, 1991).

NURSING DIAGNOSIS: COMPLICATED GRIEVING

RELATED TO: Loss of self as perceived prior to the trauma or other actual/perceived losses incurred during/following the event

EVIDENCED BY: Irritability and explosiveness, self-destructiveness, substance abuse, verbalization of survival guilt or guilt about behavior required for survival

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will verbalize feelings of grief related to loss of self as perceived prior to the trauma.	1. Acknowledge feelings of guilt or self-blame that client may express.	1. Guilt at having survived a trauma in which others died is common. The client needs to discuss these feelings and recognize that he or she is not responsible for what happened but must take responsibility for own recovery.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will demonstrate progress in dealing with stages of grief and will verbalize a sense of optimism and hope for the future.	2. Assess stage of grief in which the client is fixed. Discuss normalcy of feelings and behaviors related to stages of grief.	2. Knowledge of grief stage is necessary for accurate intervention. Guilt may be generated if client believes it is unacceptable to have these feelings. Knowing they are normal can provide a sense of relief.
	3. Assess impact of the trauma on client's ability to resume regular activities of daily living. Consider employment, marital relationship, and sleep patterns.	3. Following a trauma, individuals are at high risk for physical injury because of disruption in ability to concentrate and problem solve and because of lack of sufficient sleep. Isolation and avoidance behaviors may interfere with interpersonal relatedness.
	4. Assess for self-destructive ideas and behavior.	4. The trauma may result in feelings of hopelessness and worthlessness, leading to high risk for suicide.
	5. Assess for maladaptive coping strategies, such as substance abuse.	5. These behaviors interfere with and delay the recovery process.
	6. Identify available community resources from which the individual may seek assistance if problems with dysfunctional grieving persist.	6. Support groups for victims of various types of traumas exist within most communities. The presence of support systems in the recovery environment has been identified as a major predictor in the successful recovery from trauma.

Care Plan for the Client with a Psychophysiological Disorder

NURSING DIAGNOSIS: INEFFECTIVE COPING
RELATED TO: Repressed Anxiety and inadequate coping methods
EVIDENCED BY: Initiation or exacerbation of physical illness

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Within 1 week, client will verbalize adaptive ways of coping with stressful situation. **Long-Term Goal:** • Client will achieve physical wellness and demonstrate the ability to prevent exacerbation of physical symptoms as a coping mechanism in response to stress.	1. Perform thorough physical assessment. 2. Monitor laboratory values, vital signs, intake and output, and other assessments. 3. Together with the client, identify goals of care and ways in which client believes he or she can best achieve those goals. Client may need assistance with problem solving. 4. Encourage client to discuss current life situations that he or she perceives as stressful and the feelings associated with each. 5. During client's discussion, note times during which a sense of powerlessness or loss of control over life situations emerges. Focus on these times and discuss ways in which the client may maintain a feeling of control. 6. As client becomes able to discuss feelings more openly, assist him or her in a nonthreatening manner to relate certain feelings to the appearance of physical symptoms.	1. Physical assessment is necessary to determine specific care required for client's physical condition. 2. This is necessary to maintain an accurate ongoing appraisal. 3. Personal involvement in his or her own care provides a feeling of control and increases chances for positive outcomes. 4. Verbalization of true feelings in a nonthreatening environment may help client come to terms with unresolved issues. 5. A sense of self-worth develops and is maintained when an individual feels power over his or her own life situations. 6. Client may be unaware of the relationship between physical symptoms and emotional problems.

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Outcome Criteria	Nursing Interventions	Rationale
	7. Discuss stressful times when physical symptoms did not appear and the adaptive coping strategies that were used during those situations. Therapy is facilitated by considering areas of strength and using them to the client's benefit. Provide positive reinforcement for adaptive coping mechanisms identified or used. Suggest alternative coping strategies but allow client to determine which can most appropriately be incorporated into his or her lifestyle.	7. Positive reinforcement enhances self-esteem and encourages repetition of desired behaviors. Client may require assistance with problem solving but must be allowed and encouraged to make decisions independently.
	8. Help client to identify a resource within the community (friend, significant other, group) to use as a support system for the expression of feelings.	8. A positive support system may help to prevent maladaptive coping through physical illness.

NURSING DIAGNOSIS: DEFICIENT KNOWLEDGE

RELATED TO: Psychological factors affecting medical condition

EVIDENCED BY: Statements such as "I don't know why the doctor put me on the psychiatric unit. I have a physical problem."

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will cooperate with pan for teaching provided by primary nurse. **Long-Term Goal:** • Client will be able to verbalize psychological factors affecting his or her physical condition.	1. Assess client's level of knowledge regarding effects of psychological problems on the body. 2. Assess client's level of anxiety and readiness to learn. 3. Discuss physical examinations and laboratory tests that have been conducted. Explain purpose and results of each.	1. An adequate database is necessary for the development of an effective teaching plan. 2. Learning does not occur beyond the moderate level of anxiety. 3. Client has the right to know about and accept or refuse any medical treatment.

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Outcome Criteria	Nursing Interventions	Rationale
	4. Explore feelings and fears held by client. Go slowly. These feelings may have been suppressed or repressed for so long that their disclosure may be a very painful experience. Be supportive.	4. Expression of feelings in the presence of a trusted individual and in a nonthreatening environment may encourage the individual to confront unresolved feelings.
	5. Have client keep a diary of appearance, duration, and intensity of physical symptoms. A separate record of situations that the client finds especially stressful should also be kept.	5. Comparison of these records may provide objective data from which to observe the relationship between physical symptoms and stress.
	6. Help client identify needs that are being met through the sick role. Together, formulate more adaptive means for fulfilling these needs. Practice by role-playing.	6. Repetition through practice serves to reduce discomfort in the actual situation.
	7. Provide instruction in assertiveness techniques, especially the ability to recognize the differences among passive, assertive, and aggressive behaviors and the importance of respecting the rights of others while protecting one's own basic rights.	7. These skills will preserve client's self-esteem while also improving his or her ability to form satisfactory interpersonal relationships.
	8. Discuss adaptive methods of stress management, such as relaxation techniques, physical exercise, meditation, breathing exercises, and autogenics.	8. Use of these adaptive techniques may decrease appearance of physical symptoms in response to stress.

Care Plan for the Client with Schizophrenia

NURSING DIAGNOSIS: DISTURBED SENSORY PERCEPTION: AUDITORY/VISUAL
RELATED TO: Panic anxiety, extreme loneliness and withdrawal into the self
EVIDENCED BY: Inappropriate responses, disordered thought sequencing, rapid mood swings, poor concentration disorientation.

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will discuss content of hallucinations with nurse or therapist. **Long-Term Goal:** • Client will be able to define and test reality, reducing or eliminating the occurrence of hallucinations.	1. Observe client for signs of hallucinations (listening pose, laughing or talking to self, stopping in midsentence). 2. Avoid touching the client without warning. 3. An attitude of acceptance will encourage the client to share the content of the hallucination with you. 4. Do not reinforce the hallucination. Use "the voices" instead of words like "they" that imply validation. Let client know that you do not share the perception. Say, "Even though I realize the voices are real to you, I do not hear any voices." 5. Help the client understand the connection between anxiety and hallucinations. 6. Try to distract the client from the hallucination.	1. Early intervention may prevent aggressive response to command hallucinations. 2. Client may perceive touch as threatening and may respond in an aggressive manner. 3. This is important to prevent possible injury to the client or others from command hallucinations. 4. Client must accept the perception as unreal before hallucinations can be eliminated. 5. If client can learn to interrupt escalating anxiety, hallucinations may be prevented. 6. Involvement in interpersonal activities and explanation of the actual situation will help bring the client back to reality.

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NURSING DIAGNOSIS: DISTURBED THOUGHT PROCESSES

RELATED TO: Inability to trust, panic anxiety, possible hereditary or biochemical factors

EVIDENCED BY: Delusional thinking; inability to concentrate; impaired volition; inability to problem solve, abstract, or conceptualize; extreme suspiciousness of others.

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will recognize and verbalize that false ideas occur at times of increased anxiety. **Long-Term Goals:** • Depending on chronicity of the disease process, choose the most realistic long-term goal for the client: • By time of discharge from treatment, the client will experience (verbalize evidence of) no delusional thoughts. • By time of discharge from treatment, the client will be able to differentiate between delusional thinking and reality.	1. Convey acceptance of client's need for the false belief, but indicate that you do not share the belief. 2. Do not argue or deny the belief. Use "reasonable doubt" as a therapeutic technique: "I find that hard to believe." 3. Reinforce and focus on reality. Discourage long ruminations about the irrational thinking. Talk about real events and real people. 4. If client is highly suspicious, the following interventions may help: a. Use same staff as much as possible; be honest and keep all promises. b. Avoid physical contact; avoid laughing, whispering, or talking quietly where client can see but cannot hear what is being said; provide canned food with can opener or serve food family style; avoid competitive activities; use assertive, matter-of-fact, yet friendly approach.	1. Client must understand that you do not view the idea as real. 2. Arguing or denying the belief serves no useful purpose because delusional ideas are not eliminated by this approach, and the development of a trusting relationship may be impeded. 3. Discussions that focus on the false ideas are purposeless and useless, and may even aggravate the psychosis. 4. To decrease client's suspiciousness: a. Promotes trust. b. Prevents the client from feeling threatened.

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NURSING DIAGNOSIS: SOCIAL ISOLATION

RELATED TO: Inability to trust, panic anxiety, weak ego development, delusional thinking, regression

EVIDENCED BY: withdrawal, sad, dull affect, need-fear dilemma, preoccupation with own thoughts, expression of feelings of rejection or of aloneness imposed by others

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will willingly attend therapy activities accompanied by trusted staff member. **Long-Term Goal:** • Client will voluntarily spend time with other clients and staff members in group therapeutic activities.	1. Convey an accepting attitude by making brief, frequent contacts. Show unconditional positive regard. 2. Offer to be with client during group activities that he or she finds frightening or difficult. 3. Give recognition and positive reinforcement for client's voluntary interactions with others.	1. An accepting attitude increases feelings of self-worth and facilitates trust. 2. The presence of a trusted individual provides emotional security for the client. 3. Positive reinforcement enhances self-esteem and encourages repetition of acceptable behaviors.

NURSING DIAGNOSIS: RISK FOR VIOLENCE: SELF-DIRECTED OR OTHER-DIRECTED

RELATED TO: Extreme suspiciousness, panic anxiety, catatonic excitement, rage reactions, command hallucinations

EVIDENCED BY: Overt and aggressive acts, goal-directed destruction of objects in the environment, self-destructive behavior or active aggressive suicidal acts.

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goals: • Within [a specified time], client will recognize signs of increasing anxiety and agitation and report to staff (or other care provider) for assistance with intervention. • Client will not harm self or others.	1. Maintain low level of stimuli in client's environment (low lighting, few people, simple decor, low noise level). 2. Observe client's behavior frequently. Do this while carrying out routine activities. 3. Remove all dangerous objects from client's environment.	1. Anxiety level rises in stimulating environment. Individuals may be perceived as threatening by a suspicious, agitated client. 2. Observation during routine activities avoids creating suspiciousness on the part of the client. Close observation is necessary so that intervention can occur if required to ensure client (and others') safety. 3. Removal of dangerous objects prevents client, in an agitated, confused state, from harming self or others.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will not harm self or others.	4. Redirect violent behavior with physical outlets for the anxiety. 5. Staff should maintain a calm attitude toward client. 6. Have sufficient staff available to indicate a show of strength to client if it becomes necessary. 7. Administer tranquilizing medications as ordered by physician. If client is not calmed by "talking down" or by medication, use of mechanical restraints may be necessary.	4. Physical exercise is a safe and effective way of relieving pent-up tension. 5. Anxiety is contagious and can be transmitted from staff to client. 6. This shows the client evidence of control over the situation and provides some physical security for staff. 7. The avenue of the "least restrictive alternative" must be selected when planning interventions for a violent client.

NURSING DIAGNOSIS: IMPAIRED VERBAL COMMUNICATION

RELATED TO: Panic anxiety, regression, withdrawal, disordered, unrealistic thinking

EVIDENCED BY: Loose association of ideas, neologisms, word salad, clang association, echolalia, verbalizations that reflect concrete thinking, poor eye contact

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will demonstrate ability to remain on one topic, using appropriate, intermittent eye contact for 5 minutes with nurse or therapist. **Long-Term Goal:** • By time of discharge from treatment, client will demonstrate ability to carry on a verbal communication in a socially acceptable manner with healthcare providers and peers.	1. Attempt to decode incomprehensible communication patterns. Seek validation and clarification by stating, "Is it that you mean…?" or "I don't understand what you mean by that. Would you please clarify it for me?" 2. Facilitate trust and understanding by maintaining staff assignments as consistently as possible. The technique of *verbalizing the implied* is used with the client who is mute (unable or unwilling to speak). Example: "That must have been a very difficult time for you when your mother left. You must have felt very alone."	1. These techniques reveal how the client is being perceived by others, while the responsibility for not understanding is accepted by the nurse. 2. This approach conveys empathy and may encourage the client to disclose painful issues.

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Outcome Criteria	Nursing Interventions	Rationale
	3. Anticipate and fulfill client's needs until functional communication pattern returns. 4. Orient client to reality as required. Call the client by name. Validate those aspects of communication that help differentiate between what is real and not real.	3. Client safety and comfort are nursing priorities. 4. These techniques may facilitate restoration of functional communication patterns in the client.

NURSING DIAGNOSIS: SELF-CARE DEFICIT

RELATED TO: withdrawal, regression, panic anxiety, perceptual or cognitive impairment, inability to trust

EVIDENCED BY: Difficulty carrying out tasks associated with hygiene, dressing, grooming, eating, toileting

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize a desire to perform ADLs by end of 1 week. **Long-Term Goal:** • Client will be able to perform ADLs in an independent manner and demonstrate a willingness to do so by time of discharge from treatment.	1. Provide assistance with self-care needs as required. Some clients who are severely withdrawn may require total care. 2. Encourage client to perform independently as many activities as possible. Provide positive reinforcement for independent accomplishments. 3. Use concrete communication to show client what is expected. Example: "Pick up the spoon, scoop some mashed potatoes into it, and put it in your mouth." 4. Creative approaches may need to be taken with the client who is not eating, such as allowing client to open own canned or packaged foods; family-style serving may also be an option. 5. If toileting needs are not being met, establish a structured schedule for the client.	1. Client safety and comfort are nursing priorities. 2. Independent accomplishment and positive reinforcement enhance self-esteem and promote repetition of desirable behaviors. 3. Because concrete thinking prevails, explanations must be provided at the client's concrete level of comprehension. 4. These techniques may be helpful with the client who is paranoid and may be suspicious that he or she is being poisoned with food or medication. 5. A structured schedule will help the client establish a pattern so that he or she can develop a habit of toileting independently.

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NURSING DIAGNOSIS: DISABLED FAMILY COPING

RELATED TO: Difficulty coping with client's illness

EVIDENCED BY: Neglectful care of the client in regard to basic human needs or illness treatment, extreme denial or prolonged overconcern regarding client's illness.

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Family will express feelings regarding loved one's illness and verbalize areas of dysfunction. **Long-Term Goal:** • Family will identify and demonstrate more adaptive coping strategies for dealing with client's illness and treatment regimen.	1. Identify level of family functioning. Assess communication patterns, interpersonal relationships between members, role expectations, problem-solving skills, and availability of outside support systems. 2. Provide information for the family about the client's illness, what will be required in the treatment regimen, and long-term prognosis. 3. With family members, practice how to respond to bizarre behavior and communication patterns and in the event that the client becomes violent.	1. These factors will help to identify how successful the family is in dealing with stressful situations, and areas where assistance is required. 2. Knowledge and understanding about what to expect may facilitate the family's ability to successfully integrate the client into the system. 3. A plan of action will assist the family to respond adaptively in the face of what they may consider to be a crisis.

Care Plan for the Client with Problems Related to Self-Esteem

NURSING DIAGNOSIS: CHRONIC LOW SELF-ESTEEM

RELATED TO: Childhood neglect/abuse; numerous failures; negative feedback from others

EVIDENCED BY: Long-standing self-negating verbalizations and expressions of shame and guilt

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will participate in treatment program and demonstrate behavioral lifestyle changes that promote positive self-esteem. **Long-term Goal:** • Client will exhibit increased feeling of self-worth as evidenced by verbal expression of positive aspects about self, past accomplishments, and future prospects.	1. Be supportive, accepting, and respectful without invading the client's personal space. 2. Discuss inaccuracies in self-perception with client. 3. Have client list success and strengths. Provide positive feedback. 4. Assess content of negative self-talk.	1. Individuals who have had longstanding feelings of low self-worth may be uncomfortable with personal attentiveness. 2. Client may not see positive aspects of self that others see, and bringing it to awareness may help change perception. 3. Helps client to develop internal self-worth and new coping behaviors. 4. Self-blame, shame, and guilt promote feelings of low self-worth. Depending on chronicity and severity of the problem, this is likely to be the focus of long-term psychotherapy with this client.

NURSING DIAGNOSIS: SITUATIONAL LOW SELF-ESTEEM

RELATED TO: Failure (either real or perceived) in a situation of importance to the individual or loss (either real or perceived) of a concept of value to the individual

EVIDENCED BY: Negative self-appraisal in a person with a previous positive self-evaluation

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding of individual factors that precipitated current situation and negative self-perception.	1. Convey an accepting attitude; encourage client to express self openly.	1. An accepting attitude enhances trust and communicates to the client that you believe he or she is a worthwhile person, regardless of what is expressed.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will identify source of threat to self-esteem and work through the stages of the grief process to resolve the loss or failure.	2. Encourage client to express anger. Do not become defensive if initial expression of anger is displaced on nurse/therapist. Assist client to explore angry feelings and direct them toward the intended object/person or other loss. 3. Assist client to avoid ruminating about past failures. Withdraw attention if client persists. 4. Client needs to focus on positive attributes if self-esteem is to be enhanced. Encourage discussion of past accomplishments and offer support in undertaking new tasks. Offer recognition of successful endeavors and positive reinforcement of attempts made.	2. Verbalization of feelings in a nonthreatening environment may help client come to terms with unresolved issues related to the loss. 3. Lack of attention to these undesirable behaviors may discourage their repetition. 4. Recognition and positive reinforcement enhance self-esteem and encourage repetition of desirable behaviors.

NURSING DIAGNOSIS: RISK FOR SITUATIONAL LOW SELF-ESTEEM

RISK FACTORS: Developmental or functional changes; disturbed body image; loss; history of abuse or neglect; unrealistic self-expectations; physical illness; failures/rejections

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will acknowledge factors that lead to possibility of feelings of low self-esteem. **Long-term Goal:** • Client's self-esteem will be preserved.	1. Provide an open environment and trusting relationship. 2. Determine client's perception of the loss/failure and the meaning of it to him or her. 3. Identify response of family or significant others to client's current situation. 4. Permit appropriate expressions of anger.	1. To facilitate client's ability to deal with current situation. 2. Assessment of the cause or contributing factor is necessary to provide assistance to the client. 3. This provides additional background assessment data with which to plan client's care. 4. Anger is a stage in the normal grieving process and must be dealt with for progression to occur.

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Outcome Criteria	Nursing Interventions	Rationale
	5. Provide information about normalcy of individual grief reaction.	5. Individuals who are unaware of normal feelings associated with grief may feel guilty and try to deny certain feelings.
	6. Discuss and assist with planning for the future. Provide hope, but avoid giving false reassurance.	6. In a state of anxiety and grief, individuals need assistance with decision-making and problem solving. They may find it difficult or impossible to envision any hope for the future.

Care Plan for the Client with Separation Anxiety Disorder

NURSING DIAGNOSIS: ANXIETY (SEVERE)
RELATED TO: Family history; temperament; overattachment to parent; negative role modeling

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will discuss fears of separation with trusted individual.	1. Establish an atmosphere of calmness, trust, and genuine positive regard.	1. Trust and unconditional acceptance are necessary for satisfactory nurse/client relationship. Calmness is important because anxiety is easily transmitted from one person to another.
Long-Term Goal: • Client will maintain anxiety at no higher than moderate level in the face of events that formerly have precipitated panic.	2. Assure client of his or her safety and security.	2. Symptoms of panic anxiety are very frightening.
	3. Explore the child or adolescent's fears of separating from the parents. Explore with the parents possible fears they may have of separation from the child.	3. Some parents may have an underlying fear of separation from the child, of which they are unaware and which they are unconsciously transferring to the child.
	4. Help parents and child initiate realistic goals (e.g., child to stay with sitter for 2 hours with minimal anxiety; or, child to stay at friend's house without parents until 9 PM without experiencing panic anxiety).	4. Parents may be so frustrated with child's clinging and demanding behaviors that assistance with problem solving may be required.
	5. Give, and encourage parents to give, positive reinforcement for desired behaviors.	5. Positive reinforcement encourages repetition of desirable behaviors.

NURSING DIAGNOSIS: INEFFECTIVE COPING
RELATED TO: Unresolved separation conflicts and inadequate coping skills
EVIDENCED BY: Numerous somatic complaints

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize correlation of somatic symptoms to fear of separation.	1. Encourage child or adolescent to discuss specific situations in life that produce the most distress and describe his or her response to these situations. Include parents in the discussion.	1. Client and family may be unaware of the correlation between stressful situations and the exacerbation of physical symptoms.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will demonstrate use of more adaptive coping strategies (than physical symptoms) in response to stressful situations.	2. Help the child or adolescent who is perfectionistic to recognize that self-expectations may be unrealistic. Connect times of unmet self-expectations to the exacerbation of physical symptoms. 3. Encourage parents and child to identify more adaptive coping strategies that the child could use in the face of anxiety that feels overwhelming. Practice through role-play.	2. Recognition of maladaptive patterns is the first step in the change process. 3. Practice facilitates the use of the desired behavior when the individual is actually faced with the stressful situation.

NURSING DIAGNOSIS: IMPAIRED SOCIAL INTERACTION
RELATED TO: Reluctance to be away from attachment figure

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will spend time with staff or other support person, without presence of attachment figure, without excessive anxiety. **Long-Term Goal:** • Client will be able to spend time with others (without presence of attachment figure) without excessive anxiety.	1. Develop a trusting relationship with client. 2. Attend groups with the child and support efforts to interact with others. Give positive feedback. 3. Convey to the child the acceptability of his or her not participating in group in the beginning. Gradually encourage small contributions until client is able to participate more fully. 4. Help client set small personal goals (e.g., "Today I will speak to one person I don't know").	1. This is the first step in helping the client learn to interact with others. 2. Presence of a trusted individual provides security during times of distress. Positive feedback encourages repetition. 3. Small successes will gradually increase self-confidence and decrease self-consciousness, so that client will feel less anxious in the group situation. 4. Simple, realistic goals provide opportunities for success that increase self-confidence and may encourage the client to attempt more difficult objectives in the future.

Care Plan for Primary Caregiver of Client with Severe and Persistent Mental Illness

NURSING DIAGNOSIS: CAREGIVER ROLE STRAIN

RELATED TO: Severity and duration of the care receiver's illness and lack of respite and recreation for the caregiver

EVIDENCED BY: Feelings of stress in relationship with care receiver, feelings of depression and anger, family conflict around issues of providing care

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Caregivers will verbalize understanding of ways to facilitate the caregiver role. **Long-Term Goal:** • Caregivers will demonstrate effective problem-solving skills and develop adaptive coping mechanisms to regain equilibrium.	1. Assess prospective caregivers' abilities to anticipate and fulfill client's unmet needs. Provide information to assist caregivers with this responsibility. Ensure that caregivers encourage client to be as independent as possible. 2. Ensure that caregivers are aware of available community support systems from which they may seek assistance when required. Examples include respite care services, day treatment centers, and adult day-care centers. 3. Encourage caregivers to express feelings, particularly anger. 4. Encourage participation in support groups comprised of members with similar life situations. Provide information about support groups that may be helpful: d. National Alliance for the Mentally Ill— (800) 950-NAMI e. American Association on Mental Retardation— (800) 424-3688 f. Alzheimer's Association—(800) 272-3900	1. Caregivers may be unaware of what the client can realistically accomplish. They may be unaware of the nature of the illness. 2. Caregivers require relief from the pressures and strain of providing 24-hour care for their loved one. Studies have shown that abuse arises out of caregiving situations that place overwhelming stress on the caregivers. 3. Release of these emotions can serve to prevent psychopathology, such as depression or psychophysiological disorders, from occurring. 4. Hearing others who are experiencing the same problems discuss ways in which they have coped may help caregiver adopt more adaptive strategies. Individuals who are experiencing similar life situations provide empathy and support for each other.

Care Plan for the Client with a Sexual Disorder

NURSING DIAGNOSIS: SEXUAL DYSFUNCTION
RELATED TO: Depression and conflict in relationship; biological or psychological contributing factors to the disorder
EVIDENCED BY: Loss of sexual desire or ability to perform

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will identify stressors that may contribute to loss of sexual desire or function. • Client will discuss pathophysiology of disease process that contributes to sexual dysfunction. **Long-Term Goal:** • Client will resume sexual activity at level satisfactory to self and partner.	1. Assess client's sexual history and previous level of satisfaction in sexual relationship. 2. Assess client's perception of the problem. 3. Help client determine time dimension associated with the onset of the problem and discuss what was happening in life situation at that time. 4. Assess client's level of energy. 5. Review medication regimen; observe for side effects. 6. Provide information regarding sexuality and sexual functioning. 7. Refer for additional counseling or sex therapy if required.	1. Client history establishes a database from which to work and provides a foundation for goal setting. 2. Client's idea of what constitutes a problem may differ from that of the nurse. It is the client's perception on which the goals of care must be established. 3. Stress in all areas of life will affect sexual functioning. Client may be unaware of correlation between stress and sexual dysfunction. 4. Fatigue decreases client's desire and enthusiasm for participation in sexual activity. 5. Many medications can affect libido. Evaluation of drug and individual response is important to ascertain whether drug is responsible for the problem. 6. Increasing knowledge and correcting misconceptions can decrease feelings of powerlessness and anxiety and facilitate problem resolution. 7. Client and partner may need additional or more in-depth assistance if problems in sexual relationship are severe or remain unresolved.

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NURSING DIAGNOSIS: INEFFECTIVE SEXUALITY PATTERN
RELATED TO: Conflicts with sexual orientation or variant preferences
EVIDENCED BY: Expressed dissatisfaction with sexual behaviors (e.g., voyeurism; transvestism)

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goals: • Client will verbalize aspects about sexuality that he or she would like to change. • Client and partner will communicate with each other ways in which each believes their sexual relationship could be improved. **Long-Term Goals:** • Client will express satisfaction with own sexuality pattern. • Client and partner will express satisfaction with sexual relationship.	1. Take sexual history, noting client's expression of areas of dissatisfaction with sexual pattern. 2. Assess areas of stress in client's life and examine relationship with sexual partner. 3. Note cultural, social, ethnic, racial, and religious factors that may contribute to conflicts regarding variant sexual practices. 4. Be accepting and nonjudgmental. 5. Assist therapist in plan of behavior modification to help client decrease variant behaviors. 6. Teach client that sexuality is a normal human response and is not synonymous with any one sexual act; that it reflects the totality of the person and does not relate exclusively to the sex organs or sexual behavior. Client must understand that *sexual* feelings are *human* feelings.	1. Knowledge of what client perceives as the problem is essential for providing the type of assistance he or she may need. 2. Sexual variant behaviors are often associated with added stress in the client's life. 3. Client may be unaware of the influence these factors exert in creating feelings of shame and guilt. 4. Sexuality is a very personal and sensitive subject. The client is more likely to share this information if he or she does not fear being judged by the nurse. 5. Individuals with paraphilias are treated by specialists who have experience in modifying variant sexual behaviors. Nurses can intervene by providing assistance with implementation of the plan for behavior modification. 6. If client feels abnormal or unlike everyone else, the self-concept is likely to be very low—even worthless. Helping him or her to see that feelings and motivations are common, even though the behavior is variant, may help to increase feelings of self-worth and desire to change behavior.

Care Plan for the Client with a Sleep Disorder

NURSING DIAGNOSIS: INSOMNIA

RELATED TO: Use of, or withdrawal from, substances; anxiety or depression; circadian rhythm disruption; familial patterns; or specific medical condition

EVIDENCED BY: Difficulty falling asleep, difficulty staying asleep, nightmares, sleep terrors, or sleepwalking

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize causal relationship of sleep disorder. **Long-Term Goals:** • Client will be able to achieve adequate, uninterrupted sleep. • Client will report feeling rested and demonstrate a sensation of well-being.	1. To promote sleep: a. Encourage activities that prepare one for sleep: soft music, relaxation exercises, warm bath. b. Discourage strenuous exercise within 1 hour of bedtime. c. Control intake of caffeine-containing substances within 4 hours of bedtime (e.g., coffee, tea, colas, chocolate, and certain analgesic medications). d. Provide a high-carbohydrate snack before bedtime. e. Keep the temperature of the room between 68° and 72°F. f. Instruct the client not to use alcoholic beverages to relax. g. Discourage smoking and use of other tobacco products near sleep time. h. Discourage daytime napping. Increase program of activities to keep the person busy. i. Individuals with chronic insomnia should use sleeping medications judiciously.	a. These activities promote relaxation. b. Strenuous exercise can be stimulating and keep one awake. c. Caffeine is a CNS stimulant and can interfere with the promotion of sleep. d. Carbohydrates increase the levels of the amino acid tryptophan, a precursor to the neurotransmitter serotonin. Serotonin is thought to play a role in the promotion of sleep. e. This range provides the temperature most conducive to sleep. f. Although alcohol may initially induce drowsiness and promote falling asleep, a rebound stimulation occurs in the CNS within several hours after drinking alcohol. The individual may fall asleep, only to be wide awake a few hours later. g. Tobacco products produce a stimulant effect on the CNS.

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Outcome Criteria	Nursing Interventions	Rationale
	2. To prevent "jet lag" circadian rhythm disruption: a. If time permits, use a preventive strategy of altering mealtimes and sleep times in the appropriate direction. b. If preventive measures are impossible, increase the amount of sleep upon arrival. c. Provide short-term use of sleep medication by physician's order.	h. Sleeping during the day can interfere with the ability to achieve sleep at night. i. Sedatives and hypnotics have serious side effects and are highly addicting. Life-threatening symptoms can occur with abrupt withdrawal and discontinuation should be tapered under a physician's supervision. Long-term use can result in rebound insomnia. a. This strategy will prepare the body for the oncoming change. b. This may help to reduce fatigue and restore the rested feeling. c. May provide restful sleep when other measures are unsuccessful.

NURSING DIAGNOSIS: **RISK FOR INJURY**
RELATED TO: Excessive sleepiness, sleep terrors, or sleepwalking

Outcome Criteria	Nursing Interventions	Rationale
Short-/Long-Term Goal: • Client will not experience injury.	1. Ensure that siderails are up on the bed.	1. An individual who experiences serious nightmares or night terrors can fall from the bed during an episode.
	2. Keep the bed in a low position.	2. To diminish the risk of injury by the person who gets out of bed during a sleepwalking episode.
	3. Equip the bed with a bell (or other audible device) that is activated when the bed is exited.	3. This may alert the caretaker so that supervision to prevent accidental injury can be instituted.
	4. Keep a night light on and arrange the furniture in the bedroom in a manner that promotes safety.	4. To provide a safe environment for the individual who awakens (fully or partially) during the night.

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Outcome Criteria	Nursing Interventions	Rationale
	5. Administer drug therapy as ordered (see "Treatment Modalities"). For the child who experiences nightmares, encourage him or her to talk about the dream. Tell the child that all people have dreams. Validate his or her feeling of fearfulness while ensuring safety. Keep a light on in the room or give the child a flashlight.	5. Talking about the dream helps to promote the unreality of the dream and to differentiate between what is real and what is not real. Light gives the child a feeling of control over the darkness within the room.

Care Plan for the Client with Spiritual and Religious Needs*

NURSING DIAGNOSIS: RISK FOR SPIRITUAL DISTRESS
RELATED TO: Life changes; environmental changes; stress; anxiety; depression
EVIDENCED BY: Questioning meaning of life and own existence; inner conflict about personal beliefs and values

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will discuss beliefs/values about spiritual issues with nurse. **Long-Term Goal:** • Client will identify meaning and purpose in life that reinforce hope, peace, contentment, and self-satisfaction.	1. Assess current situation. 2. Listen to client's expressions of anger, concern, self-blame. 3. Note reason for living and whether it is directly related to situation. 4. Determine client's religious/spiritual orientation, current involvement, presence of conflicts, especially in current circumstances. 5. Assess sense of self-concept, worth, ability to enter into loving relationships. 6. Observe behavior indicative of poor relationships with others. 7. Determine support systems available to and used by client and significant others. 8. Assess substance use/abuse. 9. Establish an environment that promotes free expression of feelings and concerns. 10. Have client identify and prioritize current/immediate needs. 11. Discuss philosophical issues related to impact of current situation on spiritual beliefs and values. 12. Use therapeutic communication skills of reflection and active listening. 13. Review coping skills used and their effectiveness in current situation.	1-8. Thorough assessment is necessary to develop an accurate care plan for the client. 9. Trust is the basis of a therapeutic nurse-client relationship. 10. Helps client focus on what needs to be done and identify manageable steps to take. 11. Helps client to understand that certain life experiences can cause individuals to question personal values and that this response is not uncommon. 12. Helps client find own solutions to concerns. 13. Identifies strengths to incorporate into plan and techniques that need revision.

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Outcome Criteria	Nursing Interventions	Rationale
	14. Provide a role model (e.g., nurse, individual experiencing similar situation)	14. Sharing of experiences and hop assists client to deal with reality.
	15. Suggest use of journaling.	15. Journaling can assist in clarifying beliefs and values and in recognizing and resolving feelings about current life situation.
	16. Discuss client's interest in the arts, music, literature.	16. Provides insight into meaning of these issues and how they are integrated into an individual's life.
	17. Role-play new coping techniques. Discuss possibilities of taking classes, becoming involved in discussion groups, cultural activities of their choice.	17. These activities will help to enhance integration of new skills and necessary changes in client's lifestyle
	18. Refer client to appropriate resources for help.	18. Client may require additional assistance with an individual who specializes in these types of concerns.

NURSING DIAGNOSIS: **RISK FOR IMPAIRED RELIGIOSITY**

RELATED TO: Suffering; depression; illness; life transitions

EVIDENCED BY: Concerns about relationship with deity; unable to participate in usual religious practices; anger toward God

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will discuss with nurse individual factors that may interfere with religious beliefs, and seek solutions. **Long-Term Goal:** • Client will express achievement of support and personal satisfaction from spiritual/religious practices.	1. Assess current situation (e.g., illness, hospitalization, prognosis of death, presence of support systems, financial concerns)	1. This information identifies problems client is dealing with in the moment that is affecting desire to be involved with religious activities.
	2. Listen nonjudgmentally to client's expressions of anger and possible belief that illness/condition may be a result of lack of faith.	2. Individuals often blame themselves for what has happened and reject previous religious beliefs and/or God.
	3. Determine client's usual religious/spiritual beliefs, current involvement in specific church activities.	3. This is important background for establishing a database.
	4. Note quality of relationships with significant others and friends.	4. Individual may withdraw from others in relation to the stress of illness, pain, and suffering.

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Outcome Criteria	Nursing Interventions	Rationale
	5. Assess substance use/abuse.	5. Individuals often turn to use of various substances in distress and this can affect the ability to deal with problems in a positive manner.
	6. Develop nurse–client relationship in which individual can express feelings and concerns freely.	6. Trust is the basis for a therapeutic nurse-client relationship.
	7. Use therapeutic communications skills of active listening, reflection, and I-messages.	7. Helps client to find own solutions to problems and concerns and promotes sense of control.
	8. Be accepting and nonjudgmental when client expresses anger and bitterness toward God. Stay with the client.	8. The nurse's presence and nonjudgmental attitude increase the client's feelings of self-worth and promote trust in the relationship.
	9. Encourage client to discuss previous religious practices and how these practices provided support in the past.	9. A nonjudgmental discussion of previous sources of support may help the client work through current rejection of them as potential sources of support.
	10. Allow the client to take the lead in initiating participation in religious activities, such as prayer.	10. Client may be vulnerable in current situation and needs to be allowed to decide own resumption of these actions.
	11. Contact spiritual leader of client's choice, if he or she requests.	11. These individuals serve to provide relief from spiritual distress and often can do so when other support persons cannot.

* The interventions for this care plan were adapted from Doenges, M.E., Moorhouse, M.F., & Murr, A.C. (2006). Nursing Diagnosis Manual: Planning, Individualizing, and Documenting Client Care. Philadelphia: F.A. Davis.

Care Plan for the Client with Somatization Disorder

NURSING DIAGNOSIS: INEFFECTIVE COPING

RELATED TO: Repressed anxiety and unmet dependency needs

EVIDENCED BY: Verbalization of numerous physical complaints in the absence of any pathophysiological evidence; total focus on the self and physical symptoms.

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will verbalize understanding of correlation between physical symptoms and psychological problems. **Long-Term Goal:** • Client will demonstrate ability to cope with stress by means other than preoccupation with physical symptoms.	1. Monitor physician's ongoing assessments, laboratory reports, and other data to maintain assurance that possibility of organic pathology is clearly ruled out. Review findings with client. 2. Recognize and accept that the physical complaint is real to the client, even though no organic etiology can be identified. 3. Identify gains that the physical symptoms are providing for the client: increased dependency, attention, distraction from other problems. 4. Initially, fulfill the client's most urgent dependency needs, but gradually withdraw attention to physical symptoms. Minimize time given in response to physical complaints. 5. Explain to client that any new physical complaints will be referred to the physician and give no further attention to them. Ensure physician's assessment of the complaint. 6. Encourage client to verbalize fears and anxieties. Explain that attention will be withdrawn if rumination about physical complaints begins. Follow through.	1. Accurate medical assessment is vital for the provision of adequate and appropriate care. Honest explanation may help client understand psychological implications. 2. Denial of the client's feelings is nontherapeutic and interferes with establishment of a trusting relationship. 3. Identification of underlying motivation is important in assisting the client with problem resolution. 4. Anxiety and maladaptive behaviors will increase if dependency needs are ignored initially. Gradual withdrawal of positive reinforcement will discourage repetition of maladaptive behaviors. 5. The possibility of organic pathology must always be considered. Failure to do so could jeopardize client safety. 6. Without consistency of limit setting, change will not occur.

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Outcome Criteria	Nursing Interventions	Rationale
	7. Discuss possible alternative coping strategies client may use in response to stress (e.g., relaxation exercises; physical activities; assertiveness skills). Give positive reinforcement for use of these alternatives.	7. Client may need help with problem solving. Positive reinforcement encourages repetition.
	8. Help client identify ways to achieve recognition from others without resorting to physical complaints.	8. Positive recognition from others enhances self-esteem and minimizes the need for attention through maladaptive behaviors.

NURSING DIAGNOSIS: DEFICIENT KNOWLEDGE (PSYCHOLOGICAL CAUSES FOR PHYSICAL SYMPTOMS)

RELATED TO: Strong denial defense system

EVIDENCED BY: History of doctor shopping for evidence of organic pathology to substantiate physical symptoms and statements such as, "I don't know why the doctor put me on the psychiatric unit. I have a physical problem."

Outcome Criteria	Nursing Interventions	Rationale
• Client will verbalize psychological implications for physical symptoms.	1. Assess client's level of knowledge regarding effects of psychological problems on the body. Assess level of anxiety and readiness to learn.	1. An adequate database is necessary for the development of an effective teaching plan. Learning does not occur beyond the moderate level of anxiety.
	2. Discuss results of laboratory tests and physical examinations with client.	2. Objective information about physical condition may help to break through the strong denial defense.
	3. Have client keep a diary of appearance, duration, and intensity of physical symptoms. A separate record of situations that the client finds especially stressful should also be kept.	3. Comparison of these records may provide objective data from which to observe the relationship between physical symptoms and stress.
	4. Help client identify needs that are being met through the sick role. Formulate a more adaptive means for fulfilling these needs. Practice by role-playing.	4. Change cannot occur until the client realizes that physical symptoms are used to fulfill unmet needs. Anxiety is relieved by role-playing, because the client is then able to anticipate responses to stressful situations.
	5. Have client demonstrate adaptive methods of stress management, such as relaxation exercises, meditation, deep-breathing exercises, autogenics, mental imagery, and assertiveness techniques.	5. Demonstration by the client provides a measurable means of evaluating the effectiveness of what has been taught.

Care Plan for the Client with a Somatoform Disorder

NURSING DIAGNOSIS: INEFFECTIVE COPING

RELATED TO: Repressed anxiety and unmet dependency needs

EVIDENCED BY: Verbalization of numerous physical complaints in the absence of any pathophysiological evidence; total focus on the self, and physical symptoms.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Within 2 weeks, client will verbalize understanding of correlation between physical symptoms and psychological problems. **Long-Term Goal:** • Client will demonstrate ability to cope with stress by means other than preoccupation with physical symptoms.	1. Monitor physician's ongoing assessments, laboratory reports, and other data to maintain assurance that possibility of organic pathology is clearly ruled out. Review findings with client. 2. Recognize and accept that the physical complaint is real to the client, even though no organic etiology can be identified. 3. Identify gains that the physical symptoms are providing for the client: increased dependency, attention, distraction from other problems. 4. Initially, fulfill the client's most urgent dependency needs, but gradually withdraw attention to physical symptoms. Minimize time given in response to physical complaints. 5. Explain to client that any new physical complaints will be referred to the physician and give no further attention to them. Ensure physician's assessment of the complaint. 6. Encourage client to verbalize fears and anxieties. Explain that attention will be withdrawn if rumination about physical complaints begins. Follow through.	1. Accurate medical assessment is vital for the provision of adequate and appropriate care. Honest explanation may help client understand psychological implications. 2. Denial of the client's feelings is nontherapeutic and interferes with establishment of a trusting relationship. 3. Identification of underlying motivation is important in assisting the client with problem resolution. 4. Anxiety and maladaptive behaviors will increase if dependency needs are ignored initially. Gradual lack of positive reinforcement will discourage repetition of maladaptive behaviors. 5. The possibility of organic pathology must always be considered. Failure to do so could jeopardize client safety. 6. Without consistency of limit setting, change will not occur.

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Outcome Criteria	Nursing Interventions	Rationale
	7. Discuss possible alternative coping strategies client may use in response to stress (e.g., relaxation exercises; physical activities; assertiveness skills). Give positive reinforcement for use of these alternatives.	7. Client may need help with problem solving. Positive reinforcement encourages repetition.
	8. Help client identify ways to achieve recognition from others without resorting to physical symptoms.	8. Positive recognition from others enhances self-esteem and minimizes the need for attention through maladaptive behaviors.

NURSING DIAGNOSIS: CHRONIC PAIN

RELATED TO: Repressed anxiety and learned maladaptive coping skills

EVIDENCED BY: Verbal complaints of pain, with evidence of psychological contributing factors, and excessive use of analgesics

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Within 2 weeks, client will verbalize understanding of correlation between pain and psychological problems. **Long-Term Goal:** • Client will verbalize relief from pain while demonstrating more adaptive coping strategies for dealing with life situation.	1. Monitor physician's ongoing assessments and laboratory reports.	1. Organic pathology must be clearly ruled out.
	2. Recognize and accept that the pain is indeed real to the client even though no organic etiology can be identified.	2. Denying the client's feelings is nontherapeutic and hinders the development o f a trusting relationship
	3. Observe and record the duration and intensity of the pain. Note factors that precipitate the onset of pain.	3. Identification of the precipitating stressor is important for assessment and care planning.
	4. Provide pain medication as prescribed by physician.	4. Client comfort and safety are nursing priorities.
	5. Provide nursing comfort measures (e.g., backrub, warm bath, heating pad) with a matter-of-fact approach that does not reinforce the pain behavior.	5. Comfort measures may provide some relief from pain. Secondary gains from physical symptoms may prolong maladaptive behaviors.
	6. Offer attention at times when client is not focusing on pain.	6. Positive reinforcement encourages repetition of adaptive behaviors.
	7. Identify activities that serve to distract client from focus on self and pain.	7. These distracters serve in a therapeutic manner as a transition from focus on self and pain to focus on unresolved psychological issues that may be contributing to the pain.

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Outcome Criteria	Nursing Interventions	Rationale
	8. Encourage verbalization of feelings. Explore meaning that pain holds for client. Help client connect symptoms of pain to times of increased anxiety and to identify specific situations that cause anxiety to rise.	8. Verbalization of feelings in a nonthreatening environment facilitates expression and resolution of disturbing emotional issues.
	9. Encourage client to identify alternative methods of coping with stress.	9. Alternative stress management techniques may avert the use of pain as a maladaptive response to stress.
	10. Explore ways to intervene as symptoms begin to intensify (e.g., visual or auditory distractions, mental imagery, deep-breathing exercises, application of hot or cold compresses, relaxation exercises).	10. These techniques are adaptive ways of preventing the pain from becoming disabling.
	11. Provide positive reinforcement for times when client is not focusing on pain.	11. Positive reinforcement, in the form of the nurse's presence and attention, may encourage a continuation of more adaptive behaviors.

NURSING DIAGNOSIS: FEAR (OF HAVING A SERIOUS DISEASE)

RELATED TO: Past experience with life-threatening illness of self or significant others

EVIDENCED BY: Preoccupation with and unrealistic interpretation of bodily signs and sensations

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will verbalize understanding of situations that precipitate fears and anxiety. **Long-Term Goal:** • Client will verbalize irrationality of fear and interpret bodily sensations correctly.	1. Monitor physician's ongoing assessments and laboratory reports.	1. Organic pathology must be clearly ruled out.
	2. Refer all new physical complaints to physician.	2. To assume that all physical complaints are hypochondriacal would place client's safety in jeopardy.
	3. Assess function client's illness is fulfilling for him or her (e.g., unfulfilled needs for dependency, nurturing, caring, attention, or control).	3. This information may provide insight into reasons for maladaptive behavior and provide direction for planning client care.

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Outcome Criteria	Nursing Interventions	Rationale
	4. Identify times during which preoccupation with physical symptoms is worse. Determine extent of correlation of physical complaints with times of increased anxiety.	4. Client is unaware of the psychosocial implications of the physical complaints. Knowledge of the relationship is the first step in the process for creating change.
	5. Convey empathy. Let client know that you understand how a specific symptom may conjure up fears of previous life-threatening illness.	5. Unconditional acceptance and empathy promote a therapeutic nurse/client relationship.
	6. Initially allow client a limited amount of time (e.g., 10 minutes each hour) to discuss physical symptoms.	6. Because this has been his or her primary method of coping for so long, complete prohibition of this activity would likely raise client's anxiety level significantly, further exacerbating the hypochondriacal behavior.
	7. Help client determine what techniques may be most useful for him or her to implement when fear and anxiety are exacerbated (e.g., relaxation techniques; mental imagery; thought-stopping techniques; physical exercise).	7. All of these techniques are effective to reduce anxiety and may assist client in the transition from focusing on fear of physical illness to the discussion of honest feelings.
	8. Gradually increase the limit on amount of time spent each hour in discussing physical symptoms. If client violates the limits, withdraw attention.	8. Lack of positive reinforcement may help to extinguish maladaptive behavior.
	9. Encourage client to discuss feelings associated with fear of serious illness.	9. Verbalization of feelings in a nonthreatening environment facilitates expression and resolution of disturbing emotional issues. When the client can express feelings directly, there is less need to express them through physical symptoms.
	10. Role-play the client's plan for dealing with the fear the next time it assumes control and before it becomes disabling through the exacerbation of physical symptoms.	10. Anxiety and fears are minimized when client has achieved a degree of comfort through practicing a plan for dealing with stressful situations in the future.

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NURSING DIAGNOSIS: DISTURBED SENSORY PERCEPTION
RELATED TO: Repressed severe anxiety
EVIDENCED BY: Loss or alteration in physical functioning, without evidence of organic pathology; "la belle indifference"

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize understanding of emotional problems as a contributing factor to alteration in physical functioning. **Long-Term Goal:** • Client will demonstrate recovery of lost or altered function.	1. Monitor physician's ongoing assessments, laboratory reports, and other data to ensure that possibility of organic pathology is clearly ruled out.	1. Failure to do so may jeopardize client safety.
	2. Identify primary or secondary gains that the physical symptom is providing for the client (e.g., increased dependency, attention, protection from experiencing a stressful event).	2. Primary and secondary gains are etiological factors and may be used to assist in problem resolution.
	3. Do not focus on the disability, and encourage client to be as independent as possible. Intervene only when client requires assistance.	3. Positive reinforcement would encourage continual use of the maladaptive response for secondary gains, such as dependency.
	4. Do not allow the client to use the disability as a manipulative tool to avoid participation in therapeutic activities. Withdraw attention if client continues to focus on physical limitation.	4. Lack of reinforcement may help to extinguish the maladaptive response.
	5. Encourage client to verbalize fears and anxieties. Help identify physical symptoms as a coping mechanism that is used in times of extreme stress.	5. Clients with conversion disorder are usually unaware of the psychological implications of their illness.
	6. Help client identify coping mechanisms that he or she could use when faced with stressful situations, rather than retreating from reality with a physical disability.	6. Client needs assistance with problem solving at this severe level of anxiety.
	7. Give positive reinforcement for identification or demonstration of alternative, more adaptive coping strategies.	7. Positive reinforcement enhances self-esteem and encourages repetition of desirable behaviors.

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NURSING DIAGNOSIS: DISTURBED BODY IMAGE

RELATED TO: Repressed severe anxiety

EVIDENCED BY: Preoccupation with imagined defect; verbalizations that are out of proportion to any actual physical abnormality that may exist; and numerous visits to plastic surgeons or dermatologists seeking relief

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will verbalize understanding that changes in bodily structure or function are exaggerated out of proportion to the change that actually exists. **Long-Term Goal:** • Client will verbalize realistic perception of body appearance.	1. Assess client's perception of his or her body image. Keep in mind that this image is real to the client. 2. Help client to see that his or her body image is distorted or that it is out of proportion in relation to the significance of an actual physical anomaly. 3. Encourage verbalization of fears and anxieties associated with identified stressful life situations. Discuss alternative adaptive coping strategies. 4. Involve client in activities that reinforce a positive sense of self not based on appearance. 5. Make referrals to support groups of individuals with similar histories (e.g., Adult Children of Alcoholics [ACOA], Victims of Incest, Survivors of Suicide [SOS], Adults Abused as Children).	1. Assessment information is necessary in developing an accurate plan of care. Denial of the client's feelings impedes the development of a trusting, therapeutic relationship. 2. Recognition that a misperception exists is necessary before the client can accept reality and reduce the significance of the imagined defect. 3. Verbalization of feelings with a trusted individual may help the client come to terms with unresolved issues. Knowledge of alternative coping strategies may help the client respond to stress more adaptively in the future. 4. When the client is able to develop self-satisfaction based on accomplishments and unconditional acceptance, significance of the imagined defect or minor physical anomaly will diminish. 5. Having a support group of understanding, empathic peers can help the client accept the reality of the situation, correct distorted perceptions, and make adaptive life changes.

Care Plan for the Client with a Substance-Related Disorder

NURSING DIAGNOSIS: INEFFECTIVE DENIAL
RELATED TO: Weak, underdeveloped ego
EVIDENCED BY: Statements indicating no problem with substance use.

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will divert attention away from external issues and focus on behavioral outcomes associated with substance use. **Long-Term Goal:** • Client will verbalize acceptance of responsibility for own behavior and acknowledge association between substance use and personal problems.	1. Develop trust. Convey an attitude of acceptance. Ensure that client understands it is not the *person* but the *behavior* that is unacceptable. 2. Correct any misconceptions, such as, "I don't have a drinking problem. I can quit any time I want to." Do this in a matter-of-fact, nonjudgmental manner. 3. Identify recent maladaptive behaviors or situations that have occurred in the client's life, and discuss how use of substances may be a contributing factor. Say, "The lab report shows your blood alcohol level was 250 when you were involved in that automobile accident." 4. Do not allow client to rationalize or blame others for behaviors associated with substance use.	1. Unconditional acceptance promotes dignity and self-worth, qualities that this individual has been trying to achieve with substances. 2. These interventions help the client see the condition as an illness that requires help. 3. The first step in decreasing use of denial is for the client to see the relationship between substance use and personal problems. To confront issues with a caring attitude preserves self-esteem. 4. This only serves to prolong the denial.

NURSING DIAGNOSIS: INEFFECTIVE COPING
RELATED TO: Inadequate coping skills and weak ego
EVIDENCED BY: Use of substances a coping mechanism

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • Client will express true feelings about using substances as a method of coping with stress.	1. Set limits on manipulative behavior. Administer consequences when limits are violated. Obtain routine urine samples for laboratory analysis of substances.	1. Because of weak ego and delayed development, client is unable to establish own limits or delay gratification. Client may obtain substances from various sources while in the hospital.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client will be able to verbalize adaptive coping mechanisms to use, instead of substance abuse, in response to stress (and demonstrate, as applicable).	2. Explore options available to assist with stress rather than resorting to substance use. Practice these techniques. 3. Give positive reinforcement for ability to delay gratification and respond to stress with adaptive coping strategies.	2. Because gratification has been closely tied to oral needs, it is unlikely that client is aware of more adaptive coping strategies. 3. Because of weak ego, client needs lots of positive feedback to enhance self-esteem and promote ego development.

NURSING DIAGNOSIS: IMBALANCED NUTRITION: LESS THAN BODY REQUIREMENTS/DEFICIENT FLUID VOLUME

RELATED TO: Use of substances instead of eating

EVIDENCED BY: Loss of weight, pale conjunctiva and mucous membranes, poor skin turgor, electrolyte imbalance, anemias (and/or other signs and symptoms of malnutrition/dehydration)

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will gain 2 lb during next 7 days. • Client's electrolytes will be restored to normal within 1 week. **Long-Term Goal:** • Client will be free of signs/symptoms of malnutrition/dehydration.	1. Parenteral support may be required initially. 2. Encourage cessation of smoking. 3. Consult dietitian. Determine the number of calories required based on body size and level of activity. Document intake and output and calorie count, and weigh client daily. 4. Ensure that the amount of protein in the diet is correct for the individual client's condition. Protein intake should be adequate to maintain nitrogen equilibrium, but should be drastically decreased or eliminated if there is potential for hepatic coma. 5. Sodium may need to be restricted.	1. To correct fluid and electrolyte imbalance, hypoglycemia, and some vitamin deficiencies. 2. To facilitate repair of damage to GI tract. 3. These interventions are necessary to maintain an ongoing nutritional assessment. 4. Diseased liver may be incapable of properly metabolizing proteins, resulting in an accumulation of ammonia in the blood that circulates to the brain and can result in altered consciousness. 5. To minimize fluid retention (e.g., ascites and edema).

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Outcome Criteria	Nursing Interventions	Rationale
	6. Provide foods that are nonirritating to clients with esophageal varices. 7. Provide small frequent feeding of client's favorite foods. Supplement nutritious meals with multiple vitamin and mineral tablet.	6. To avoid irritation and bleeding of these swollen blood vessels. 7. To encourage intake and facilitate client's achievement of adequate nutrition.

Care Plan for the Suicidal Client

NURSING DIAGNOSIS: RISK FOR SUICIDE
RELATED TO: Feelings of hopelessness and desperation

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will seek out staff when feeling urge to harm self. • Client will make short-term verbal (or written) contract with nurse not to harm self. • Client will not harm self. **Long-Term Goal:** • Client will not harm self.	1. Ask client directly: "Have you thought about harming yourself in any way? If so, what do you plan to do? Do you have the means to carry out this plan?"	1. The risk of suicide is greatly increased if the client has developed a plan and particularly if means exist for the client to execute the plan.
	2. Create a safe environment for the client. Remove all potentially harmful objects from client's access (sharp objects, straps, belts, ties, glass items, alcohol). Supervise closely during meals and medication administration. Perform room searches as deemed necessary.	2. Client safety is a nursing priority.
	3. Formulate a short-term verbal or written contract that the client will not harm self. When time is up, make another, and so forth. Secure a promise that the client will seek out staff when feeling suicidal.	3. A degree of the responsibility for his or her safety is given to the client. Increased feelings of self-worth may be experienced when client feel accepted unconditionally regardless of thoughts or behavior.
	4. Maintain close observation of client. Depending on level of suicide precaution, provide one-to-one contact, constant visual observation, or every-15-minute checks. Place in room close to nurse's station; do not assign to private room. Accompany to off-unit activities if attendance is indicated. May need to accompany to bathroom.	4. Close observation is necessary to ensure that client does not harm self in any way. Being alert for suicidal and escape attempts facilitates being able to prevent or interrupt harmful behavior.
	5. Maintain special care in administration of medications.	5. Prevents saving up to overdose or discarding and not taking.

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Outcome Criteria	Nursing Interventions	Rationale
	6. Make rounds at frequent, ***irregular*** intervals (especially at night, toward early morning, at change of shift, or other predictably busy times for staff). 7. Encourage client to express honest feelings, including anger. Provide hostility release if needed.	6. Prevents staff surveillance from becoming predictable. To be aware of client's location is important, especially when staff is busy and least available and observable. 7. Depression and suicidal behaviors may be viewed as anger turned inward on the self. If this anger can be verbalized in a nonthreatening environment, the client may be able to eventually resolve these feelings.

NURSING DIAGNOSIS: HOPELESSNESS
RELATED TO: Absence of support systems and perception of worthlessness
EVIDENCED BY: Verbal cues (despondent content, "I can't"); decreased affect; lack of initiative; suicidal ideas or attempts

Outcome Criteria	Nursing Interventions	Rationales
Short-Term Goal: • Client will demonstrate some self-control by participating in the decision-making of his or her own care. **Long-Term Goal:** • Client will verbalize a measure of hope and demonstrate acceptance of life situations over which he or she has no control.	1. Identify stressors in client's life that precipitated current crisis. 2. Determine coping behaviors previously used and client's perception of effectiveness then and now. 3. Encourage client to explore and verbalize feelings and perceptions. 4. Provide expressions of hope to client in positive, low-key manner (e.g., "I know you feel you cannot go on, but I believe that things can get better for you. What you are feeling is temporary. It is okay if you don't see it just now." "You are very important to the people who care about you.")	1. Important to identify causative or contributing factors in order to plan appropriate assistance. 2. It is important to identify client's strengths and encourage their use in current crisis situation. 3. Identification of feelings underlying behaviors helps client to begin process of taking control of own life. 4. Even though the client feels hopeless, it is helpful to hear positive expressions from others. The client's current state of mind may prevent him or her from identifying anything positive in life. It is important to accept the client's feelings nonjudgmentally and to affirm the individual's personal worth and value.

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Outcome Criteria	Nursing Interventions	Rationale
	5. Help client identify areas of life situation that are under own control.	5. The client's emotional condition may interfere with ability to problem solve. Assistance may be required to perceive the benefits and consequences of available alternatives accurately.
	6. Identify sources that client may use after discharge when crises occur or feelings of hopelessness and possible suicidal ideation prevail.	6. Client should be made aware of local suicide hotlines or other local support services from whom he or she may seek assistance following discharge from the hospital. A concrete plan provides hope in the face of a crisis situation.

Care Plan for the Client Who Has Experienced a Traumatic Event*

NURSING DIAGNOSIS: ANXIETY (PANIC)/FEAR

RELATED TO: Real or perceived threat to physical well-being; threat of death; situational crisis; exposure to toxins; unmet needs

EVIDENCED BY: Persistent feelings of apprehension and uneasiness; sense of impending doom; impaired functioning; verbal expressions of having no control or influence over situation, outcome, or self-care; sympathetic stimulation; extraneous physical movements

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will verbalize ways to intervene in escalating anxiety. **Long-Term Goal:** • Client will maintain anxiety at manageable level.	1. Determine degree of anxiety/fear present, associated behaviors (e.g., laughter, crying, calm or agitation, excited/hysterical behavior, expressions of disbelief and/or self-blame), and reality of perceived threat.	1. Clearly understanding client's perception is pivotal to providing appropriate assistance in overcoming the fear. Individual may be agitated or totally overwhelmed. Panic state increases risk for client's own safety as well as the safety of others in the environment.
	2. Note degree of disorganization.	2. Client may be unable to handle ADLs or work requirements and need more intensive intervention.
	3. Create as quiet an area as possible. Maintain a calm confident manner. Speak in even tones, using short simple sentences.	3. Decreases sense of confusion or overstimulation; enhances sense of safety. Helps client focus on what is said and reduces transmission of anxiety.
	4. Develop trusting relationship with the client.	4. Trust is the basis of a therapeutic nurse/client relationship and enables them to work effectively together.
	5. Identify whether incident has reactivated preexisting or coexisting situations (physical or psychological)	5. Concerns and psychological issues will be recycled every time trauma is re-experienced and affect how the client views the current situation.
	6. Determine presence of physical symptoms (e.g., numbness, headache, tightness in chest, nausea, and pounding heart)	6. Physical problems need to be differentiated from anxiety symptoms so appropriate treatment can be given.
	7. Identify psychological responses (e.g., anger, shock, acute anxiety, panic, confusion, denial). Record emotional changes.	7. Although these are normal responses at the time of the trauma, they will recycle again and again until they are dealt with adequately.

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Outcome Criteria	Nursing Interventions	Rationale
	8. Discuss with client the perception of what is causing the anxiety.	8. Increases the ability to connect symptoms to subjective feeling of anxiety, providing opportunity to gain insight/control and make desired changes.
	9. Assist client to correct any distortions being experienced. Share perceptions with client.	9. Perceptions based on reality will help to decrease fearfulness. How the nurse views the situation may help client to see it differently.
	10. Explore with client or significant other the manner in which client has previously coped with anxiety-producing events.	10. May help client regain sense of control and recognize significance of trauma.
	11. Engage client in learning new coping behaviors (e.g., progressive muscle relaxation, thought-stopping)	11. Replacing maladaptive behaviors can enhance ability to manage and deal with stress. Interrupting obsessive thinking allows client to use energy to address underlying anxiety, while continued rumination about the incident can retard recovery.
	12. Encourage use of techniques to manage stress and vent emotions such as anger and hostility.	12. Reduces the likelihood of eruptions that can result in abusive behavior.
	13. Give positive feedback when client demonstrates better ways to manage anxiety and is able to calmly and realistically appraise the situation.	13. Provides acknowledgement and reinforcement, encouraging use of new coping strategies. Enhances ability to deal with fearful feelings and gain control over situation, promoting future successes.
	14. Administer medications as indicated: Antianxiety: diazepam, alprazolam, oxazepam; or Antidepressants: fluoxetine, paroxetine, bupropion	14. 14. Provides temporary relief of anxiety symptoms, enhancing ability to cope with situation. To lift mood and help suppress intrusive thoughts and explosive anger.

* Source: Doenges, M.E., Moorhouse, M.F., & Geissler, A.C. (2002). Nursing Care Plans: Guidelines for Individualizing Patient Care (6th ed.). Philadelphia: F.A. Davis. With permission.

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NURSING DIAGNOSIS: SPIRITUAL DISTRESS

RELATED TO: Physical or psychological stress; energy-consuming anxiety; loss(es), intense suffering; separation from religious or cultural ties; challenged belief and value system

EVIDENCED BY: Expressions of concern about disaster and the meaning of life and death or belief systems; inner conflict about current loss of normality and effects of the disaster; anger directed at deity; engaging in self-blame; seeking spiritual assistance

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will express beliefs and values about spiritual issues with nurse. **Long-Term Goal:** • Client will identify meaning and purpose in life that reinforce hope, peace, contentment, and self-satisfaction.	1. Determine client's religious/spiritual orientation, current involvement, and presence of conflicts. 2. Establish environment that promotes free expression of feelings and concerns. Provide calm, peaceful setting when possible. 3. Listen to client's and significant others' expressions of anger, concern, alienation from God, belief that situation is a punishment for wrongdoing, etc. 4. Note sense of futility, feelings of hopelessness and helplessness, lack of motivation to help self. 5. Listen to expressions of inability to find meaning in life and reason for living. Evaluate for suicidal ideation. 6. Determine support systems available to client. 7. Ask how you can be most helpful. Convey acceptance of client's spiritual beliefs and concerns. 8. Make time for nonjudgmental discussion of philosophic issues and questions about spiritual impact of current situation.	1. Provides baseline for planning care and accessing appropriate resources. 2. Promotes awareness and identification of feelings so they can be dealt with. 3. It is helpful to understand the client's and significant others' points of view and how they are questioning their faith in the face of tragedy. 4. These thoughts and feelings can result in the client feeling paralyzed and unable to move forward to resolve the situation. 5. May indicate need for further intervention to prevent suicide attempt. 6. Presence or lack of support systems can affect client's recovery. 7. Promotes trust and comfort, encouraging client to be open about sensitive matters. 8. Helps client to begin to look at basis for spiritual confusion. *Note:* There is a potential for care provider's belief system to interfere with client finding own way. Therefore, it is most beneficial to remain neutral and not espouse own beliefs.

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Outcome Criteria	Nursing Interventions	Rationale
	9. Discuss difference between grief and guilt and help client to identify and deal with each, assuming responsibility for own actions, expressing awareness of the consequences of acting out of false guilt.	9. Blaming self for what has happened impedes dealing with the grief process and needs to be discussed and dealt with.
	10. Use therapeutic communication skills of reflection and active listening.	10. Helps client find own solutions to concerns.
	11. Encourage client to experience meditation, prayer, and forgiveness. Provide information that anger with God is a normal part of the grieving process.	11. This can help to heal past and present pain.
	12. Assist client to develop goals for dealing with life situation.	12. Enhances commitment to goal, optimizing outcomes and promoting sense of hope.
	13. Identify and refer to resources that can be helpful, e.g., pastoral/parish nurse or religious counselor, crisis counselor, psychotherapy, Alcoholics/Narcotics Anonymous.	13. Specific assistance may be helpful to recovery, e.g., relationship problems, substance abuse, suicidal ideation.
	14. Encourage participation in support groups.	14. Discussing concerns and questions with others can help client resolve feelings.

NURSING DIAGNOSIS: RISK FOR POST-TRAUMA SYNDROME

RELATED TO: Events outside the range of usual human experience; serious threat or injury to self or loved ones; witnessing horrors or tragic events; exaggerated sense of responsibility; survivor's guilt or role in the event, inadequate social support

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will begin a healthy grief resolution, initiating the process of psychological healing.	1. Determine involvement in event (e.g., survivor, significant other, rescue/aid worker, healthcare provider, family member).	1. All those concerned with a traumatic event are at risk for emotional trauma and have needs related to their involvement in the event. *Note:* Close involvement with victims affects individual responses and may prolong emotional suffering.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client demonstrates ability to deal with emotional reactions in an individually appropriate manner.	2. Evaluate current factors associated with the event, such as displacement from home due to illness/injury, natural disaster, or terrorist attack. Identify how client's past experiences may affect current situation.	2. Affects client's reaction to current event and is basis for planning care and identifying appropriate support systems and resources.
	3. Listen for comments of taking on responsibility (e.g., "I should have been more careful or gone back to get her.")	3. Statements such as these are indicators of "survivor's guilt" and blaming self for actions.
	4. Identify client's current coping mechanisms.	4. Noting positive or negative coping skills provides direction for care.
	5. Determine availability and usefulness of client's support systems, family, social contacts, and community resources.	5. Family and others close to the client may also be at risk and require assistance to cope with the trauma.
	6. Provide information about signs and symptoms of post-trauma response, especially if individual is involved in a high-risk occupation.	6. Awareness of these factors helps individual identify need for assistance when signs and symptoms occur.
	7. Identify and discuss client's strengths as well as vulnerabilities.	7. Provides information to build on for coping with traumatic experience.
	8. Evaluate individual's perceptions of events and personal significance (e.g., rescue worker trained to provide lifesaving assistance but recovering only dead bodies).	8. Events that trigger feelings of despair and hopelessness may be more difficult to deal with, and require long-term interventions.
	9. Provide emotional and physical presence by sitting with client/significant other and offering solace.	9. Strengthens coping abilities
	10. Encourage expression of feelings. Note whether feelings expressed appear congruent with events experienced.	10. It is important to talk about the incident repeatedly. Incongruities may indicate deeper conflict and can impede resolution.
	11. Note presence of nightmares, reliving the incident, loss of appetite, irritability, numbness and crying, and family or relationship disruption.	11. These responses are normal in the early post-incident time frame. If prolonged and persistent, they may indicate need for more intensive therapy.
	12. Provide a calm, safe environment.	12. Helps client deal with the disruption in his or her life.

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Outcome Criteria	Nursing Interventions	Rationale
	13. Encourage and assist client in learning stress-management techniques.	13. Promotes relaxation and helps individual exercise control over self and what has happened.
	14. Recommend participation in debriefing sessions that may be provided following major disaster events.	14. Dealing with the stresses promptly may facilitate recovery from the event or prevent exacerbation.
	15. Identify employment, community resource groups.	15. Provides opportunity for ongoing support to deal with recurrent feelings related to the trauma.
	16. Administer medications as indicated, such as antipsychotics (e.g., chlorpromazine or haloperidol) or carbamazepine (Tegretol)	16. Low doses may be used for reduction of psychotic symptoms when loss of contact with reality occurs, usually for clients with especially disturbing flashbacks. **Tegretol may be used to alleviate intrusive recollections/flashbacks, impulsivity, and violent behavior.**

NURSING DIAGNOSIS: INEFFECTIVE COMMUNITY COPING

RELATED TO: Natural or man-made disasters (earthquakes, tornados, floods, reemerging infectious agents, terrorist activity); ineffective or nonexistent community systems (e.g., lack of or inadequate emergency medical system, transportation system, or disaster planning systems)

EVIDENCED BY: Deficits of community participation; community does not meet its own expectations; expressed vulnerability; community powerlessness; stressors perceived as excessive; excessive community conflicts; high illness rates

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client verbalizes recognition of negative and positive factors affecting the community's ability to meet its own demands or needs.	1. Evaluate how community activities are related to meeting collective needs within the community itself and between the community and the larger society. Note immediate needs, such as health care, food, shelter, funds.	1. Provides a baseline to determine community needs in relation to current concerns or threats.
	2. Note community reports of functioning including areas of weakness or conflict.	2. Provides a view of how the community itself sees these areas.

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Outcome Criteria	Nursing Interventions	Rationale
Long-Term Goal: • Client demonstrates an increase in necessary activities to improve community functioning.	3. Identify effects of related factors on community activities.	3. In the face of a current threat, local or national, community resources need to be evaluated, updated and given priority to meet the identified need.
	4. Determine availability and use of resources. Identify unmet demands or needs of the community.	4. Information necessary to identify what else is needed to meet the current situation.
	5. Determine community strengths.	5. Promotes understanding of the ways in which the community is already meeting the identified needs.
	6. Encourage community members/groups to engage in problem-solving activities.	6. Promotes a sense of working together to meet the needs.
	7. Develop a plan jointly with the members of the community to address immediate needs.	7. Deals with deficits in support of identified goals.
	8. Create plans managing interactions within the community itself and between the community and the larger society.	8. Meets collective needs when the concerns/threats are shared beyond a local community.
	9. Make information accessible to the public. Provide channels for dissemination of information to the community as a whole (e.g., print media, radio/television reports and community bulletin boards, internet sites, speaker's bureau, reports to committees/councils/advisory boards).	9. Readily available accurate information can help citizens deal with the situation.
	10. Make information available in different modalities and geared to differing educational levels/cultures of the community.	10. Using languages other than English and making written materials accessible to all member of the community will promote understanding.
	11. Seek out and evaluate needs of underserved populations.	11. Homeless and those residing in lower income areas may have special requirements that need to be addressed with additional resources.

Care Plan for Victims of Abuse

NURSING DIAGNOSIS: RAPE-TRAUMA SYNDROME
RELATED TO: Sexual assault
EVIDENCED BY: Verbalizations of the Attack; Bruises and Lacerations Over Areas of Body; Severe Anxiety

Outcome Criteria	Nursing Interventions	Rationale
Short-term Goal: • The client's physical wounds will heal without complication. **Long-Term Goal:** • Client will begin a healthy grief resolution, initiating the process of healing (both physically and psychologically).	1. It is important to communicate the following to the victim of sexual assault: • You are safe here. • I'm sorry that it happened. • I'm glad you survived. • It's not your fault. No one deserves to be treated this way. • You did the best that you could.	1. The woman who has been sexually assaulted fears for her life and must be reassured of her safety. She may also be overwhelmed with self-doubt and self-blame, and these statements instill trust and validate self-worth.
	2. Explain every assessment procedure that will be conducted and why it is being conducted. Ensure that data collection is conducted in a caring, nonjudgmental manner.	2. This may serve to decrease fear/anxiety and increase trust.
	3. Ensure that the client has adequate privacy for all immediate post-crisis interventions. Try to have as few people as possible providing the immediate care or collecting immediate evidence.	3. The post-trauma client is extremely vulnerable. Additional people in the environment increase this feeling of vulnerability and serve to escalate anxiety.
	4. Encourage the client to give an account of the assault. Listen, but do not probe.	4. Nonjudgmental listening provides an avenue for catharsis that the client needs to begin healing. A detailed account may be required for legal follow-up, and a caring nurse, as client advocate, may help to lessen the trauma of evidence collection.
	5. Discuss with the client whom to call for support or assistance. Provide information about referrals for aftercare.	5. Because of severe anxiety and fear, the client may need assistance from others during this immediate post-crisis period. Provide referral information in writing for later reference (e.g., psychotherapist, mental health clinic, community advocacy group).

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NURSING DIAGNOSIS: POWERLESSNESS

RELATED TO: Cycle of battering

EVIDENCED BY: Verbalizations of abuse; bruises and lacerations over areas of body; fear for own safety and that of children; verbalizations of no way to get out of the relationship

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goal: • Client will recognize and verbalize choices available, thereby perceiving some control over life situation. **Long-Term Goal:** • Client will exhibit control over life situation by making decision about what to do regarding living with cycle of abuse.	1. In collaboration with physician, ensure that all physical wounds, fractures, and burns receive immediate attention. Take photographs if the victim will permit. 2. Take the woman to a private area to do the interview. 3. If she has come alone or with her children, assure her of her safety. Encourage her to discuss the battering incident. Ask questions about whether this has happened before, whether the abuser takes drugs, whether the woman has a safe place to go, and whether she is interested in pressing charges. 4. Ensure that "rescue" efforts are not attempted by the nurse. Offer support, but remember that the final decision must be made by the client. 5. Stress to the victim the importance of safety. She must be made aware of the variety of resources that are available to her. These may include crisis hot lines, community groups for women who have been abused, shelters, counseling services, and information regarding the victim's rights in the civil and criminal justice system. Following a discussion of these available resources, the woman may choose for herself. If her decision is to return to the marriage and home, this choice also must be respected.	1. Client safety is a nursing priority. Photographs may be called in as evidence if charges are filed. 2. If the client is accompanied by the man who did the battering, she is not likely to be truthful about her injuries. 3. Some women will attempt to keep secret how their injuries occurred in an effort to protect the partner or because they are fearful that the partner will kill them if they tell. 4. Making her own decision will give the client a sense of control over her life situation. Imposing judgments and giving advice are nontherapeutic. 5. Knowledge of available choices decreases the victim's sense of powerlessness, but true empowerment comes only when she chooses to use that knowledge for her own benefit.

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NURSING DIAGNOSIS: DELAYED GROWTH AND DEVELOPMENT
RELATED TO: Abusive family situation
EVIDENCED BY: Sudden onset of enuresis, thumb sucking, nightmares, inability to perform self-care activities appropriate for age.

Outcome Criteria	Nursing Interventions	Rationale
Short-Term Goals: • Client will develop trusting relationship with nurse and report how evident injuries were sustained. • Negative regressive behaviors (enuresis, thumb sucking, nightmares) will diminish. **Long-Term Goal:** • Client will demonstrate behaviors consistent with age-appropriate growth and development.	1. Perform complete physical assessment of the child. Take particular note of bruises (in various stages of healing), lacerations, and client complaints of pain in specific areas. Do not overlook or discount the possibility of sexual abuse. Assess for nonverbal signs of abuse: aggressive conduct, excessive fears, extreme hyperactivity, apathy, withdrawal, age-inappropriate behaviors. 2. Conduct an in-depth interview with the parent or adult who accompanies the child Consider: If the injury is being reported as an accident, is the explanation reasonable? Is the injury consistent with the explanation? Is the injury consistent with the child's developmental capabilities? 3. Use games or play therapy to gain child's trust. Use these techniques to assist in describing his or her side of the story.	1. An accurate and thorough physical assessment is required to provide appropriate care for the client. 2. Fear of imprisonment or loss of child custody may place the abusive parent on the defensive. Discrepancies may be evident in the description of the incident, and lying to cover up involvement is a common defense that may be detectable in an in-depth interview. 3. Establishing a trusting relationship with an abused child is extremely difficult. He or she may not even want to be touched. These types of play activities can provide a nonthreatening environment that may enhance the child's attempt to discuss these painful issues.

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Outcome Criteria	Nursing Interventions	Rationale
	4. Determine whether the nature of the injuries warrants reporting to authorities. Specific state statutes must enter into the decision of whether to report suspected child abuse. Individual state statutes regarding what constitutes child abuse and neglect may be found at http://nccanch.acf.hhs.gov/general/legal/statutes/index.cfm	4. A report is commonly made if there is reason to suspect that a child has been injured as a result of physical, mental, emotional, or sexual abuse. "Reason to suspect" exists when there is evidence of a discrepancy or inconsistency in explaining a child's injury. Most states require that the following individuals report cases of suspected child abuse: all health care workers, all mental health therapists, teachers, child-care providers, firefighters, emergency medical personnel, and law enforcement personnel. Reports are made to the Department of Health and Human Services or a law enforcement agency.

CHEMICAL CLASS: CENTRAL NERVOUS SYSTEM (CNS) STIMULANTS (AMPHETAMINES)

Examples

Generic (Trade) Name	Controlled/ Pregnancy Categories	Half-life (hr)	Indications	Available Forms (mg)
Amphetamine/ dextroamphetamine mixtures (Adderall; Adderall XR)	C-II/C	9–13	• ADHD • Narcolepsy	Tabs: 5, 7.5, 10, 12.5, 15, 20, 30 Caps (XR): 5, 10, 15, 20, 25, 30
Dextroamphetamine sulfate (Dexedrine; Dextrostat)	C-II/C	~ 12	• ADHD • Narcolepsy	Tabs: 5, 10 Caps (SR): 5, 10, 15 Oral Solution: 5 mg/5 mL
Methamphetamine (Desoxyn)	C-II/C	4–5	• ADHD • Exogenous obesity	Tabs: 5
Lisdexamfetamine (Vyvanse)	C-II/C	<1	• ADHD	Caps: 20, 30, 40 50, 60, 70

Actions

- CNS stimulation is mediated by release of norepinephrine from central noradrenergic neurons in cerebral cortex, reticular activating system, and brain stem.
- At higher doses, dopamine may be released in the mesolimbic system.
- Action in the treatment of ADHD is unclear.

Contraindications and Precautions

Contraindicated in:

- Advanced arteriosclerosis
- Symptomatic cardiovascular disease
- Moderate to severe hypertension
- Hyperthyroidism
- Hypersensitivity or idiosyncrasy to the sympathomimetic amines
- Glaucoma
- Agitated states
- History of drug abuse
- During or within 14 days following administration of MAO inhibitors (hypertensive crisis may occur)
- Children younger than 3 yr (**dextroamphetamine, lisdexamfetamine,** and **mixtures**)
- Children younger than 12 yr (**methamphetamine**)
- Pregnancy and lactation

Use cautiously in:

- Patients with mild hypertension
- Children with psychoses (may exacerbate symptoms)
- Tourette's disorder (may exacerbate tics)
- Anorexia
- Insomnia
- Elderly, debilitated, or asthenic patients
- Patients with suicidal or homicidal tendencies

Adverse Reactions and Side Effects

- Overstimulation
- Restlessness
- Dizziness
- Insomnia
- Headache
- Palpitations
- Tachycardia
- Elevation of blood pressure
- Anorexia
- Weight loss
- Dry mouth
- Tolerance
- New or worsened psychiatric symptoms
- Physical and psychological dependence
- Suppression of growth in children (with long-term use)

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Interactions

- Increased sensitivity to amphetamines with **furazolidone**
- Use of amphetamines with **MAO inhibitors** can result in hypertensive crisis
- Increased effects of amphetamines and risk of serotonin syndrome with **selective serotonin reuptake inhibitors** (SSRIs)
- Prolonged effects of amphetamines with **urinary alkalinizers**
- Hastened elimination of amphetamines with **urinary acidifiers**
- Amphetamines may reverse the hypotensive effects of **guanethidine and other antihypertensives**
- Concomitant use of amphetamines and **tricyclic antidepressants** may increase blood levels of both drugs
- Patients with diabetes mellitus who take amphetamines may require **insulin** adjustment

Route and Dosage

AMPHETAMINE/DEXTROAMPHETAMINE MIXTURES (Adderall; Adderall XR)

- *ADHD: Adults and children ≥6 yr:* **PO:** Initial dose: 5 mg once or twice daily. May be increased in increments of 5 mg at weekly intervals until optimal response is obtained. Maximum dose: 40 mg/day. *Extended-release caps:* Initial dose: 10 mg once daily in the morning. May increase in increments of 10 mg at weekly intervals. Maximum dose: 30 mg/day. ***Children 3 to 5 yr:*** **PO:** Initial dose: 2.5 mg/day. May increase in increments of 2.5 mg/day at weekly intervals.
- *Narcolepsy: Adults and children ≥12 yr:* **PO:** Initial dose: 10 mg/day; may increase in increments of 10 mg/day at weekly intervals up to a maximum of 60 mg/day. ***Children 6 to 12 yr of age:*** **PO:** Narcolepsy is rare in children younger than 12 yr. When it does occur, initial dose is 5 mg/day. May increase in increments of 5 mg/day at weekly intervals up to a maximum of 60 mg/day.

DEXTROAMPHETAMINE SULFATE (Dexedrine; Dextrostat)

- *ADHD: Adults and children ≥6 yr:* **PO:** Initial dose: 5 mg once or twice daily. May be increased in increments of 5 mg at weekly intervals. More than 40 mg/day is seldom required. (Sustained-release capsules should not be used as initial therapy.) ***Children 3 to 5 yr:*** **PO:** Initial dose: 2.5 mg/day. May increase in increments of 2.5 mg/day at weekly intervals until optimal response is achieved.
- *Narcolepsy: Adults:* **PO:** 5 to 60 mg/day in single or divided doses. Sustained-release capsules should not be used as initial therapy. *Children ≥12 yr:* **PO:** 10 mg/day. May increase by 10 mg/day at weekly intervals until response is obtained or 60 mg is reached. ***Children 6 to 12 yr:*** **PO:** 5 mg/day. May increase by 5 mg/day at weekly intervals until response is obtained or 60 mg is reached.

METHAMPHETAMINE (Desoxyn)

- *ADHD:* 5 mg once or twice daily. May increase in increments of 5 mg at weekly intervals. Usual effective dose is 20 to 25 mg/day in divided doses.
- *Exogenous obesity:* 5 mg 1 to 3 times/day 30 min before meals.

LISDEXAMFETAMINE (Vyvanse)

- ***ADHD: Children 6 to 12 yr of age:*** **PO:** 20 or 30 mg once daily in the morning. Dosage may be increased in increments of 10 or 20 mg/day at weekly intervals. Maximum dosage: 70 mg/day.

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CHEMICAL CLASS: CNS STIMULANTS (MISCELLANEOUS AGENTS)

Examples

Generic (Trade) Name	Controlled/ Pregnancy Categories	Half-life	Indications	Available Forms (mg)
Dexmethylphenidate (Focalin; Focalin XR)	C-II/C	2.2 hours	• ADHD	Tabs: 2.5, 5, 10 Caps (ER): 5, 10, 20
Methylphenidate (Ritalin; Ritalin-SR; Ritalin LA; Methylin; Methylin ER; Metadate ER; Metadate CD; Concerta; Daytrana)	C-II/C	2.5–4 hours	• ADHD • Narcolepsy (except Concerta, Metadate CD, and Ritalin LA)	Immediate Release Tabs (Methylin, Ritalin): 5, 10, 20 Chewable tabs (Methylin): 2.5, 5, 10 Metadate ER; Methylin ER: Tabs 10, 20 Concerta: Tabs ER: 18, 27, 36, 54 Ritalin-SR: Tabs SR: 20 Metadate CD; Ritalin LA: Caps ER: 10, 20, 30, 40 (50, 60—*Metadate CD* only) Oral solution (Methylin): 5/5 mL, 10/5 mL Transdermal Patch (Daytrana): 10, 15, 20, 30

ER, CD, LA = extended release forms; SR = sustained release

Actions

- Dexmethylphenidate blocks the reuptake of norepinephrine and dopamine into the presynaptic neuron and increases the release of these monoamines into the extraneuronal space.
- Methylphenidate activates the brain stem arousal system and cortex to produce its stimulant effect.
- Action in the treatment of ADHD is unknown.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Pregnancy, lactation, and children younger than 6 yr (safety has not been established)
- Clients with marked anxiety, tension, or agitation
- History of glaucoma
- Motor tics or family history or diagnosis of Tourette's syndrome
- During or within 14 days of treatment with MAO inhibitors (hypertensive crisis can occur)
- Clients with structural cardiac abnormalities, cardiomyopathy, arrhythmias, recent MI, or other serious cardiac problems

Use cautiously in:

- Patients with history of seizure disorder and/or EEG abnormalities
- Hypertension
- History of drug or alcohol dependence
- Emotionally unstable patients
- Renal or hepatic insufficiency
- Clients with preexisting psychotic disorder

Adverse Reactions and Side Effects

- Headache
- Nausea
- Rhinitis
- Fever
- Anorexia
- Insomnia

Continued on the following page

- Tachycardia; palpitations; hypertension
- Nervousness
- Abdominal pain
- Growth suppression in children (with long-term use)
- Skin redness or itching at site of transdermal patch (*Daytana*)

Interactions

- Decreased effectiveness of **antihypertensive agents**
- Increased serum levels of **anticonvulsants** (e.g., **phenobarbital, phenytoin,** and **primidone**), **tricyclic antidepressants, SSRIs, warfarin**
- Increased effects of **vasopressor agents** with concurrent use
- Hypertensive crisis may occur with concurrent use (or within 2 weeks use) of **MAO inhibitors**
- Concurrent use with **clonidine** may result in serious EKG abnormalities
- Increased sympathomimetic effects with other **adrenergics**, including **vasoconstrictors** and **decongestants**

Route and Dosage

DEXMETHYLPHENIDATE (Focalin; Focalin XR)

- *ADHD: (Immediate release tabs). Adults and Children ≥6 yr*: *Patients not previously taking methylphenidate:* **PO:** 2.5 mg twice daily. May be increased weekly as needed up to 10 mg twice daily. *Patients currently taking methylphenidate:* Starting dose is $^1/_2$ of the methylphenidate dose, up to 10 mg twice daily.
- *(Extended-release capsules). Adults: Patients not previously taking methylphenidate:* **PO:** 10 mg once daily. May be increased by 10 mg after 1 week to 20 mg/day. *Patients currently taking methylphenidate:* Starting dose is $^1/_2$ of the methylphenidate dose, up to 20 mg/day given as a single daily dose. *Patients currently taking dexmethylphenidate:* Give same daily dose as a single dose. *Children ≥6 yr:* **PO:** *Patients not previously taking methylphenidate:* 5 mg once daily. May be increased by 5 mg weekly up to 20 mg/day. *Patients currently taking methylphenidate:* Starting dose is $^1/_2$ of the methylphenidate dose, up to 20 mg/day, given as a single daily dose. *Patients currently taking dexmethylphenidate:* Give same daily dose as a single dose.

METHYLPHENIDATE (Ritalin; Ritalin-SR; Ritalin LA; Methylin; Methylin ER; Metadate ER; Metadate CD; Concerta; Daytrana)

- *ADHD: (Immediate release forms): Adults*: **PO:** Range 10 to 60 mg/day in divided doses 2 or 3 times/day preferably 30 to 45 min before meals. Average dose is 20 to 30 mg/day. To prevent interruption of sleep, take last dose of the day before 6 p.m. *Children ≥6 yr:* **PO:** Individualize dosage. May start with low dose of 5 mg twice daily before breakfast and lunch. May increase dosage in 5 to 10 mg increments at weekly intervals. Maximum daily dosage: 60 mg.
- *(Extended-release forms): Ritalin-SR, Methylin ER, and Metadate ER: Adults and Children ≥6 yr:* **PO:** May be used in place of the immediate-release tablets when the 8-hr dosage corresponds to the titrated 8-hr dosage of the immediate-release tablets. Must be swallowed whole.
- *Ritalin LA and Metadate CD:* **PO:** *Adults and Children ≥6 yr:* Initial dose: 20 mg once daily in the morning. May increase dosage in 10 to 20 mg increments at weekly intervals to a maximum of 60 mg taken once daily in the morning. Capsules may be swallowed whole with liquid or opened and contents sprinkled on soft food (e.g., applesauce). Ensure that entire contents of capsule are consumed when taken in this manner. *Note:* Ritalin LA may be used in place of twice daily regimen given once daily at same total dose, or in place of SR product at same dose.
- *Concerta: Adults and Children ≥6 yr:* **PO:** Should be taken once daily in the morning. Must be swallowed whole and not chewed, divided, or crushed.
- *Clients new to methylphenidate:* 18 mg once daily in the morning. May adjust dosage at weekly intervals to maximum of 54 mg/day for children 6 to 12 yr, and to a maximum of 72 mg/day (not to exceed 2 mg/kg/day) for adolescents 13 to 17 yr.
- *Clients currently using methylphenidate:* Should use following conversion table:

Continued on the following page

Previous Methylphenidate Dose	Recommended Concerta Dose
5 mg 2 or 3 times/day or 20 mg (SR)	18 mg every morning
10 mg 2 or 3 times/day or 40 mg (SR)	36 mg every morning
15 mg 2 or 3 times/day or 60 mg (SR)	54 mg every morning

- ***Daytrana (Transdermal Patch): Adults and children ≥6 yr:*** Patch should be applied to hip area 2 hr before an effect is needed and should be removed 9 hr after application. Alternate hips with additional doses. Dosage for patients new to methylphenidate should be titrated to desired effect according to the following recommended schedule:

	Week 1	Week 2	Week 3	Week 4
Nominal delivered dose (mg/9 hr)	10 mg	15 mg	20 mg	30 mg
Delivery rate (based on 9-hr wear period)	(1.1 mg/hr)	(1.6 mg/hr)	(2.2 mg/hr)	(3.3 mg/hr)

Patients converting from another formulation of methylphenidate should follow the above titration schedule due to differences in bioavailability of Daytrana compared to other products.

- ***Narcolepsy: Adults:*** **PO:** *Ritalin, Methylin, Methylin ER, Ritalin-SR, and Metadate ER* indicated for this use. 10 mg 2 to 3 times/day. Maximum dose 60 mg/day.

CHEMICAL CLASS: ALPHA ADRENERGIC AGONISTS

Examples

Generic (Trade) Name	Pregnancy Categories Half-life	Indications	Available Forms (mg)
Clonidine (Catapress)	C/ 12–16	• Hypertension *Unlabeled use:* • ADHD	Tabs: 0.1, 0.2, 0.3 Transdermal patches: 0.1/24 hr, 0.2/24 hr, 0.3/24 hr
Guanfacine (Tenex; Intuniv)	B/ 16–18	• Hypertension (*Tenex*) • ADHD (*Intuniv*) *Unlabeled use:* • ADHD (*Tenex*)	Tabs (*Tenex*): 1, 2 Tabs (ER) (*Intuniv*): 1, 2, 3, 4

Actions

- Stimulates alpha adrenergic receptors in the brain, thereby reducing sympathetic outflow from the CNS resulting in decreases in peripheral vascular resistance, heart rate, and blood pressure.
- Mechanism of action in the treatment of ADHD is unknown.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity to the drug or any of its inactive ingredients

Use cautiously in:

- Coronary insufficiency
- Recent myocardial infarction
- Cerebrovascular disease
- History of hypotention, bradycardia, or syncope
- Chronic renal or hepatic failure
- Elderly
- Pregnancy and lactation

Continued on the following page

Adverse Reactions and Side Effects

- Orthostatic hypotension
- Bradycardia
- Palpitations
- Syncope
- Dry mouth
- Constipation
- Nausea
- Fatigue
- Sedation
- Rebound syndrome with abrupt withdrawal

Interactions

- Increased effects of clonidine with **verapamil** and **beta-blockers**
- Decreased effects of clonidine with **prazosin** and **tricyclic antidepressants**
- Decreased effects of **levodopa** with clonidine
- Additive CNS effects with **CNS depressants,** including **alcohol, antihistamines, opioid analgesics,** and **sedative/hypnotics**
- Decreased effects of guanfacine with **barbiturates, rifampin,** or **phenytoin**
- Increased effects of guanfacine with **ketoconazole**
- Increased effects of **valproic acid** with guanfacine

Route and Dosage

CLONIDINE (Catapres)

- ***Hypertension: Adults:*** **PO:** Initial dose: 0.1 mg twice daily. May increase dosage in increments of 0.1 mg/day at weekly intervals until desired response is achieved. Maximum dose: 2.4 mg/day. **Transdermal system:** Transdermal system delivering 0.1 mg to 0.3 mg/24 hr applied every 7 days. Initiate with 0.1 mg/24 hr system. Dosage increments may be made every 1 to 2 weeks when system is changed.
- ***ADHD: Adults and children ≥12 yr:*** **PO:** Initial dose: 0.05 mg/day. May increase in increments of 0.05 mg at intervals of 3 to 7 days to a maximum dose of 0.3 mg/day in divided doses.

GUANFACINE (Tenex; Intuniv)

- ***Hypertension (Tenex): Adults:*** **PO:** 1 mg daily at bedtime. If satisfactory results are not achieved after 3 to 4 weeks, may increase to 2 mg.
- ***ADHD (Intuniv): Adults and children ≥6 yr:*** **PO:** Initial dose: 1 mg once daily. May increase dose in increments of 1 mg/day at weekly intervals until desired response is achieved. Maximum dose: 4 mg/day. Tablets should not be chewed, crushed, or broken before swallowing, and should not be administered with high-fat meals.

CHEMICAL CLASS: MISCELLANEOUS AGENTS FOR ADHD

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life	Indications	Available Forms (mg)
Atomoxatine (Strattera)	C/5.2 hr (metabolites 6–8 hr)	• ADHD	Caps: 10, 18, 25, 40, 60, 80, 100
Bupropion (Wellbutrin; Wellbutrin SR; Wellbutrin XL)	B/8–24 hr	• Depression *Unlabeled use:* • ADHD	Tabs: 75, 100 Tabs SR: 100, 150, 200 Tabs XL: 150, 300

SR = 12-hr tablets; XL = 24-hr tablets.

Actions

- Atomoxetine selectively inhibits the reuptake of the neurotransmitter norepinephrine.
- Bupropion is a weak inhibitor of the neuronal uptake of norepinephrine, serotonin, and dopamine.
- Action in the treatment of ADHD is unclear.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Coadministration with or within 2 weeks after discontinuing an MAO inhibitor
- Lactation

Continued on the following page

Atomoxetine
- Narrow-angle glaucoma

Bupropion
- Known or suspected seizure disorder
- Acute phase of myocardial infarction
- Clients with bulimia or anorexia nervosa
- Clients undergoing abrupt discontinuation of alcohol or sedatives (increased risk of seizures)

Use cautiously in:
- Clients with suicidal ideation
- Clients with urinary retention
- Hypertension
- Hepatic, renal, or cardiovascular insufficiency
- Pregnancy (use only if benefits outweigh possible risks to fetus)
- Children and adolescents (may increase suicidal risk)
- Elderly and debilitated patients

Atomoxetine
- Children younger than 6 yr (safety not established)

Adverse Reactions and Side Effects

- Dry mouth
- Anorexia
- Nausea and vomiting
- Constipation
- Urinary retention
- Sexual dysfunction
- Headache
- Dizziness
- Insomnia or sedation
- Palpitations; tachycardia
- Weight loss
- Abdominal pain
- Increased sweating

Atomoxetine
- Fatigue
- Cough
- New or worsened psychiatric symptoms
- Severe liver damage

Bupropion
- Weight gain
- Tremor
- Seizures
- Blurred vision

Interactions

The effects of:	Are increased by:	Are decreased by:	Concurrent use may result in:
Atomoxetine	Concomitant use of **CYP2D6 inhibitors (paroxetine, fluoxetine, quinidine**	**Cimetidine, triclopidine, quanfacine**	Increased risk of cardiovascular effects with **albuterol** or **vasopressors;** potentially fatal reactions with concurrent use (or use within 2 weeks of discontinuation) of **MAOIs;** increased cardiovascular effects of **albuterol** with concurrent use
Bupropion	**Amantadine, levodopa,** and **ritonavir**	**Carbamazepine**	Increased risk of acute toxicity with **MAOIs;** increased risk of hypertension with **nicotine replacement agent;** adverse neuropsychiatric events with **alcohol** (alcohol tolerance is reduced); increased anticoagulant effect of **warfarin**; increased effects of drugs metabolized by CYP2D6 (e.g., **nortriptyline, imipramine, desipramine, paroxetine, fluoxetine, sertraline, haloperidol, risperidone, thioridazine metoprolol, propafenone,** and **flecainide**); increased risk of seizures with drugs that lower the seizure threshold (antidepressants, antipsychotics, theophylline, corticosteroids stimulants/anorectics)

Continued on the following page

Route and Dosage

ATOMOXETINE (Strattera)

- *ADHD: Adults, adolescents, and children weighing more than 70 kg (154 lb):* **PO:** Initial dose: 40 mg/day. Increase after a minimum of 3 days to a target total daily dose of 80 mg, as a single dose in the morning or 2 evenly divided doses in the morning and late afternoon or early evening. After 2 to 4 weeks, total dosage may be increased to a maximum of 100 mg, if needed. *Children weighing 70 kg (154 lb) or less:* **PO:** Initial dose: 0.5 mg/kg/day. Increase after a minimum of 3 days to a target total daily dose of about 1.2 mg/kg taken either as a single dose in the morning or 2 evenly divided doses in the morning and late afternoon or early evening. Maximum daily dose: 1.4 mg/kg or 100 mg daily, whichever is less.
- *Adjusted dosing: Hepatic impairment:* In clients with moderate hepatic impairment, reduce to 50% of usual dose. In clients with severe hepatic impairment, reduce to 25% of usual dose.
- *Adjusted dosing: Coadministration with strong CYP2D6 inhibitors: Adults, adolescents, and children weighing more than 70 kg body weight:* Initiate dosage at 40 mg/day and only increase to the usual target dose of 80 mg/day if symptoms fail to improve after 4 weeks and the initial dose is well tolerated. *Children and adolescents up to 70 kg body weight:* Initiate dosage at 0.5 mg/kg/day and only increase to the usual target dose of 1.2 mg/kg/day if symptoms fail to improve after 4 weeks and the initial dose is well tolerated.

BUPROPION (Wellbutrin; Wellbutrin SR; Wellbutrin XL)

- *ADHD: Children and adolescents:* **PO:** Initial dose: 3 mg/kg/day. May titrate to a maximum dose of 6 mg/kg/day. Single dose should not exceed 150 mg. Usually given daily in 2 or 3 divided doses. *Adults:* 150 to 450 mg/day. No single dose of bupropion should exceed 150 mg. To prevent the risk of seizures, administer with 4 to 6 hr between doses.
- *Depression (Wellbutrin):* **PO:** *Adults (immediate release tabs):* 100 mg 2 times/day. May increase after 3 days to 100 mg given 3 times/day. For patients who do not show improvement after several weeks of dosing at 300 mg/day, an increase in dosage up to 450 mg/day may be considered. No single dose of bupropion should exceed 150 mg. To prevent the risk of seizures, administer with 4 to 6 hr between doses.
- *Sustained release tabs:* Give as a single 150 mg dose in the morning. May increase to twice a day (total 300 mg), with 8 hr between doses.
- *Extended release tabs:* Begin dosing at 150 mg/day, given as a single daily dose in the morning. May increase after 3 days to 300 mg/day, given as a single daily dose in the morning.
- *Seasonal affective disorder (Wellbutrin XL):* **PO:** 150 mg administered each morning beginning in the autumn prior to the onset of depressive symptoms. Dose may be uptitrated to the target dose of 300 mg/day after 1 week. Therapy should continue through the winter season before being tapered to 150 mg/day for 2 weeks prior to discontinuation in early spring.

NURSING DIAGNOSES RELATED TO AGENTS FOR ADHD

1. Risk for injury related to overstimulation and hyperactivity (CNS stimulants) or seizures (possible side effect of bupropion).
2. Risk for suicide secondary to major depression related to abrupt withdrawal after extended use (CNS stimulants).
3. Imbalanced nutrition, less than body requirements, related to side effects of anorexia and weight loss (CNS stimulants).
4. Disturbed sleep pattern related to side effects of overstimulation or insomnia.
5. Nausea related to side effects of atomoxetine or bupropion.
6. Pain related to side effect of abdominal pain (atomoxetine, bupropion) or headache (all agents).
7. Risk for activity intolerance related to side effects of sedation or dizziness (atomoxetine or bupropion).

NURSING IMPLICATIONS FOR ADHD AGENTS

The plan of care should include monitoring for the following side effects from agents for ADHD. Nursing implications related to each side effect are designated by an asterisk (*).

Continued on the following page

1. **Overstimulation, restlessness, insomnia** (CNS stimulants)
   - Assess mental status for changes in mood, level of activity, degree of stimulation, and aggressiveness.
   - Ensure that the client is protected from injury.
   - Keep stimuli low and environment as quiet as possible to discourage overstimulation.
   - To prevent insomnia, administer the last dose at least 6 hr before bedtime. Administer sustained-release forms in the morning.
2. **Palpitations, tachycardia** (CNS stimulants; atomoxetine; bupropion; clonidine) or **bradycardia** (clonidine, guanfacine)
   - Monitor and record vital signs at regular intervals (two or three times a day) throughout therapy. Report significant changes to the physician immediately.
   - **NOTE:** The FDA recently issued warnings associated with CNS stimulants and atomoxetine of the risk for sudden death in patients who have cardiovascular disease. A careful personal and family history of heart disease, heart defects, or hypertension should be obtained before these medications are prescribed. Careful monitoring of cardiovascular function during administration must be ongoing.
3. **Anorexia, weight loss** (CNS stimulants; atomoxetine; bupropion)
   - To reduce anorexia, the medication may be administered immediately after meals. The client should be weighed regularly (at least weekly) when receiving therapy with CNS stimulants, atomoxetine, or bupropion because of the potential for anorexia and weight loss, and temporary interruption of growth and development.
4. **Tolerance, physical and psychological dependence** (CNS stimulants)
   - Tolerance develops rapidly.
   - In children with ADHD, a drug "holiday" should be attempted periodically under direction of the physician to determine the effectiveness of the medication and the need for continuation.
   - The drug should not be withdrawn abruptly. To do so could initiate the following syndrome of symptoms: nausea, vomiting, abdominal cramping, headache, fatigue, weakness, mental depression, suicidal ideation, increased dreaming, and psychotic behavior.
5. **Nausea and vomiting** (atomoxetine and bupropion)
   - May be taken with food to minimize GI upset.
6. **Constipation** (atomoxetine, bupropion, clonidine, guanfacine)
   - Increase fiber and fluid in diet, if not contraindicated.
7. **Dry Mouth** (clonidine and guanfacine)
   - Offer the client sugarless candy, ice, frequent sips of water.
   - Strict oral hygiene is very important.
8. **Sedation** (clonidine and guanfacine)
   - Warn client that this effect is increased by concomitant use of alcohol and other CNS drugs.
   - Warn clients to refrain from driving or performing hazardous tasks until response has been established.
9. **Potential for seizures** (bupropion)
   - Protect client from injury if seizure should occur. Instruct family and significant others of clients on bupropion therapy how to protect client during a seizure if one should occur. Ensure that doses of the immediate release medication are administered 4 to 6 hr apart, and doses of the sustained release medication at least 8 hr apart.
10. **Severe liver damage** (with atomoxetine)
    - Monitor for the following side effects and report to physician immediately: itching, dark urine, right upper quadrant pain, yellow skin or eyes, sore throat, fever, malaise.
11. **New or worsened psychiatric symptoms** (with CNS stimulants and atomoxetine)
    - Monitor for psychotic symptoms (e.g., hearing voices, paranoid behaviors, delusions).
    - Monitor for manic symptoms, including aggressive and hostile behaviors.
12. **Rebound Syndrome** (with clonidine and guanfacine)
    - Client should be instructed not to discontinue therapy abruptly. To do so may result in symptoms of nervousness, agitation, headache, tremor, and a rapid rise in blood pressure. Dosage should be tapered gradually under the supervision of the physician.

Continued on the following page

CLIENT/FAMILY EDUCATION RELATED TO AGENTS FOR ADHD

- Use caution in driving or operating dangerous machinery. Drowsiness, dizziness and blurred vision can occur.
- Do not stop taking CNS stimulants abruptly. To do so could produce serious withdrawal symptoms.
- Avoid taking CNS stimulants late in the day to prevent insomnia. Take no later than 6 hr before bedtime.
- Do not take other medications (including over-the-counter drugs) without physician's approval. Many medications contain substances that, in combination with agents for ADHD, can be harmful.
- Diabetic clients should monitor blood sugar two or three times a day or as instructed by the physician. Be aware of need for possible alteration in insulin requirements because of changes in food intake, weight, and activity.
- Avoid consumption of large amounts of caffeinated products (coffee, tea, colas, chocolate), as they may enhance the CNS stimulant effect.
- Notify physician if symptoms of restlessness, insomnia, anorexia, or dry mouth become severe or if rapid, pounding heartbeat becomes evident. Report any of the following side effects to the physician immediately: shortness of breath, chest pain, jaw/left arm pain, fainting, seizures, sudden vision changes, weakness on one side of the body, slurred speech, confusion, itching, dark urine, right upper quadrant pain, yellow skin or eyes, sore throat, fever, malaise, increased hyperactivity, believing things that are not true, or hearing voices.
- Be aware of possible risks of taking agents for ADHD during pregnancy. Safe use during pregnancy and lactation has not been established. Inform the physician immediately if pregnancy is suspected or planned.
- Be aware of potential side effects of agents for ADHD. Refer to written materials furnished by health-care providers for safe self-administration.
- Carry a card or other identification at all times describing medications being taken.

INTERNET REFERENCES

- http://www.rxlist.com
- http://www.drugguide.com
- http://www.nimh.nih.gov/publicat/medicate.cfm
- http://www.fadavis.com/townsend
- http://www.nlm.nih.gov/medlineplus/druginformation.html

CHEMICAL CLASS: ANTIHISTAMINES

Examples

Generic Name	Trade Name	Half-life	Pregnancy Category	Available Forms (mg)
Hydroxyzine	Vistaril	3 hr	C	Caps: 10, 25, 50, 100 Oral susp: 25/5 mL Syrup: 10/5 mL Inj: 25/mL, 50/mL

Indications

- Anxiety disorders
- Temporary relief of anxiety symptoms
- Allergic reactions producing pruritic conditions
- Antiemetic
- Reduction of narcotic requirement, alleviation of anxiety, and control of emesis in preoperative/postoperative clients (parenteral only)

Actions

- Exerts CNS-depressant activity at the subcortical level of the CNS.
- Has anticholinergic, antihistaminic, and antiemetic properties.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Pregnancy and lactation

Use cautiously in:

- Elderly or debilitated patients (dosage reduction recommended)
- Hepatic or renal dysfunction
- Concomitant use of other CNS depressants

Adverse Reactions and Side Effects

- Dry mouth
- Drowsiness
- Pain at intramuscular site

Interactions

- Additive CNS depression with other **CNS depressants** (e.g., **alcohol, other anxiolytics, opioid analgesics,** and **sedative/hypnotics**) and with **herbal depressants** (e.g., **kava, valerian**).
- Additive anticholinergic effects with other **drugs possessing anticholinergic properties** (e.g., **antihistamines, antidepressants, atropine, haloperidol, phenothiazines**) and **herbal products** such as **angel's trumpet, jimson weed,** and **scopolia.**
- Can antagonize the vasopressor effects of **epinephrine.**

Route and Dosage

INTRAMUSCULAR

- **Anxiety:** ***Adults:*** 50 to 100 mg 4 times/day.
- **Pruritis:** ***Adults:*** 25 mg 3 or 4 times/day.
- **Pre- and post-operative sedative:** ***Adults:*** 50 to 100 mg. ***Children:*** 0.6 mg/kg.
- **Antiemetic/adjunctive therapy to analgesia:** ***Adults:*** 5 to 100 mg every 4 to 6 hr prn. ***Children:*** 0.5 to 1 mg/kg every 4 to 6 hr prn.

ORAL

- **Anxiety:** ***Adults:*** 50 to 100 mg 4 times/day. ***Children (>6 yr):*** 50 to 100 mg/day in divided doses. ***Children (<6 yr):*** 50 mg/day in divided doses.
- **Pruritus:** ***Adults:*** 25 mg 3 or 4 times/day. ***Children (>6 yr):*** 50 to 100 mg/day in divided doses. ***Children (<6 yr):*** 50 mg/day in divided doses.
- **Pre- and post-operative sedative:** ***Adults:*** 50 to 100 mg. ***Children:*** 0.6 mg/kg.

Continued on the following page

CHEMICAL CLASS: BENZODIAZEPINES

Examples

Generic (Trade) Name	Controlled/ Pregnancy Categories	Half-life (hr)	Indications	Available Forms (mg)
Alprazolam (Xanax)	C-IV/D	6.3–26.9	• Anxiety disorders • Anxiety symptoms • Anxiety associated with depression • Panic disorder	Tabs: 0.25, 0.5, 1.0, 2.0 Tabs ER: 0.5, 1.0, 2.0, 3.0 Tabs (orally disintegrating): 0.25, 0.5, 1.0, 2.0 Oral solution: 1 mL
Chlordiazepoxide (Librium)	C-IV/D	5–30	• Anxiety disorders • Anxiety symptoms • Acute alcohol withdrawal • Preoperative sedation	Caps: 5, 10, 25
Clonazepam (Klonopin)	C-IV/C	18–50	• Petit mal, akinetic, and myoclonic seizures • Panic disorder *Unlabeled uses:* • Acute manic episodes • Neuralgias • Restless leg syndrome • Adjunct therapy in schizophrenia	Tabs: 0.5, 1.0, 2.0 Tabs (orally disintegrating): 0.125, 0.25, 0.5, 1.0, 2.0
Clorazepate (Tranxene)	C-IV/UK	40–50	• Anxiety disorders • Anxiety symptoms • Acute alcohol withdrawal • Partial seizures	Tabs: 3.75, 7.5, 15 Tabs (extended release): 11.25, 22.5
Diazepam (Valium)	C-IV/D	20–80	• Anxiety disorders • Anxiety symptoms • Skeletal muscle relaxant • Acute alcohol withdrawal • Adjunct therapy in convulsive disorders • Status epilepticus • Preoperative sedation	Tabs: 2, 5, 10 Oral solution: 5/5 mL, 5/mL Inj: 5/mL Rectal gel: 2.5, 10, 20
Lorazepam (Ativan)	C-IV/D	10–20	• Anxiety disorders • Anxiety symptoms • Status epilepticus • Preoperative sedation *Unlabeled uses:* • Insomnia • Chemotherapy-induced nausea and vomiting	Tabs: 0.5, 1.0, 2.0 Oral solution: 2/mL Inj: 2/mL, 4/mL
Oxazepam	C-IV/D	5–20	• Anxiety disorders • Anxiety symptoms • Acute alcohol withdrawal *Unlabeled uses:* • Management of irritable bowel syndrome	Caps: 10, 15, 30

Continued on the following page

Actions

- Benzodiazepines are thought to potentiate the effects of gamma-aminobutyric acid (GABA), a powerful inhibitory neurotransmitter, thereby producing a calmative effect. The activity may involve the spinal cord, brainstem, cerebellum, limbic system, and cortical areas.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Psychoses
- Acute narrow-angle glaucoma
- Pre-existing CNS depression
- Pregnancy and lactation
- Shock
- Coma

Use cautiously in:

- Elderly or debilitated patients (reduced dosage recommended)
- Hepatic/renal/pulmonary impairment
- History of drug abuse/dependence
- Depressed/suicidal patients
- Children

Adverse Reactions and Side Effects

- Drowsiness; dizziness, lethargy
- Nausea and vomiting
- Ataxia
- Dry mouth
- Blurred vision
- Rash
- Hypotension
- Tolerance
- Physical and psychological dependence
- Paradoxical excitation

Interactions

- Additive CNS depression with other **CNS depressants** (e.g., **alcohol, other anxiolytics, opioid analgesics,** and **sedative/hypnotics**) and with **herbal depressants** (e.g., **kava, valerian**).
- **Cimetidine, oral contraceptives, disulfiram, fluoxetine, isoniazid, ketoconazole, metoprolol, propoxyphene, propranolol,** or **valproic acid** may enhance effects of benzodiazepines.
- Benzodiazepines may decrease the efficacy of **levodopa.**
- Sedative effects of benzodiazepines may be decreased by **theophylline.**
- **Rifampin** may decrease the efficacy of benzodiazepines.
- Serum concentration of **digoxin** may be increased (and subsequent toxicity can occur) with concurrent benzodiazepine therapy.

Route and Dosage

ALPRAZOLAM (Xanax)

- ***Anxiety disorders and anxiety symptoms:*** **PO:** 0.25 to 0.5 mg 3 times/day. Maximum daily dose 4 mg in divided doses. In elderly or debilitated patients: 0.25 mg 2 or 3 times/day. Gradually increase if needed and tolerated.
- ***Panic disorder:*** **PO:** Initial dose: 0.5 mg 3 times/day. Increase dose at intervals of 3 to 4 days in increments of no more than 1 mg/day.

CHLORDIAZEPOXIDE (Librium)

- ***Mild to Moderate Anxiety:*** **PO:** 5 or 10 mg 3 or 4 times/day.
- ***Severe Anxiety:*** **PO:** 20 or 25 mg 3 or 4 times/day.
- ***Elderly or debilitated patients:*** **PO:** 5 mg 2 to 4 times/day.
- ***Preoperative sedation:*** **PO:** 5 to 10 mg 3 or 4 times/day.
- ***Acute alcohol withdrawal:*** **PO:** 50 to 100 mg; repeat as needed up to 300 mg/day.

CLONAZEPAM (Klonopin)

- ***Seizures: Adults:*** **PO:** 0.5 mg tid. May increase by 0.5–1 mg every 3 days. Total daily maintenance dose not to exceed 20 mg.
- ***Children (<10 yr or 30 kg):*** **PO:** Initial daily dose 0.01–0.03 mg/kg/day (not to exceed 0.05 mg/kg/day) given in 2–3 equally divided doses; increase by not more than 0.25–0.5 mg every third day until a daily maintenance dose of 0.1 to 0.2 mg/kg has been reached. **Therapeutic serum concentrations of clonazepam are 20 to 80 ng/mL.**
- ***Panic disorder:*** **PO:** Initial dose: 0.25 mg 2 times/day. Increase after 3 days toward target dose of 1 mg/day. Some patients may require up to 4 mg/day, in which case the dose may be increased in

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increments of 0.125 to 0.25 mg twice daily every 3 days until symptoms are controlled.
- ***Acute manic episode:*** **PO:** 1 to 6 mg/day.
- ***Neuralgia:*** **PO:** 1.5 to 4 mg/day.
- ***Restless leg syndrome:*** **PO:** 0.5 to 2 mg 30 min before bedtime.
- ***Adjunct therapy in schizophrenia:*** **PO:** 0.5 to 2 mg/day.

CLORAZEPATE (Tranxene)
- ***Anxiety disorders/anxiety symptoms: Adults:*** **PO:** 7.5–15 mg 2 to 4 times/day. Adjust gradually to dose within range of 15 to 60 mg/day. May also be given in a single daily dose at bedtime. The recommended initial dose is 15 mg. Adjust subsequent dosages according to patient response.
- ***Geriatric or debilitated patients:*** **PO:** 7.5 to 15 mg/day.
- ***Acute alcohol withdrawal:*** **PO:** Day 1: 30 mg initially, followed by 15 mg 2 to 4 times/day.
  Day 2: 45 to 90 mg in divided doses.
  Day 3: 22.5 to 45 mg in divided doses.
  Day 4: 15 to 30 mg in divided doses.
  Thereafter, gradually reduce the daily dose to 7.5 to 15 mg.
  Discontinue drug as soon as patient's condition is stable.
- ***Partial seizures: Adults:*** **PO:** 7.5 mg 3 times/day. Can increase by no more than 7.5 mg/day at weekly intervals (daily dose not to exceed 90 mg). ***Children (9–12 yr):*** **PO:** 7.5 mg 2 times/day initially; may increase by 7.5 mg/week (not to exceed 60 mg/day).

DIAZEPAM (Valium)
- ***Antianxiety/adjunct anticonvulsant: Adults:*** **PO:** 2 to 10 mg 2 to 4 times/day. ***Children (>6 mo):*** **PO:** 1 to 2.5 mg 3 to 4 times/day.
- ***Moderate to severe anxiety: Adults:*** **IM** or **IV:** 2 to 10 mg. Repeat in 3 to 4 hr if necessary.
- ***Skeletal muscle relaxant: Adults:*** **PO:** 2 to 10 mg 3 or 4 times/day. ***Children (>6 mo):*** **PO:** 0.12 to 0.8 mg/kg/day divided into 3–4 equal doses.
- ***Geriatric or debilitated patients:*** **PO:** 2 to 2.5 mg 1 to 2 times daily initially. Increase gradually as needed and tolerated.
- ***Acute alcohol withdrawal:*** **PO:** 10 mg 3 to 4 times/day in first 24 hr; decrease to 5 mg 3 or 4 times/day as needed. **IM** or **IV:** 10 mg initially, then 5 to 10 mg in 3 to 4 hr, if necessary.
- ***Status epilepticus/acute seizure activity: Adults:*** **IV** (IM route may be used if IV is unavailable): 5 to 10 mg; may repeat every 10 to 15 min to a total of 30 mg; may repeat regimen again in 2 to 4 hr. ***Children (≥5 yr):*** **IM or IV:** 1 mg every 2 to 5 min to a maximum of 10 mg. May repeat in 2 to 4 hr if necessary. ***Children (1 mo to 5 yr):*** **IM** or **IV:** 0.2 to 0.5 mg every 2 to 5 min to maximum of 5 mg.
- ***Preoperative sedation: Adults:*** **IM:** 10 mg.

LORAZEPAM (Ativan)
- ***Anxiety disorders/anxiety symptoms:*** **PO:** 2 to 6 mg/day (varies from 1 to 10 mg/day) given in divided doses; take the largest dose before bedtime. ***Geriatric or debilitated patient:*** **PO:** 1 to 2 mg/day in divided doses; adjust as needed and tolerated.
- ***Insomnia:*** **PO:** 2 to 4 mg at bedtime. ***Geriatric or debilitated patient:*** **PO:** 0.25 to 1 mg at bedtime.
- ***Preoperative sedation:*** **IM:** 0.05 mg/kg (maximum 4 mg) 2 hr before surgery. **IV:** Initial dose is 2 mg or 0.044 mg/kg, whichever is smaller, given 15 to 20 min before the procedure.
- ***Status epilepticus:*** **IV:** 4 mg given slowly (2 mg/min). May be repeated after 10 to 15 min if seizures continue or recur.
- ***Antiemetic:*** **IV:** 2 mg 30 min prior to chemotherapy; may be repeated every 4 hr as needed.

OXAZEPAM
- ***Mild to moderate anxiety:*** **PO:** 10 to 15 mg 3 or 4 times/day.
- ***Severe anxiety states:*** **PO:** 15 to 30 mg 3 or 4 times/day.
- ***Geriatric patients:*** **PO:** Initial dose: 10 mg 3 times/day. If necessary, increase cautiously to 15 mg 3 or 4 times/day.
- ***Acute alcohol withdrawal:*** **PO:** 15 to 30 mg 3 or 4 times/day.

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CHEMICAL CLASS: CARBAMATE DERIVATIVE

Examples

Generic Name	Controlled/Pregnancy Categories	Half-life (hr)	Available Forms (mg)
Meprobamate	C-IV/D	6–17	Tabs: 200, 400

Indications

- Anxiety disorders
- Temporary relief of anxiety symptoms

Actions

- Depresses multiple sites in the CNS, including the thalamus and limbic system. May act by blocking the reuptake of adenosine.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity to the drug
- Combination with other CNS depressants
- Children under 6
- Pregnancy and lactation
- Acute intermittent porphyria

Use cautiously in:

- Elderly or debilitated clients
- Hepatic or renal dysfunction
- Individuals with a history of drug abuse/addiction
- Clients with a history of seizure disorders
- Depressed/suicidal clients

Adverse Reactions and Side Effects

- Palpitations, tachycardia
- Drowsiness, dizziness, ataxia
- Nausea, vomiting, diarrhea
- Tolerance
- Physical and psychological dependence

Interactions

- Additive CNS depression with other **CNS depressants** (e.g., **alcohol, other anxiolytics, opioid analgesics,** and **sedative-hypnotics**) and with **herbal depressants** (e.g., **kava, valerian**).

Route and Dosage

- *Anxiety disorders/anxiety symptoms: Adults and children >12 yr:* **PO:** 1,200 to 1,600 mg/day in 3 to 4 divided doses. Maximum daily dose: 2,400 mg. *Children (6 to 12 yr):* **PO:** 100 to 200 mg 2 or 3 times/day.

CHEMICAL CLASS: AZASPIRODECANEDIONES

Examples

Generic Name	Trade Name	Pregnancy Category	Half-life hr	Available Forms (mg)
Buspirone HCl	BuSpar	B	2–3	Tabs: 5, 7.5, 10, 15, 30

Indications

- Generalized anxiety states

Unlabeled use:

- Symptomatic management of premenstrual syndrome

Actions

- Unknown
- May produce desired effects through interactions with serotonin, dopamine, and other neurotransmitter receptors.
- Delayed onset (a lag time of 7 to 10 days between onset of therapy and subsiding of anxiety symptoms).
- Cannot be used on a prn basis.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity to the drug.
- Severe hepatic or renal impairment.
- Concurrent use with MAO inhibitors

Continued on the following page

Use cautiously in:
- Elderly or debilitated clients
- Pregnancy and lactation
- Children
- Buspirone will not block the withdrawal syndrome in clients with a history of chronic benzodiazepine or other sedative/hypnotic use. Clients should be withdrawn gradually from these medications before beginning therapy with buspirone.

Adverse Reactions and Side Effects

- Drowsiness, dizziness
- Excitement, nervousness
- Fatigue, headache
- Nausea, dry mouth
- Incoordination, numbness
- Palpitations, tachycardia

Interactions

- Increased effects of buspirone with **cimetidine, erythromycin, itraconazole, nefazodone, ketoconazole, clarithromycin, diltiazem, verapamil, fluvoxamine,** and **ritonavir.**
- Decreased effects of buspirone with **rifampin, rifabutin, phenytoin, phenobarbital, carbamazepine, fluoxetine,** and **dexamethasone.**
- Increased serum concentrations of **haloperidol** when used concomitantly with buspirone.
- Use of buspirone with an **MAO inhibitor** may result in elevated blood pressure.
- Increased risk of hepatic effects when used concomitantly with **trazodone.**
- Additive effects when used with certain **herbal products** (e.g., **kava, valerian**).

Route and Dosage

- *Anxiety: Adults:* **PO:** Initial dose: 7.5 mg 2 times/day. Increase by 5 mg/day every 2 to 3 days as needed. Maximum daily dosage: 60 mg.

NURSING DIAGNOSES RELATED TO ALL ANTIANXIETY AGENTS

1. Risk for injury related to seizures, panic anxiety, acute agitation from alcohol withdrawal (indications); abrupt withdrawal from the medication after long-term use; effects of medication intoxication or overdose.
2. Anxiety (specify) related to threat to physical integrity or self-concept.
3. Risk for activity intolerance related to medication side effects of sedation, confusion, lethargy.
4. Disturbed sleep pattern related to situational crises, physical condition, severe level of anxiety.
5. Deficient knowledge related to medication regimen.
6. Risk for acute confusion related to action of the medication on the CNS.

NURSING IMPLICATIONS FOR ANTIANXIETY AGENTS

1. Instruct client not to drive or operate dangerous machinery while taking the medication.
2. Advise client receiving long-term therapy not to quit taking the drug abruptly. Abrupt withdrawal can be life-threatening (with the exception of buspirone). Symptoms include depression, insomnia, increased anxiety, abdominal and muscle cramps, tremors, vomiting, sweating, convulsions, and delirium.
3. Instruct client not to drink alcohol or take other medications that depress the CNS while taking this medication.
4. Assess mood daily. ***May aggravate symptoms in depressed persons.*** Take necessary precautions for potential suicide.
5. Monitor lying and standing blood pressure and pulse every shift. Instruct client to arise slowly from a lying or sitting position.
6. Withhold drug and notify the physician should paradoxical excitement occur.
7. Have client take frequent sips of water, chew on ice chips, suck on hard candy, or chew sugarless gum to relieve dry mouth.

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8. Have client take drug with food or milk to prevent nausea and vomiting.
9. Symptoms of sore throat, fever, malaise, easy bruising, or unusual bleeding should be reported to the physician immediately. They may be indications of blood dyscrasias.
10. Ensure that client taking buspirone (BuSpar) understands there is a lag time of 7 to 10 days between onset of therapy and subsiding of anxiety symptoms. Client should continue to take the medication during this time. (**Note:** This medication is not recommended for prn administration because of this delayed therapeutic onset. There is no evidence that buspirone creates tolerance or physical dependence as do the CNS depressant anxiolytics.)

CLIENT/FAMILY EDUCATION RELATED TO ALL ANTIANXIETY AGENTS

- Do not drive or operate dangerous machinery. Drowsiness and dizziness can occur.
- Do not stop taking the drug abruptly. Can produce serious withdrawal symptoms, such as depression, insomnia, anxiety, abdominal and muscle cramps, tremors, vomiting, sweating, convulsions, and delirium.
- ***With buspirone only:*** Be aware of lag time between start of therapy and subsiding of symptoms. Relief is usually evident within 7 to 10 days. Take the medication regularly, as ordered, so that it has sufficient time to take effect.
- Do not consume other CNS depressants (including alcohol).
- Do not take nonprescription medication without approval from physician.
- Rise slowly from the sitting or lying position to prevent a sudden drop in blood pressure.
- Report to physician immediately symptoms of sore throat, fever, malaise, easy bruising, unusual bleeding, or motor restlessness.
- Be aware of risks of taking these drugs during pregnancy. (Congenital malformations have been associated with use during the first trimester.) If pregnancy is suspected or planned, the client should notify the physician of the desirability to discontinue the drug.
- Be aware of possible side effects. Refer to written materials furnished by health-care providers regarding the correct method of self-administration.
- Carry card or piece of paper at all times stating names of medications being taken.

INTERNET REFERENCES

- http://www.mentalhealth.com/
- http://www.nimh.nih.gov/health/publications/mental-health-medications/complete-index.shtml
- http://www.fadavis.com/townsend
- http://www.nlm.nih.gov/medlineplus/druginformation.html

CHEMICAL CLASS: TRICYCLICS AND RELATED (NONSELECTIVE REUPTAKE INHIBITORS)

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life (hr)	Indications	Therapeutic Plasma Level Range (ng/mL)	Available Forms (mg)
Tricyclics				
Amitriptyline	D/ 31–46	• Depression *Unlabeled use:* • Migraine prevention • Fibromyalgia • Postherpetic neuralgia	110–250 (including metabolite)	Tabs: 10, 25, 50, 75, 100, 150
Clomipramine (Anafranil)	C/ 19–37	• Obsessive-Compulsive Disorder *Unlabeled use:* • Premenstrual symptoms • Panic disorder	80–100	Caps: 25, 50, 75
Desipramine (Norpramin)	C/ 12–24	• Depression *Unlabeled uses:* • Alcoholism • Attention deficit-hyperactivity disorder (ADHD) • Bulimia nervosa • Diabetic neuropathy • Postherpetic neuralgia	125–300	Tabs: 10, 25, 50, 75, 100, 150
Doxepin (Sinequan)	C/ 8–24	• Depression or anxiety • Depression or anxiety associated with alcoholism • Depression or anxiety associated with organic disease • Psychotic depressive disorders with anxiety *Unlabeled uses:* • Migraine prevention	100–200 (including metabolite)	Caps: 10, 25, 50, 75, 100, 150 Oral conc: 10 mL
Imipramine (Tofranil)	D/ 11–25	• Depression • Childhood enuresis *Unlabeled uses:* • Alcoholism • ADHD • Bulimia nervosa • Migraine prevention • Urinary incontinence	200–350 (including metabolite)	HCl tabs: 10, 25, 50 Pamoate caps: 75, 100, 125, 150
Nortriptyline (Aventyl; Pamelor)	D/ 18–44	• Depression *Unlabeled uses:* • ADHD • Post-therapeutic neuralgia	50–150	Caps: 10, 25, 50, 75 Oral solution: 10/5 mL

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Generic (Trade) Name	Pregnancy Categories/ Half-life (hours)	Level Indications	Therapeutic Plasma Range (ng/ml)	Available Forms (mg)
Protriptyline (Vivactil)	C/ 67–89	• Depression *Unlabeled uses:* • Migraine prevention	100–200	Tabs: 5, 10
Trimipramine (Surmontil)	C/ 7–30	• Depression	180 (includes active metabolite)	Caps: 25, 50, 100
Dibenzoxazepine				
Amoxapine	C/ 8	• Depression • Depression with anxiety	200–500	Tabs: 25, 50, 100, 150
Tetracyclic				
Maprotiline	B/ 21–25	• Depression • Depression with anxiety *Unlabeled uses:* • Post-therapeutic neuralgia	200–300 (including metabolite)	Tabs: 25, 50, 75

Action

- Inhibit reuptake of norepinephrine or serotonin at the presynaptic neuron.

Contraindications and Precautions:

Contraindicated in:

- Hypersensitivity to any tricyclic or related drug
- Concomitant use with MAO inhibitors
- Acute recovery period following myocardial infarction
- Narrow angle glaucoma
- Pregnancy and lactation (safety not established)
- Known or suspected seizure disorder (maprotiline)

Use cautiously in:

- Patients with history of seizures (maprotiline contraindicated)
- Patients with tendency to have urinary retention
- Benign prostatic hypertrophy
- Cardiovascular disorders
- Hepatic or renal insufficiency
- Psychotic patients
- Elderly or debilitated patients

Adverse Reactions and Side Effects

- Drowsiness; fatigue
- Dry mouth
- Blurred vision
- Orthostatic hypotension
- Tachycardia; arrhythmias
- Constipation
- Urinary retention
- Blood dyscrasias
- Nausea and vomiting
- Photosensitivity
- Increased risk of suicidality in children and adolescents (black-box warning)

Interactions

- Increased effects of tricyclic antidepressants with **bupropion, cimetidine, haloperidol, SSRIs,** and **valproic acid.**
- Decreased effects of tricyclic antidepressants with **carbamazepine, barbiturates,** and **rifamycins.**
- Hyperpyretic crisis, convulsions, and death can occur with **MAO inhibitors.**
- Co-administration with **clonidine** may produce hypertensive crisis.
- Decreased effects of **levodopa** and **guanethidine** with tricyclic antidepressants.
- Potentiation of pressor response with direct-acting **sympathomimetics.**
- Increased anti-coagulation effects with **dicumarol.**

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- Increased serum levels of **carbamazepine** occur with concomitant use of tricyclics.
- Increased risk of seizures with concomitant use of maprotiline and **phenothiazines.**
- Potential for cardiovascular toxicity of maprotiline when given concomitantly with **thyroid hormones** (e.g., **levothyroxine**).

Route and Dosage

AMITRIPTYLINE

- ***Depression:*** **PO:** 75 mg/day in divided doses. May gradually increase to 150 mg/day. *Alternative dosing:* May initiate at 50 to 100 mg at bedtime; increase by 25 to 50 mg as necessary, to a total of 150 mg/day. *Hospitalized patients:* may require up to 300 mg/day. *Adolescent and elderly patients:*10 mg 3 times/day and 20 mg at bedtime.
- ***Migraine Prevention:*** **PO:** Common dosage: 50 to 100 mg/day in divided doses. Range: 10 to 300 mg/day.
- ***Fibromyalgia:*** **PO:** 10 to 50 mg at bedtime
- ***Postherpetic neuralgia:*** **PO:** 65 to 100 mg/day for at least 3 weeks.

CLOMIPRAMINE (Anafranil)

- ***Obsessive-compulsive disorder:*** **PO:** ***Adults:*** 25 mg/day. Gradually increase to 100 mg/day during first 2 weeks, given in divided doses. May increase gradually over several weeks to maximum of 250 mg/day. ***Children and adolescents:*** 25 mg/day. Gradually increase during first 2 weeks to daily dose of 3 mg/kg or 100 mg, whichever is smaller. Maximum daily dose: 3 mg/kg or 200 mg, whichever is smaller.
- ***Premenstrual symptoms:*** **PO:** 25 to 75 mg/day for irritability and dysphoria.
- ***Panic disorder:*** **PO:** Initial dose: 10 mg. Increase to a maximum dose of 150 mg given as multiple daily doses.

DESIPRAMINE (Norpramin)

- ***Depression:*** **PO:** 100 to 200 mg/day in divided doses or as a single daily dose. May increase to maximum dose of 300 mg/day. ***Elderly and adolescents:*** 25 to 100 mg/day in divided doses or as a single daily dose. Maximum dose: 150 mg/day.
- ***Alcoholism:*** **PO:** 200 to 275 mg/day.
- ***Attention deficit-hyperactivity disorder (ADHD):*** **PO:** 100 to 200 mg/day.
- ***Bulimia nervosa:*** **PO:** Initial dose: 25 mg 3 times a day. Titrate dosage up to 200 to 300 mg/day, depending on response and adverse effects.
- ***Diabetic neuropathy:*** **PO:** 50 to 250 mg/day.
- ***Postherpetic neuralgia:*** **PO:** 94 to 167 mg/day for at least 6 weeks.

DOXEPIN (Sinequan)

- ***Depression and/or anxiety:*** **PO:** Mild to moderate illness: 75 mg/day. May increase to maximum dose of 150 mg/day. *Mild symptoms associated with organic illness:* 25 to 50 mg/day. *Severe symptoms:* 50 mg 3 times/day; may gradually increase to 300 mg/day.
- ***Migraine prevention:*** **PO:** 75 to 150 mg/day. Occasionally dosages up to 300 mg/day may be required.

IMIPRAMINE (Tofranil)

- ***Depression:*** **PO:** 75 mg/day. May increase to maximum of 200 mg/day. Hospitalized patients may require up to 300 mg/day. ***Adolescent and geriatric patients:*** 30 to 40 mg/day. May increase to maximum of 100 mg/day.
- ***Childhood enuresis (children ≥6 yr):*** **PO:** 25 mg/day 1 hr before bedtime. May increase after 1 week to 50 mg/night if <12 yr; up to 75 mg/night if >12 yr. Maximum dose 2.5 mg/kg/day.
- ***Alcoholism:*** **PO:** 50 mg/day titrated by 50 mg every 3 to 5 days to a maximum daily dose of 300 mg.
- ***ADHD:*** **PO:** 1 mg/kg/day titrated to a maximum dose of 4 mg/kg/day or 200 mg/day, whichever is smaller.
- ***Bulimia nervosa:*** **PO:** 50 mg/day titrated to 100 mg twice daily.
- ***Migraine prevention:*** **PO:** 10 to 25 mg 3 times a day.
- ***Urinary incontinence:*** **PO:** 25 mg 2 to 3 times a day.

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NORTRIPTYLINE (Aventyl; Pamelor)

- *Depression:* **PO:** 25 mg 3 or 4 times/day. The total daily dose may be given at bedtime. *Elderly and adolescent patients:* 30 to 50 mg daily in divided doses or total daily dose may be given once/day.
- *ADHD:* **PO:** *Adults:* 25 mg 3 to 4 times/day. *Children and adolescents:* 0.5 mg/kg/day, titrated to a maximum dose of 2 mg/kg/day or 100 mg, whichever is less.
- *Postherpetic neuralgia:* **PO:** Dosage range: 58 to 89 mg/day for at least 5 weeks.

PROTRIPTYLINE (Vivactil)

- *Depression:* **PO:** 15 to 40 mg/day divided into 3 or 4 doses. Maximum daily dose: 60 mg. *Adolescent and elderly patients:* 5 mg 3 times/day.

TRIMIPRAMINE (Surmontil)

- *Depression:* **PO:** 75 mg/day. Increase gradually to 150 to 200 mg/day. Adult hospitalized patients may require up to 300 mg/day. *Adolescent and elderly patients:* Initially, 50 mg/day, with gradual increments up to 100 mg/day.

AMOXAPINE

- *Depression and depression with anxiety:* **PO:** 50 mg 2 or 3 times daily. May increase to 100 mg 2 or 3 times daily by end of first week. *Elderly patients:* 25 mg 2 or 3 times/day. May increase to 50 mg 2 or 3 times/day by end of first week.

MAPROTILINE

- *Depression/Depression with anxiety:* **PO:** *Adults:* Initial dose: 75 mg/day. After 2 weeks, may increase gradually in 25 mg increments. Maximum daily dose: 150 to 225 mg. *Elderly patients:* Initiate dosage at 25 mg/day. 50 to 75 mg/day may be sufficient for maintenance therapy in elderly patients.
- *Postherpetic neuralgia:* **PO:** 100 mg/day for 5 weeks.

CHEMICAL CLASS: SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRIs)

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-Life hr	Indications	Therapeutic Plasma Level Ranges	Available Forms (mg)
Citalopram (Celexa)	C/ ~35	• Treatment of depression *Unlabeled uses:* • Generalized anxiety disorder (GAD) • Obsessive-compulsive disorder (OCD) • Panic disorder • Premenstrual dysphoric disorder (PMDD) • Post-traumatic stress disorder (PTSD)	Not well established	Tabs: 10, 20, 40 Oral solution: 10/5 mL
Escitalopram (Lexapro)	C/ 27–32	• Major depressive disorder • GAD *Unlabeled uses:* • PTSD	Not well established	Tabs: 5, 10, 20 Oral solution: 1/mL

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Generic (Trade) Name	Pregnancy Categories/ Half-Life hr	Indications	Therapeutic Plasma Level Ranges	Available Forms (mg)
Fluoxetine (Prozac; Sarafem)	C/ 1 to 16 days (including metabolite)	• Depression • OCD • Bulimia nervosa • Panic disorder • PMDD *Unlabeled uses:* • Alcoholism • Borderline personality disorder • Fibromyalgia • Hot flashes • PTSD • Migraine prevention • Raynaud phenomenon	Not well established	Tabs: 10, 15, 20 Caps: 10, 20, 40 Caps, delayed-release: 90 Oral solution: 20/5 mL
Fluvoxamine (Luvox)	C/ 13.6–15.6	• OCD • Social anxiety disorder *Unlabeled uses:* • Panic disorder • PTSD • Migraine prevention	Not well established	Tabs: 25, 50, 100 Caps (ER): 100, 150
Paroxetine (Paxil)	C/ 21 hr (CR: 15–20)	• Major depressive disorder • Panic disorder • OCD • Social anxiety disorder • GAD • PTSD • PMDD *Unlabeled uses:* • Hot flashes • Diabetic neuropathy	Not well established	Tabs: 10, 20, 30, 40 Oral susp: 10/5 mL Tabs (CR): 12.5, 25, 37.5
Sertraline (Zoloft)	C/ 26–104 (including metabolite)	• Major depressive disorder • OCD • Panic disorder • PTSD • PMDD • Social anxiety disorder	Not well established	Tabs: 25, 50, 100 Oral concentrate: 20/mL

Action

- Selectively inhibit the CNS neuronal uptake of serotonin (5-HT).

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity to SSRIs
- Concomitant use with, or within 14 days' use of, MAO inhibitors
- ***Fluoxetine:*** concomitant use with thioridazine (or within 5 weeks after discontinuation of fluoxetine)
- ***Fluvoxamine:*** concomitant use with cisapride, thioridazine, or pimozide
- ***Paroxetine:*** concomitant use with thioridazine
- ***Sertraline:*** concomitant use with pimozide
- ***Sertraline:*** coadministration of oral concentrate with disulfiram

Use cautiously in:

- Patients with history of seizures
- Underweight or anorexic patients

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- Hepatic or renal insufficiency
- Elderly or debilitated patients
- Suicidal patients
- Pregnancy and lactation

Adverse Reactions and Side Effects

- Headache
- Insomnia
- Nausea
- Anorexia
- Diarrhea
- Constipation
- Sexual dysfunction
- Somnolence
- Dry mouth
- Increased risk of suicidality in children and adolescents (black-box warning)
- Serotonin syndrome: Can occur if taken concurrently with other medications that increase levels of serotonin (e.g., MAOIs, tryptophan, amphetamines, other antidepressants, buspirone, lithium, dopamine agonists, or serotonin 5-HT_1 receptor agonists [agents for migraine]). Symptoms of serotonin syndrome include diarrhea, cramping, tachycardia, labile blood pressure, diaphoresis, fever, tremor, shivering, restlessness, confusion, disorientation, mania, myoclonus, hyperreflexia, ataxia, seizures, cardiovascular shock, and death.

Interactions

- Toxic, sometimes fatal, reactions have occurred with concomitant use of **MAOIs.**
- Increased effects of SSRIs with **cimetidine, L-tryptophan, lithium, linezolid,** and **St. John's wort.**
- Serotonin syndrome may occur with concomitant use of SSRIs and **metoclopramide, sibutramine, tramadol, serotonin 5-HT1 receptor agonists** (agents for migraine), or any drug that increases levels of serotonin.
- Concomitant use of SSRIs may increase effects of **hydantoins, tricyclic antidepressants, cyclosporine, benzodiazepines, beta blockers, methadone, carbamazepine, clozapine, olanzapine, pimozide, haloperidol, phenothiazines, St. John's wort, sumatriptan, sympathomimetics, tacrine, theophylline,** and **warfarin.**
- Concomitant use of SSRIs may decrease effects of **buspirone** and **digoxin.**
- **Lithium** levels may be increased or decreased by concomitant use of SSRIs
- Decreased effects of SSRIs with concomitant use of **carbamazepine** and **cyproheptadine.**

Route and Dosage

CITALOPRAM (Celexa)

- ***Depression:*** **PO:** Initial dose: 20 mg/day as a single daily dose. May increase in increments of 20 mg at intervals of no less than 1 week. Recommended maximum dose: 40 mg/day. ***Elderly clients:*** 20 mg/day.
- ***OCD:*** **PO:** Initial dose: 20 mg/day. Titrate to a target dosage of 40 to 60 mg/day. Maximum dose: 80 mg.

ESCITALOPRAM (Lexapro)

- ***Depression and GAD:*** **PO:** Initial dose: 10 mg/day as a single daily dose. May increase to 20 mg/day after 1 week. ***Elderly clients:*** **PO:** 10 mg/day.
- ***PTSD:*** **PO:** Initial dose: 10 mg/day. Increase to 20 mg/day after 4 weeks.

FLUOXETINE (Prozac; Sarafem)

- ***Depression and OCD:*** **PO:** ***Adults:*** Initial dose: 20 mg/day in the morning. May increase dosage after several weeks if clinical improvement is not observed. Maximum dose: 80 mg/day. ***Children and adolescents:*** 10 to 20 mg/day.
- ***Bulimia nervosa:*** **PO:** 60 mg/day administered in the morning. May need to titrate up to this target dose in some clients.
- ***Panic disorder:*** **PO:** Initial dose: 10 mg/day. After 1 week, increase dose to 20 mg/day. If no improvement is seen after several weeks, may consider dose increases up to 60 mg/day.
- ***PMDD (Sarafem):*** **PO:** Initial dose: 20 mg/day. Maximum: 80 mg/day. May be given continuously throughout the cycle or intermittently (only during the 14 days prior to anticipated onset of menses).
- ***Alcoholism:*** **PO:** Initial dose: 20 mg/day. Titrate to 40 mg/day after 2 weeks, if needed.

Continued on the following page

- ***Borderline personality disorder:*** **PO:** 20 to 80 mg/day.
- ***Fibromyalgia:*** **PO:** 20 mg/day (in the morning) for up to 6 weeks.
- ***Hot flashes:*** **PO:** 20 mg/day.
- ***PTSD:*** **PO:** ***Adults:*** 10 to 80 mg/day. ***Children:*** 10 to 20 mg/day.
- ***Migraine prevention:*** **PO:** 10 to 40 mg/day.
- ***Raynaud phenomenon:*** **PO:** 20 to 60 mg/day.

FLUVOXAMINE (Luvox)

- ***OCD:*** **PO:** ***Adults:*** Initial dose: 50 mg at bedtime. May increase dose in 50 mg increments every 4 to 7 days. Maximum dose: 300 mg. Administer daily doses >100 mg in 2 divided doses. If unequal, give larger dose at bedtime. ***Children 8 to 17 yr:*** Initial dose: 25 mg single dose at bedtime. May increase the dose in 25 mg increments every 4 to 7 days to a maximum dose of 200 mg/day for children up to 11 yr. Maximum dose for adolescents: 300 mg/day. Divide daily doses >50 mg into 2 doses. If unequal, give larger dose at bedtime.
- ***Social anxiety disorder:*** **PO** (extended release capsules): Initial dose: 100 mg/day as a single daily dose at bedtime. Increase in 50 mg increments every week, as tolerated, until maximum therapeutic benefit is achieved. Maximum dose: 300 mg/day.
- ***Panic disorder:*** **PO:** Initial dose: 50 mg/day. Gradually increase after several days to 150 mg/day. For clients who fail to respond after several weeks of treatment, further increases up to 300 mg/day may be considered.
- ***PTSD:*** **PO:** ***Adults:*** Initial dose: 50 mg/day. Increase gradually to target dose of 100 to 250 mg/day in adults, and 100 mg/day in older adults. Maximum recommended dose: 300 mg/day. ***Children and adolescents:*** Target dose: 50 mg/day.
- ***Migraine prevention:*** **PO:** 50 mg at bedtime for 12 weeks.

PAROXETINE (Paxil)

- ***Depression:*** **PO:** *Immediate release:* Initial dose: 20 mg/day in the morning. May increase dose in 10 mg increments at intervals of at least 1 week to a maximum of 50 mg/day. *Controlled release:* Initial dose: 25 mg/day in the morning. May increase dose in 12.5 mg increments at intervals of at least 1 week to a maximum of 62.5 mg/day.
- ***Panic disorder:*** **PO:** *Immediate release:* Initial dose:10 mg/day in the morning. May increase dose in 10 mg increments at intervals of at least 1 week to a target dose of 40 mg/day. Maximum dose: 60 mg/day. *Controlled release:* Initial dose: 12.5 mg/day. May increase dose in 12.5 mg/day increments at intervals of at least 1 week to a maximum dose of 75 mg/day.
- ***OCD:*** **PO:** *Immediate release:* 20 mg/day. May increase dose in 10 mg/day increments at intervals of at least 1 week. Recommended dose: 40 mg/day. Maximum dose: 60 mg/day.
- ***Social anxiety disorder:*** **PO:** *Immediate release:* 20 mg/day. Usual range is 20 to 60 mg/day. *Controlled release:* 12.5 mg/day. May increase dosage at intervals of at least 1 week, in increments of 12.5 mg/day to a maximum of 37.5 mg/day.
- ***GAD and PTSD:*** **PO:** *Immediate release:* 20 mg/day. Usual range is 20 to 50 mg/day. Change doses in increments of 10 mg/day at intervals of at least 1 week.
- ***PMDD:*** **PO:** *Controlled release:* Initial dose: 12.5 mg/day. Usual range: 12.5 to 25 mg/day. Change doses at intervals of at least 1 week. May be administered daily throughout the menstrual cycle or limited to luteal phase of menstrual cycle.
- ***Hot flashes:*** **PO:** *Immediate release:* 20 mg/day. *Controlled release:* 12.5 to 25 mg/day.
- ***Diabetic neuropathy:*** **PO:** Initial dose: 10 mg/day. Titrate to 20 to 60 mg/day.
- ***Elderly or debilitated patients:*** **PO:** *Immediate release:* Initial dose 10 mg/day. Maximum dose: 40 mg/day. *Controlled release:* Initial dose: 12.5 mg/day. Maximum dose: 50 mg/day.

SERTRALINE (Zoloft)

- ***Depression and OCD:*** **PO:** 50 mg/day (either morning or evening). May increase dosage at 1-week intervals to a maximum of 200 mg/day.
- ***Panic disorder and PTSD:*** **PO:** Initial dose: 25 mg/day. After 1 week, increase dose to 50 mg/day. For patients not responding, may increase dosage at 1 week intervals to a maximum of 200 mg/day.
- ***PMDD:*** **PO:** 50 mg/day given on each day of the menstrual cycle or only during each day of the luteal phase of the menstrual cycle. For patients not responding, may increase dosage in 50 mg increments per menstrual cycle up to 150 mg/day when dosing throughout the cycle or 100 mg/day when dosing only during the luteal phase.

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If 100 mg/day has been established with luteal phase dosing, titrate at 50 mg/day for first 3 days of each luteal phase dosing period.

- *Social anxiety disorder:* **PO:** Initial dose: 25 mg/day. After 1 week, increase dose to 50 mg/day. May increase gradually to maximum dose of 200 mg/day.

CHEMICAL CLASS: NOREPINEPHRINE-DOPAMINE REUPTAKE INHIBITORS (NDRIs)

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life (hr)	Indications	Therapeutic Plasma Level Range (mg/mL)	Available Forms (mg)
Bupropion (Wellbutrin; Zyban)	C/ 8–24	• Depression (Wellbutrin) • Seasonal affective disorder (Wellbutrin XL) • Smoking cessation (Zyban) *Unlabeled use:* • ADHD (Wellbutrin)	Not well established	Tabs: 75, 100 Tabs (SR): 100, 150, 200 Tabs (XL): 150, 300

SR = 12-hr tablets; XL = 24-hr tablets.

Action

- Action is unclear. Thought to inhibit the reuptake of norepinephrine and dopamine into presynaptic neurons.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity to the drug
- Concomitant use with, or within two weeks use of, MAO inhibitors
- Known or suspected seizure disorder
- Alcohol or benzodiazepine (or other sedatives) withdrawal
- Current or prior diagnosis of bulimia or anorexia nervosa
- Concomitant use of Wellbutrin (for depression or ADHD) and Zyban (for smoking cessation)
- Lactation

Use cautiously in:

- Urinary retention
- Hepatic or renal function impairment
- Patients with suicidal ideation
- Patients with recent history of MI or unstable heart disease
- Pregnancy (safety not established)
- Elderly and debilitated patients

Adverse Reactions and Side Effects

- Dry mouth
- Blurred vision
- Agitation
- Insomnia
- Tremor
- Sedation; dizziness
- Tachycardia
- Excessive sweating
- Headache
- Nausea/vomiting
- Anorexia; weight loss
- Seizures
- Constipation
- Increased risk of suicidality in children and adolescents (black-box warning)

Interactions

- Increased effects of bupropion with **amantadine, levodopa, clopidogrel, CYP2B6 inhibitors** (e.g., **cimetidine**), **guanfacine, linezolid,** and **ticlopidine.**
- Increased risk of acute toxicity with **MAOIs.** Coadministration is contraindicated.

Continued on the following page

- Coadministration with a **nicotine replacement agent** may cause hypertension.
- Concomitant use with **alcohol** may produce adverse neuropsychiatric events (alcohol tolerance is reduced).
- Decreased effects of bupropion with **carbamazepine** and **rifampin.**
- Increased anticoagulant effect of **warfarin** with bupropion.
- Increased effects of drugs metabolized by CYP2D6 isoenzyme (e.g., **nortriptyline, imipramine, desipramine, paroxetine, fluoxetine, sertraline, haloperidol, risperidone, thioridazine, metoprolol, propafenone,** and **flecainide**).

Route and Dosage

BUPROPION (Wellbutrin; Zyban)

- ***Depression (Wellbutrin):*** **PO:** ***Adults (immediate release tabs):*** 100 mg 2 times/day. May increase after 3 days to 100 mg given 3 times/day. For patients who do not show improvement after several weeks of dosing at 300 mg/day, an increase in dosage up to 450 mg/day may be considered. No single dose of bupropion should exceed 150 mg. To prevent the risk of seizures, administer with 4 to 6 hr between doses. *Sustained release tabs:* Give as a single 150 mg dose in the morning. May increase to twice a day (total 300 mg), with 8 hr between doses. *Extended release tabs:* Begin dosing at 150 mg/day, given as a single daily dose in the morning. May increase after 3 days to 300 mg/day, given as a single daily dose in the morning.
- ***Seasonal affective disorder (Wellbutrin XL):*** **PO:** 150 mg administered each morning beginning in the autumn prior to the onset of depressive symptoms. Dose may be uptitrated to the target dose of 300 mg/day after 1 week. Therapy should continue through the winter season before being tapered to 150 mg/day for 2 weeks prior to discontinuation in early spring.
- ***Smoking cessation (Zyban):*** **PO:** Begin dosing at 150 mg given once a day in the morning for 3 days. If tolerated well, increase to target dose of 300 mg/day given in doses of 150 mg twice daily with an interval of 8 hr between doses. Continue treatment for 7 to 12 weeks. Some patients may need treatment for as long as 6 mo.
- ***ADHD:*** **PO:** ***Children:*** 3 mg/kg/day. ***Adults:*** 150 to 450 mg/day. No single dose of bupropion should exceed 150 mg. To prevent the risk of seizures, administer with 4 to 6 hr between doses.

CHEMICAL CLASS: SEROTONIN-NOREPINEPHRINE REUPTAKE INHIBITORS (SNRIS)

Examples

Generic (Trade) Name	Pregnancy Category/ Half-Life (hr)	Indications	Therapeutic Plasma Level Ranges	Available Forms (mg)
Desvenlafaxine (Pristiq)	C/ 11	• Depression	Not well established	Tabs ER: 50, 100
Duloxetine (Cymbalta)	C/ 8–17	• Depression • Diabetic peripheral neuropathic pain • Fibromyalgia • GAD *Unlabeled uses:* • Stress urinary incontinence	Not well established	Caps: 20, 30, 60
Venlafaxine (Effexor)	C/ 5–11 (incl. metabolite)	• Depression • GAD (extended release [ER] only) • Social anxiety disorder (ER) • Panic disorder (ER) *Unlabeled uses:* • Hot flashes • PMDD • PTSD	Not well established	Tabs: 25, 37.5, 50, 75, 100 Caps XR: 37.5, 75, 150

Action

- SNRIs are potent inhibitors of neuronal serotonin and norepinephrine reuptake; weak inhibitors of dopamine reuptake.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity to the drug

Continued on the following page

- Children (safety not established)
- Concomitant (or within 14 days) use with MAO inhibitors
- Severe renal or hepatic impairment
- Pregnancy and lactation (safety not established)
- Uncontrolled narrow-angle glaucoma

Use cautiously in:

- Hepatic and renal insufficiency
- Elderly and debilitated patients
- Patients with history of drug abuse
- Patients with suicidal ideation
- Patients with history of or existing cardiovascular disease
- Patients with history of mania
- Patients with history of seizures
- Children

Adverse Reactions and Side Effects

- Headache
- Dry mouth
- Nausea
- Somnolence
- Dizziness
- Insomnia
- Asthenia
- Constipation
- Diarrhea
- Mydriasis (venlafaxine)
- Increased risk of suicidality in children and adolescents (black-box warning)
- Discontinuation syndrome: Abrupt withdrawal may result in symptoms such as nausea, vomiting, nervousness, dizziness, headache, insomnia, nightmares, paresthesias. A gradual reduction in dosage is recommended.

Interactions

- Concomitant use with **MAOIs** results in serious, sometimes fatal, effects resembling neuroleptic malignant syndrome. Coadministration is contraindicated.
- Serotonin syndrome may occur when SNRIs are used concomitantly with **St. John's wort, sumatriptan, sibutramine, trazodone,** or other drugs that increase levels of serotonin.
- Increased effects of **haloperidol, clozapine,** and **desipramine** when used concomitantly with venlafaxine.
- Increased effects of venlafaxine with **cimetidine** and **azole antifungals.**
- Decreased effects of venlafaxine with **cyproheptadine.**
- Decreased effects of **indinavir** and **metoprolol** with venlafaxine.
- Increased effects of **warfarin** with SNRIs.
- Increased effects of duloxetine with CYP1A2 inhibitors (e.g., fluvoxamine, quinolone antibiotics) and CYP2D6 inhibitors (e.g., fluoxetine, quinidine, paroxetine).
- Increased risk of liver injury with concomitant use of **alcohol** and duloxteine.
- Increased risk of toxicity or adverse effects from drugs extensively metabolized by CYP2D6 (e.g., **flecainide, phenothiazines, propafenone, tricyclic antidepressants, thioridazine**) when used concomitantly with duloxetine.
- Increased effects of **desipramine** with desvenlafaxine.
- Decreased effects of **midazolam** with desvenlafaxine.

Route and Dosage

DESVENLAFAXINE (Pristiq)

- ***Depression:*** **PO:** 50 mg once daily, with or without food. (In clinical studies, doses of 50–400 mg/day were shown to be effective, although no additional benefit was demonstrated at doses greater than 50 mg/day and adverse events and discontinuations were more frequent at higher doses.)

DULOXETINE (Cymbalta)

- ***Depression:*** **PO:** 40 mg/day (given as 20 mg twice a day) to 60 mg/day (given either once a day or as 30 mg twice daily) without regard to meals.
- ***Diabetic peripheral neuropathic pain:*** **PO:** 60 mg/day given once daily without regard to meals.
- ***Fibromyalgia:*** **PO:** 30 mg once daily for 1 week and then increase to 60 mg once daily, if needed.
- ***GAD:*** **PO:** 60 mg once daily. For some patients, it may be desirable to start at 30 mg once daily for 1 week to allow the patient to adjust to the medication before increasing to 60 mg once daily.

Continued on the following page

VENLAFAXINE (Effexor)

- ***Depression:*** **PO:** *Immediate-release tabs:* Initial dose: 75 mg/day in 2 or 3 divided doses, taken with food. May increase in increments up to 75 mg/day at intervals of at least 4 days. Maximum dose: 225 mg/day.
- ***Depression, GAD, and social anxiety disorder:*** **PO:** *Extended-release caps:* Initial dose: 75 mg/day, administered in a single dose. May increase dose in increments of up to 75 mg/day at intervals of at least 4 days to a maximum of 225 mg/day.
- ***Panic disorder:*** **PO:** *Extended-release caps:* Initial dose: 37.5 mg/day for 7 days. After 7 days, increase dosage to 75 mg/day. May increase dosage in increments of up to 75 mg/day at intervals of at least 7 days to a maximum of 225 mg/day.

CHEMICAL CLASS: SEROTONIN-2 ANTAGONISTS/REUPTAKE INHIBITORS (SARIs)

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-Life	Indications	Therapeutic Plasma Level Ranges	Available Forms (mg)
Nefazodone*	C/ 2–4	• Depression	Not well established	Tabs: 50, 100, 150, 200, 250
Trazodone	C/ 4–9	• Depression *Unlabeled uses:* • Aggressive behavior • Panic disorder and agoraphobia with panic attacks • Insomnia • Migraine prevention	800–1,600	Tabs: 50, 100, 150, 300

*Bristol Myers Squibb voluntarily removed their brand of nefazodone (Serzone) from the market in 2004. The generic equivalent is currently available through various other manufacturers.

Actions

- Trazodone inhibits neuronal reuptake of serotonin; nefazodone inhibits neuronal reuptake of serotonin and norepinephrine, and acts as antagonist at central 5-HT_2 receptors.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Coadministration with terfenadine, astemizole, cisapride, pimozide, carbamazepine, or triazolam (nefazodone)
- Patients who were withdrawn because of liver injury (nefazodone)
- Concomitant use with, or within 2 weeks of use of, MAO inhibitors
- Acute phase of myocardial infarction

Use cautiously in:

- Pregnancy and lactation (safety not established)
- Children (safety not established)
- Patients with suicidal ideation
- Hepatic, renal, or cardiovascular disease
- Elderly and debilitated patients

Adverse Reactions and Side Effects

- Drowsiness; dizziness
- Fatigue
- Orthostatic hypotension
- Headache
- Nervousness; insomnia
- Dry mouth
- Nausea
- Somnolence
- Constipation
- Priapism
- Increased risk of suicidality in children and adolescents (black-box warning)
- Risk of hepatic failure (**nefazodone**) (black-box warning)

Continued on the following page

Interactions

- Increased effects of **CNS depressants, carbamazepine, digoxin,** and **phenytoin** with trazodone.
- Increased effects of trazodone with **phenothiazines, azole antifungals,** and **protease inhibitors.**
- Risk of serotonin syndrome with concomitant use of trazodone and **SSRIs** or **SNRIs.**
- Decreased effects of trazodone with **carbamazepine.**
- Increases or decreases in prothrombin time with concurrent use of trazodone and **warfarin.**
- Symptoms of serotonin syndrome and those resembling neuroleptic malignant syndrome may occur with concomitant use of **MAO inhibitors** and **SARIs.**
- Risk of serotonin syndrome with concomitant use of nefazodone and **sibutramine** or **sumatriptan.**
- Increased effects of both drugs with concomitant use of **buspirone** and nefazodone.
- Increased effects of **benzodiazepines, carbamazepine, cisapride, cyclosporine, digoxin,** and **St. John's wort** with nefazodone.
- Decreased effects of nefazodone with **carbamazepine.**
- Risk of rhabdomyolysis with concomitant use of nefazodone and **HMG-CoA reductase inhibitors** (e.g., **simvastatin, atorvastatin, lovastatin**).

Route and Dosage

NEFAZODONE

- ***Depression:*** **PO:** ***Adults:*** Initial dose: 200 mg/day, in 2 divided doses. Dose may be increased in increments of 100 to 200 mg/day (on a twice daily schedule) at intervals of at least 1 week. Maximum dose: 600 mg/day.
- ***Elderly and debilitated patients:*** **PO:** 100 mg/day, in 2 divided doses. Increases should be titrated slowly and based on careful assessment of the patient's clinical response.

TRAZODONE

- ***Depression:*** **PO:** ***Adults:*** Initial dose: 150 mg/day in divided doses. May be increased by 50 mg/day every 3 to 4 days to maximum dose of 400 mg/day. Inpatients or severely depressed patients may be given up to a maximum of 600 mg/day. Drowsiness may require that largest dose of the medication be taken at bedtime.
- ***Aggressive behavior:*** **PO:** 50 mg twice daily (along with tryptophan 500 mg twice daily).
- ***Panic disorder or agoraphobia with panic attacks:*** **PO:** 300 mg/day.
- ***Insomnia:*** **PO:** 50 to 100 mg at bedtime.
- ***Migraine prevention:*** **PO:** 100 mg/day.

CHEMICAL CLASS: ALPHA-2 RECEPTOR ANTAGONIST

Examples

Generic (Trade) Name	Pregnancy Category/ Half-Life	Indications	Therapeutic Plasma Level Range	Available Forms (mg)
Mirtazapine (Remeron)	C/ 20–40 hr	• Depression	Not well established	Tabs: 7.5, 15, 30, 45 Tabs (orally disintegrating): 15, 30, 45

Actions

- Potent antagonist of 5-HT_2 and 5-HT_3 receptors. Acts as antagonist at central presynaptic α_2-adrenergic inhibitory autoreceptors and heteroreceptors, resulting in an increase in central noradrenergic and serotonergic activity. It is also a potent antagonist of histamine (H_1) receptors.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity to the drug
- Patients with suicidal ideation
- Concurrent use with, or within 14 days of therapy with, MAOIs

Use cautiously in:

- History of seizures
- History of mania or hypomania

Continued on the following page

- Elderly or debilitated patients
- Patients with hepatic, renal, or cardiovascular disease
- Pregnancy and lactation (safety not established)
- Children (safety not established)

Adverse Reactions and Side Effects

- Somnolence
- Dizziness
- Dry mouth
- Constipation
- Increased appetite
- Weight gain
- Agranulocytosis
- Increases in cholesterol and triglyceride levels

Interactions

- Additive impairment in cognitive and motor skills with **CNS depressants** (e.g., **benzodiazepines, alcohol**).
- Life-threatening symptoms similar to neuroleptic malignant syndrome with concurrent use, or within 14 days of use of, **MAO inhibitors.**
- Possible interaction with drugs that are metabolized by or inhibit cytochrome P450 enzymes CYP2D6, CYP1A2, and CYP3A4.
- Increased effects of mirtazapine with concomitant use of **SSRIs** (e.g., **fluoxetine, fluvoxamine**).

Route and Dosage

MIRTAZAPINE (Remeron)

- ***Depression:*** **PO:** Initial dose: 15 mg/day, administered in a single dose, preferably at bedtime. Dose may be increased at intervals of 1 to 2 weeks, up to a maximum dose of 45 mg/day. *When switching to or from an MAO inhibitor:* At least 14 days should elapse between discontinuation of an MAO inhibitor and initiation of therapy with mirtazapine. In addition, allow at least 14 days after stopping mirtazapine before starting an MAO inhibitor.

CHEMICAL CLASS: MONOAMINE OXIDASE INHIBITORS

Examples

Generic (Trade) Name	Pregnancy Category/ Half-Life	Indications	Therapeutic Plasma Level Range	Available Forms (mg)
Isocarboxazid (Marplan)	C/ Not established	• Depression	Not well established	Tabs: 10
Phenelzine (Nardil)	C/ 2–3	• Depression *Unlabeled uses:* • PTSD • Migraine prevention	Not well established	Tabs: 15
Tranylcypromine (Parnate)	C/ 2.4–2.8	• Depression *Unlabeled uses:* • Migraine prevention • Social anxiety disorder • Panic disorder	Not well established	Tabs: 10
Selegiline Transdermal System (Emsam)	C/ 18–25 (including metabolites)	• Depression	Not well established	Transdermal patches: 6, 9, 12

Action

- Inhibition of the enzyme monamine oxidase, which is responsible for the decomposition of the biogenic amines, epinephrine, norepinephrine, dopamine, and serotonin. This action results in an increase in the concentration of these endogenous amines.

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Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Pheochromocytoma
- Hepatic or renal insufficiency
- History of or existing cardiovascular disease
- Hypertension
- History of severe or frequent headaches
- Concomitant use with other MAO inhibitors, tricyclic antidepressants, carbamazepine, cyclobenzaprine, bupropion, SSRIs, SARIs, buspirone, sympathomimetics, meperidine, dextromethorphan, anesthetic agents, CNS depressants, antihypertensives, caffeine, and food with high tyramine content
- Children younger than 16 yr
- Pregnancy and lactation (safety not established)

Use cautiously in:

- Patients with a history of seizures
- Diabetes mellitus
- Patients with suicidal ideation
- Agitated or hypomanic patients
- History of angina pectoris or hyperthyroidism

Adverse Reactions and Side Effects

- Dizziness
- Headache
- Orthostatic hypotension
- Constipation
- Nausea
- Disturbances in cardiac rate and rhythm
- Blurred vision
- Dry mouth
- Weight gain
- Hypomania
- Site reactions (itching, irritation) (with selegiline transdermal system)
- Increased risk of suicidality in children and adolescents (black-box warning)

Interactions

- Serious, potentially fatal adverse reactions may occur with concurrent use of other **antidepressants, carbamazepine, cyclobenzaprine, bupropion, SSRIs, SARIs, buspirone, sympathomimetics, tryptophan, dextromethorphan, anesthetic agents, CNS depressants,** and **amphetamines.** Avoid using within 2 weeks of each other (5 weeks after therapy with **fluoxetine**).
- Hypertensive crisis may occur with **amphetamines, methyldopa, levodopa, dopamine, epinephrine, norepinephrine, guanethidine, methylphenidate, guanadrel, reserpine,** or **vasoconstrictors.**
- Hypertension or hypotension, coma, convulsions, and death may occur with **opioids** (avoid use of **meperidine** within 14 to 21 days of MAO inhibitor therapy).
- Additive hypotension may occur with **antihypertensives, thiazide diuretics,** or **spinal anesthesia.**
- Additive hypoglycemia may occur with **insulins** or **oral hypoglycemic agents.**
- **Doxapram** may increase pressor response.
- Serotonin syndrome may occur with concomitant use of **St. John's wort.**
- Hypertensive crisis may occur with ingestion of foods or other products containing high concentrations of **tyramine** (see Nursing Implications).
- Consumption of foods or beverages with high **caffeine** content increases the risk of hypertension and arrhythmias.
- Bradycardia may occur with concurrent use of MAO inhibitors and **beta blockers.**

Route and Dosage

ISOCARBOXAZID (Marplan)

- ***Depression:*** **PO:** Initial dose: 10 mg twice daily. May increase dosage by 10 mg every 2 to 4 days to 40 mg by end of first week. If needed, may continue to increase dosage by increments of up to 20 mg/week. Maximum dose: 60 mg/day divided into 2 to 4 doses. Gradually reduce to smallest effective dose.

PHENELZINE (Nardil)

- ***Depression:*** **PO:** Initial dose: 15 mg 3 times/day. Increase to 60 to 90 mg/day in divided doses until therapeutic response is achieved. Then gradually reduce to smallest effective dose (15 mg/day or every other day).

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TRANYLCYPROMINE (Parnate)

- *Depression:* **PO:** 30 mg/day in divided doses. After 2 weeks, may increase by 10 mg/day, at 1 to 3 week intervals, up to 60 mg/day.

SELEGILINE TRANSDERMAL SYSTEM (EMSAM)

- *Depression:* **Transdermal patch:** Initial dose: 6 mg/24 hr. If necessary, dosage may be increased in increments of 3 mg/24 hr at intervals of no less than 2 weeks up to a maximum dose of 12 mg/24 hr. *Elderly clients:* The recommended dosage is 6 mg/24 hr.

PSYCHOTHERAPEUTIC COMBINATIONS

Examples

Generic (Trade) Name	Indications	Available Forms (mg)
Olanzapine/fluoxetine (Symbyax)	• For the acute treatment of depressive episodes associated with bipolar I disorder in adults • Treatment-resistant depression	Caps: olanzapine 3/fluoxetine 25; olanzapine 6/fluoxetine 25; olanzapine 6/fluoxetine 50; olanzapine 12/fluoxetine 25; olanzapine 12/fluoxetine 50
Chlordiazepoxide/amitriptyline (Limbitrol)	• For the treatment of moderate to severe depression associated with moderate to severe anxiety.	Tabs: chlordiazepoxide 5/amitriptyline 12.5; chlordiazepoxide 10/amitriptyline 25
Perphenazine/amitriptyline HCl (Etrafon)	• For the treatment of moderate to severe anxiety or agitation and depressed mood • For the treatment of patients with schizophrenia who have associated symptoms of depression	Tabs: perphenazine 2/amitriptyline 10; perphenazine 2/amitriptyline 25; perphenazine 4/amitriptyline 10; perphenazine 4/amitriptyline 25; perphenazine 4/amitriptyline 50

Note: These medications are presented for general information only. For detailed information, the reader is directed to the chapters that deal with each of the specific drugs that make up these combinations.

Route and Dosage

OLANZAPINE/FLUOXETINE (Symbyax)

- *Depression associated with bipolar I disorder and treatment-resistant depression:* **PO:** Initial dose: olanzapine 6 mg/fluoxetine 25 mg once daily in the evening. Dosage adjustments, if indicated, can be made according to efficacy and tolerability.

CHLORDIAZEPOXIDE/AMITRIPTYLINE (Limbitrol)

- *Moderate to severe depression associated with moderate to severe anxiety:* **PO:** Initial dose: chlordiazepoxide 10/amitriptyline 25 given 3 or 4 times daily in divided doses. May increase to 6 times daily, as required. Some patients respond to smaller doses and can be maintained on 2 tablets daily.

PERPHENAZINE/AMITRIPTYLINE HCl (Etrafon)

- *Anxiety/Agitation/Depression:* **PO:** Initial dose: perphenazine 2 to 4 mg/amitriptyline 10 to 50 mg, 3 or 4 times daily. Once a satisfactory response is achieved, reduce to smallest amount necessary to obtain relief.

NURSING DIAGNOSES RELATED TO ALL ANTIDEPRESSANTS

1. Risk for suicide related to depressed mood.
2. Risk for injury related to side effects of sedation, lowered seizure threshold, orthostatic hypotension, priapism, photosensitivity, arrhythmias, and hypertensive crisis.
3. Social isolation related to depressed mood.
4. Risk for constipation related to side effects of the medication.

NURSING IMPLICATIONS FOR ANTIDEPRESSANTS

The plan of care should include monitoring for the following side effects from antidepressant medications. Nursing implications are designated by an asterisk (*).

1. **May occur with all chemical classes:**
   a. **Dry mouth**
      * Offer the client sugarless candy, ice, frequent sips of water.
      * Strict oral hygiene is very important.

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b. **Sedation**
   * Request an order from the physician for the drug to be given at bedtime.
   * Request that the physician decrease the dosage or perhaps order a less sedating drug.
   * Instruct the client not to drive or use dangerous equipment while experiencing sedation.

c. **Nausea**
   * Medication may be taken with food to minimize GI distress.

d. **Discontinuation syndrome**
   * All classes of antidepressants have varying potentials to cause discontinuation syndromes. Abrupt withdrawal following long-term therapy with SSRIs and SNRIs may result in dizziness, lethargy, headache, and nausea. Fluoxetine is less likely to result in withdrawal symptoms because of its long half-life. Abrupt withdrawal from tricyclics may produce hypomania, akathisia, cardiac arrhythmias, and panic attacks. The discontinuation syndrome associated with MAO inhibitors includes confusion, hypomania, and worsening of depressive symptoms. All antidepressant medication should be tapered gradually to prevent withdrawal symptoms.

2. **Most commonly occur with tricyclics and others, such as the SARIs, bupropion, maprotiline, and mirtazapine:**

a. **Blurred vision**
   * Offer reassurance that this symptom should subside after a few weeks.
   * Instruct the client not to drive until vision is clear.
   * Clear small items from routine pathway to prevent falls.

b. **Constipation**
   * Order foods high in fiber; increase fluid intake if not contraindicated; and encourage the client to increase physical exercise, if possible.

c. **Urinary retention**
   * Instruct the client to report hesitancy or inability to urinate.
   * Monitor intake and output.
   * Try various methods to stimulate urination, such as running water in the bathroom or pouring water over the perineal area.

d. **Orthostatic hypotension**
   * Instruct the client to rise slowly from a lying or sitting position.
   * Monitor blood pressure (lying and standing) frequently, and document and report significant changes.
   * Avoid long hot showers or tub baths.

e. **Reduction of seizure threshold**
   * Observe clients with history of seizures closely.
   * Institute seizure precautions as specified in hospital procedure manual.
   * Bupropion (Wellbutrin) should be administered in doses of no more than 150 mg and should be given at least 4 hr apart. Bupropion has been associated with a relatively high incidence of seizure activity in anorexic and cachectic clients.

f. **Tachycardia; arrhythmias**
   * Carefully monitor blood pressure and pulse rate and rhythm, and report any significant change to the physician.

g. **Photosensitivity**
   * Ensure that client wears sunblock lotion, protective clothing, and sunglasses while outdoors.

h. **Weight gain**
   * Provide instructions for reduced-calorie diet.
   * Encourage increased level of activity, if appropriate.

3. **Most commonly occur with SSRIs:**

a. **Insomnia; agitation**
   * Administer or instruct client to take dose early in the day.
   * Instruct client to avoid caffeinated food and drinks.
   * Teach relaxation techniques to use before bedtime.

b. **Headache**
   * Administer analgesics, as prescribed.
   * If relief is not achieved, physician may order another antidepressant.

c. **Weight loss** (may occur early in therapy)
   * Ensure that client is provided with caloric intake sufficient to maintain desired weight.
   * Caution should be taken in prescribing these drugs for anorectic clients.

Continued on the following page

* Weigh client daily or every other day, at the same time and on the same scale if possible.
* After prolonged use, some clients may gain weight on SSRIs

d. **Sexual dysfunction**
* Men may report abnormal ejaculation or impotence.
* Women may experience delay or loss of orgasm.
* If side effect becomes intolerable, a switch to another antidepressant may be necessary.

e. **Serotonin syndrome** (may occur when two drugs that potentiate serotonergic neurotransmission are used concurrently [see "Interactions"])
* Most frequent symptoms include changes in mental status, restlessness, myoclonus, hyperreflexia, tachycardia, labile blood pressure, diaphoresis, shivering, and tremors.
* Discontinue offending agent immediately.
* The physician will prescribe medications to block serotonin receptors, relieve hyperthermia and muscle rigidity, and prevent seizures. In severe cases, artificial ventilation may be required. The histamine-1 receptor antagonist, cyproheptadine, is commonly used to treat the symptoms of serotonin syndrome.
* Supportive nursing measures include monitoring vital signs, providing safety measures to prevent injury when muscle rigidity and changes in mental status are present, cooling blankets and tepid baths to assist with temperature regulation, and monitoring intake and output.
* The condition will usually resolve on its own once the offending medication has been discontinued. However, if the medication is not discontinued, the condition may progress to life-threatening complications such as seizures, coma, hypotension, ventricular arrhythmias, disseminated intravascular coagulation, rhabdomyolysis, metabolic acidosis, and renal failure.

4. **Most commonly occur with MAO inhibitors:**

a. **Hypertensive crisis**
* Hypertensive crisis occurs if the individual consumes foods or other substances containing tyramine while receiving MAO inhibitor therapy. Foods that should be avoided include aged cheeses, raisins, fava beans, red wines, smoked and processed meats, caviar, pickled herring, soy sauce, monosodium glutamate (MSG), beer, chocolate, yogurt, and bananas. Drugs that should be avoided include other antidepressants, sympathomimetics (including over-the-counter cough and cold preparations), stimulants (including over-the-counter diet drugs), antihypertensives, meperidine and other opioid narcotics, and antiparkinsonian agents, such as levodopa.
* Symptoms of hypertensive crisis include severe occipital headache, palpitations, nausea and vomiting, nuchal rigidity, fever, sweating, marked increase in blood pressure, chest pain, and coma.
* Treatment of hypertensive crisis: Discontinue drug immediately; monitor vital signs; administer short-acting antihypertensive medication, as ordered by physician; use external cooling measures to control hyperpyrexia.

b. **Application site reactions** (with selegiline transdermal system [Emsam])
* The most common reactions include rash, itching, erythema, redness, irritation, swelling, or urticarial lesions. Most reactions resolve spontaneously, requiring no treatment. However, if reaction becomes problematic, it should be reported to the physician. Topical corticosteroids have been used in treatment.

5. **Miscellaneous side effects:**

a. **Priapism (with trazodone)**
* Priapism is a rare side effect, but it has occurred in some men taking trazodone.
* If the client complains of prolonged or inappropriate penile erection, withhold medication dosage and notify the physician immediately.
* Priapism can become very problematic, requiring surgical intervention, and, if not treated successfully, can result in impotence.

b. **Hepatic failure (with nefazodone)**
* Cases of life-threatening hepatic failure have been reported in clients treated with nefazodone.

Continued on the following page

* Advise clients to be alert for signs or symptoms suggestive of liver dysfunction (e.g., jaundice, anorexia, GI complaints, or malaise) and to report them to a physician immediately.

CLIENT/FAMILY EDUCATION RELATED TO ALL ANTIDEPRESSANTS

- Continue to take the medication even though the symptoms have not subsided. The therapeutic effect may not be seen for as long as 4 weeks. If after this length of time no improvement is noted, the physician may prescribe a different medication.
- Use caution when driving or operating dangerous machinery. Drowsiness and dizziness can occur. If these side effects become persistent or interfere with activities of daily living, the client should report them to the physician. Dosage adjustment may be necessary.
- Do not stop taking the drug abruptly. To do so might produce withdrawal symptoms, such as nausea, vertigo, insomnia, headache, malaise, and nightmares.
- Use sunblock lotion and wear protective clothing when spending time outdoors. The skin may be sensitive to sunburn.
- Report occurrence of any of the following symptoms to the physician immediately: sore throat, fever, malaise, yellowish skin, unusual bleeding, easy bruising, persistent nausea and vomiting, severe headache, rapid heart rate, difficulty urinating, anorexia or weight loss, seizure activity, stiff or sore neck, and chest pain.
- Rise slowly from a sitting or lying position to prevent a sudden drop in blood pressure.
- Take frequent sips of water, chew sugarless gum, or suck on hard candy if dry mouth is a problem. Good oral care (frequent brushing, flossing) is very important.
- Do not consume the following foods or medications while taking MAO inhibitors: aged cheese, wine (especially Chianti), beer, chocolate, colas, coffee, tea, sour cream, smoked and processed meats, chicken or beef liver, soy sauce, pickled herring, yogurt, raisins, caviar, broad beans, cold remedies, or diet pills. To do so could cause a life-threatening hypertensive crisis.
- Follow the correct procedure for applying the selegiline transdermal patch:
  - Apply to dry, intact skin on upper torso, upper thigh, or outer surface of upper arm.
  - Apply approximately same time each day to new spot on skin, after removing and discarding old patch.
  - Wash hands thoroughly after applying the patch.
  - Avoid exposing application site to direct heat (e.g., heating pads, electric blankets, heat lamps, hot tub, or prolonged direct sunlight).
  - If patch falls off, apply new patch to a new site and resume previous schedule.
- Avoid smoking while receiving tricyclic therapy. Smoking increases the metabolism of tricyclics, requiring an adjustment in dosage to achieve the therapeutic effect.
- Do not drink alcohol while taking antidepressant therapy. These drugs potentiate the effects of each other.
- Do not consume other medications (including over-the-counter medications) without the physician's approval while receiving antidepressant therapy. Many medications contain substances that, in combination with antidepressant medication, could precipitate a life-threatening hypertensive crisis.
- Notify physician immediately if inappropriate or prolonged penile erections occur while taking trazodone. If the erection persists longer than 1 hour, seek emergency department treatment. This condition is rare, but has occurred in some men who have taken trazodone. If measures are not instituted immediately, impotence can result.
- Do not "double up" on medication if a dose of bupropion (Wellbutrin) is missed, unless advised to do so by the physician. Taking bupropion in divided doses will decrease the risk of seizures and other adverse effects.

Continued on the following page

- Be aware of possible risks of taking antidepressants during pregnancy. Safe use during pregnancy and lactation has not been fully established. These drugs are believed to readily cross the placental barrier; if so, the fetus could experience adverse effects of the drug. Inform the physician immediately if pregnancy occurs, is suspected, or is planned.
- Be aware of the side effects of antidepressants. Refer to written materials furnished by health care providers for safe self-administration.
- Carry a card or other identification at all times describing the medications being taken.

INTERNET REFERENCES

- http://www.mentalhealth.com/
- http://www.nimh.nih.gov/publicat/medicate.cfm
- http://www.fadavis.com/townsend
- http://www.nlm.nih.gov/medlineplus/druginformation.html

CHEMICAL CLASS: ANTICHOLINERGICS

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life (hr)	Indications	Available Forms (mg)
Benztropine (Cogentin)	C/ Unknown	• Parkinsonism • Drug-induced extrapyramidal symptoms	Tabs: 0.5, 1, 2 Inj: 1 mL
Biperiden (Akineton)	C/ 18.4–24.3	• Parkinsonism • Drug-induced extrapyramidal symptoms	Tabs: 2
Trihexyphenidyl	C/ 5.6–10.2	• Parkinsonism • Drug-induced extrapyramidal symptoms	Tabs: 2, 5 Elixir: 2/5 mL
Diphenhydramine (Benadryl)	B/ 4–15	• Parkinsonism • Drug-induced extrapyramidal symptoms • Motion sickness • Allergy reactions • Nighttime sleep aid • Cough suppressant	Tabs and caps: 25, 50 Tabs (orally disintegrating): 12.5 Tabs (chewable): 12.5, 25 Strips (orally disintegrating): 12.5, 25 Elixir/syrup/oral solution: 12.5/5 mL Inj: 50 mL

Actions

- Blocks acetylcholine receptors to diminish excess cholinergic effects. May also inhibit the reuptake and storage of dopamine at central dopamine receptors, thereby prolonging the action of dopamine.
- Diphenhydramine also blocks histamine release by competing with histamine for H_1 receptor sites. Decreased allergic response and somnolence occur in response to diminished histamine activity.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Angle-closure glaucoma
- Pyloric or duodenal obstruction
- Peptic ulcers
- Prostatic hypertrophy
- Bladder neck obstructions
- Megaesophagus
- Megacolon
- Myasthenia gravis
- Lactation
- Children (*except* diphenhydramine)

Use cautiously in:

- Tachycardia
- Cardiac arrhythmias
- Hypertension
- Hypotension
- Tendency toward urinary retention
- Clients exposed to high environmental temperatures
- Pregnancy

Adverse Reactions and Side Effects

- Dry mouth
- Blurred vision
- Constipation
- Paralytic ileus
- Urinary retention
- Tachycardia
- Agitation, nervousness

*This chapter includes only those antiparkinsonian agents indicated for treatment of antipsychotic-induced extrapyramidal symptoms or neuroleptic malignant syndrome (bromocriptine).

Continued on the following page

- Decreased sweating
- Elevated temperature
- Nausea/vomiting
- Sedation
- Dizziness
- Exacerbation of psychoses
- Orthostatic hypotension

Interactions

- *Diphenhydramine:* Additive sedative effects with **CNS depressants.**
- Increased effects of **beta-blockers** with diphenhydramine.
- Additive anticholinergic effects with other drugs that have anticholinergic properties.
- Anticholinergic drugs counteract the cholinergic effects of **bethanechol.**
- Possible increased **digoxin** levels with anticholinergics.
- Concomitant use of anticholinergics with **haloperidol** may result in worsening of psychotic symptoms, decreased haloperidol serum levels, and development of tardive dyskinesia.
- Possible decreased efficacy of **phenothiazines** and increased incidence of anticholinergic side effects with concomitant use.
- Decreased effects of **levodopa** with concomitant use.

Route and Dosage

BENZTROPINE (Cogentin)

- ***Parkinsonism:*** **PO:** ***Adults:*** 1–2 mg/day in 1–2 divided doses (range 0.5–6 mg/day).
- ***Drug-induced extrapyramidal symptoms:*** **PO:** ***Adults:*** 1–4 mg given once or twice daily.
- ***Acute dystonic reactions:*** **IM, IV:** ***Adults:*** 1 to 2 mg, then 1–2 mg PO twice daily.

BIPERIDEN (Akineton)

- ***Parkinsonism:*** **PO:** ***Adults:*** 2 mg 3 or 4 times/day, not to exceed 16 mg/24 hr.
- ***Drug-induced extrapyramidal symptoms:*** **PO:** ***Adults:*** 2 mg 1 to 3 times/day.

TRIHEXYPHENIDYL

- ***Parkinsonism:*** **PO:** ***Adults:*** Initial dose: 1 mg the first day; increase by 2 mg increments at 3- to 5-day intervals, up to a daily dose of 6 to 10 mg in 3 divided doses taken at mealtimes.
- ***Drug-induced extrapyramidal symptoms:*** **PO:** ***Adults:*** Initial dose: 1 mg. Repeat dosage every few hours until symptoms are controlled. Maintenance or prophylactic use: 5–15 mg/day.

DIPHENHYDRAMINE (Benadryl)

- ***Parkinsonism and drug-induced extrapyramidal symptoms/Motion sickness/Allergy reactions:*** **PO:** ***Adults and children ≥12 yr:*** 25 to 50 mg every 4 to 6 hr. Maximum dosage: 300 mg/day. **IM/IV:** ***Adults:*** 10–50 mg IV or 100 mg IM. Maximum daily dose: 400 mg. ***Children 6 to 12 yr:*** **PO:** 12.5 to 25 mg every 4 to 6 hr, not to exceed 150 mg/day.
- ***Nighttime sleep aid: Adults and children ≥12 yr:*** 50 mg at bedtime.
- ***Cough suppressant: Adults and children ≥12 yr:*** **PO liquid:** 25 to 50 mg every 4 hr, not to exceed 300 mg/day. **PO syrup:** 25 mg every 4 hr, not to exceed 150 mg/day. ***Children 6–12 yr:*** **PO liquid:** 12.5 to 25 mg every 4 hr, not to exceed 150 mg/day. **PO Syrup:** 12.5 mg every 4 hr, not to exceed 75 mg/day. ***Children 2–6 yr:*** **PO Syrup:** 6.25 mg every 4 hr, not to exceed 25 mg/day.

Continued on the following page

CHEMICAL CLASS: DOPAMINERGIC AGONISTS

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life (hr)	Indications	Available Forms (mg)
Amantadine (Symmetrel)	C/ 10–25	• Parkinsonism • Drug-induced extrapyramidal symptoms • Prophylaxis and treatment of influenza A viral infection	Tabs, caps: 100 Syrup: 50/5 mL
Bromocriptine (Parlodel)	B/ 8–20	• Parkinsonism • Hyperprolactinemia-associated dysfunctions • Acromegaly • Neuroleptic malignant syndrome	Tabs: 2.5 Caps: 5

Actions

- Amantadine increases dopamine at the receptor either by releasing intact striatal dopamine stores or by blocking neuronal dopamine reuptake. It also inhibits the replication of influenza A virus isolates from each of the subtypes.
- Bromocriptine increases dopamine by direct stimulation of dopamine receptors.

Contraindications and Precautions

Contraindicated in:

Amantadine:
- Hypersensitivity to the drug
- Pregnancy, lactation, and in children under 1 yr (Safety has not been established.)
- Angle closure glaucoma

Bromocriptine:
- Hypersensitivity to this drug, other ergot alkaloids, or sulfites (contained in some preparations)
- Uncontrolled hypertension
- Pregnancy and lactation; children under 15 (Safety has not been established.)

Use cautiously in:
- Hepatic or renal impairment
- Uncontrolled psychiatric disturbances
- History of congestive heart failure, myocardial infarction, or ventricular arrhythmia
- Elderly or debilitated clients
- Orthostatic hypotension

Amantadine:
- Clients with a history of seizures
- Concurrent use of CNS stimulants

Bromocriptine
- Clients with history of peptic ulcer or gastrointestinal bleeding

Adverse Reactions and Side Effects

Amantadine:
- Nausea
- Dizziness
- Insomnia; somnolence
- Depression; anxiety
- Hallucinations
- Arrhythmia; tachycardia
- Dry mouth
- Blurred vision

Bromocriptine
- Nausea and vomiting
- Headache; dizziness; drowsiness
- Orthostatic hypotension
- Confusion
- Constipation; diarrhea
- Skin mottling
- Exacerbation of Raynaud's syndrome
- Ataxia

Continued on the following page

Interactions

The effects of:	Are increased by:	Are decreased by:	Concurrent use may result in:
Amantadine	Quinidine, quinine, triamterene, thiazine diuretics, trimethoprim/sulfamethoxazole, thioridazine		Potentiation of anticholinergic side effects with anticholinergic agents; increased effects of CNS stimulants with concurrent use
Bromocriptine	Erythromycin, sympathomimetics, isometheptene, phenylpropanolamine	Phenothiazines (and other antipsychotics), metoclopramide	

Route and Dosage

AMANTADINE (Symmetrel)

- *Parkinsonism: Adults:* **PO:** 100 mg 1–2 times/day (up to 400 mg/day).
- *Drug-induced extrapyramidal symptoms:* **PO:** *Adults:* 100 mg twice daily (up to 300 mg/day in divided doses).
- *Influenza A viral infection:* **PO:** *Adults and children >12 yr:* 200 mg/day as a single dose or 100 mg twice daily. *Children 9 to12 yr:* 200 mg as a single dose or 100 mg twice daily. *Children 1 to 9 yr:* 4.4 to 8.8 mg/kg/day given once daily or divided twice daily, not to exceed 150 mg/day.

BROMOCRIPTINE (Parlodel)

- *Parkinsonism: Adults:* **PO:** Initial dose: 1.25 mg twice daily with meals. May increase dosage every 2 to 4 weeks by 2.5 mg/day with meals. Usual range is 10 to 40 mg/day. If adverse reactions necessitate reduction in dosage, reduce dose gradually in 2.5 mg increments.
- *Hyperprolactinemia-associated dysfunctions: Adults:* **PO:** Initial dose: 1.25 to 2.5 mg/day with meals. May increase by 2.5 mg every 2 to 7 days. Usual therapeutic dosage range: 2.5 to 15 mg/day.
- *Acromegaly: Adults:* **PO:** Initial dose: 1.25 to 2.5 mg for 3 days (with food) at bedtime. May increase by 1.25 to 2.5 mg/day every 3 to 7 days. Usual therapeutic dosage range: 20 to 30 mg/day. Maximum dose: 100 mg/day.
- *Neuroleptic malignant syndrome: Adult:* **PO:** 5 mg every 4 hr.

NURSING DIAGNOSES RELATED TO ANTIPARKINSONIAN AGENTS

1. Risk for injury related to symptoms of Parkinson's disease or drug-induced EPS.
2. Hyperthermia related to anticholinergic effect of decreased sweating.
3. Activity intolerance related to side effects of drowsiness, dizziness, ataxia, weakness, confusion.
4. Deficient knowledge related to medication regimen.

NURSING IMPLICATIONS FOR ANTIPARKINSONIAN AGENTS

The plan of care should include monitoring for the following side effects from antiparkinsonian medications. Nursing implications related to each side effect are designated by an asterisk (*).

1. **Anticholinergic effects.** These side effects are identical to those produced by antipsychotic drugs. Taking both medications compounds these effects. For this reason, the physician may elect to prescribe an antiparkinsonian agent only at the onset of EPS, rather than as routine adjunctive therapy.

a. **Dry mouth**
   * Offer sugarless candy or gum, ice, frequent sips of water.
   * Ensure that client practices strict oral hygiene.

b. **Blurred vision**
   * Explain that symptom will most likely subside after a few weeks.
   * Offer to assist with tasks requiring visual acuity.

c. **Constipation**
   * Order foods high in fiber; encourage increase in physical activity and fluid intake, if not contraindicated.

Continued on the following page

d. **Paralytic ileus**
   * A rare, but potentially very serious side effect of anticholinergic drugs. Monitor for abdominal distension, absent bowel sounds, nausea, vomiting, epigastric pain.
   * Report any of these symptoms to a physician immediately.

e. **Urinary retention**
   * Instruct client to report any difficulty urinating; monitor intake and output.

f. **Tachycardia, decreased sweating, elevated temperature**
   * Assess vital signs each shift; document and report significant changes to physician.
   * Ensure that client remains in cool environment, because the body is unable to cool itself naturally with this medication.

2. **Nausea, gastrointestinal (GI) upset**
   * May administer tablets or capsules with food to minimize GI upset.

3. **Sedation, drowsiness, dizziness**
   * Discuss with physician possibility of administering drug at bedtime.
   * Discuss with physician possible decrease in dosage or order for less sedating drug.
   * Instruct client not to drive or use dangerous equipment while experiencing sedation or dizziness.

4. **Exacerbation of psychoses**
   * Assess for signs of loss of contact with reality.
   * Intervene during a hallucination; talk about real people and real events; reorient client to reality.
   * Stay with client during period of agitation and delirium; remain calm and reassure client of his or her safety.
   * Discuss with physician possible decrease in dosage or change in medication.

5. **Orthostatic hypotension**
   * Instruct client to rise slowly from a lying or sitting position; monitor blood pressure (lying and standing) each shift; document and report significant changes.

CLIENT/FAMILY EDUCATION RELATED TO ALL ANTIPARKINSONIAN AGENTS

- Take the medication with food if GI upset occurs.
- Use caution when driving or operating dangerous machinery. Drowsiness and dizziness can occur.
- Do not stop taking the drug abruptly. To do so might produce unpleasant withdrawal symptoms.
- Report occurrence of any of the following symptoms to the physician immediately: pain or tenderness in area in front of ear; extreme dryness of mouth; difficulty urinating; abdominal pain; constipation; fast, pounding heartbeat; rash; visual disturbances; mental changes.
- Rise slowly from a sitting or lying position to prevent a sudden drop in blood pressure.
- Stay inside in air-conditioned room when weather is very hot. Perspiration is decreased with antiparkinsonian agents, and the body cannot cool itself as well. There is greater susceptibility to heat stroke. Inform physician if air-conditioned housing is not available.
- Take frequent sips of water, chew sugarless gum, or suck on hard candy if dry mouth is a problem. Good oral care (frequent brushing, flossing) is very important.
- Do not drink alcohol while on antiparkinsonian therapy.
- Do not consume other medications (including over-the-counter products) without physician's approval. Many medications contain substances that interact with antiparkinsonian agents in a way that may be harmful.
- Be aware of possible risks of taking antiparkinsonian agents during pregnancy. Safe use during pregnancy and lactation has not been fully established. It is thought that antiparkinsonian agents readily cross the placental barrier; if so, fetus could experience adverse effects of the drug. Inform physician immediately if pregnancy occurs, is suspected, or is planned.
- Be aware of side effects of antiparkinsonian agents. Refer to written materials furnished by health-care providers for safe self-administration.

Continued on the following page

- Continue to take medication, even if feeling well and as though it is not needed. Symptoms may return if medication is discontinued.
- Carry card or other identification at all times describing medications being taken.

INTERNET REFERENCES

- http://www.rxlist.com
- http://www.nimh.nih.gov/publicat/medicate.cfm
- http://www.fadavis.com/townsend
- http://www.mentalhealth.com
- http://www.nlm.nih.gov/medlineplus/druginformation.html

CHEMICAL CLASS: PHENOTHIAZINES

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life	Indications	Available Forms (mg)
Chlorpromazine	C/24 hr	• Bipolar mania • Schizophrenia • Emesis/ hiccoughs • Acute intermittent porphyria • Hyperexcitable, combative behavior in children • Preoperative apprehension *Unlabeled uses:* • Migraine headaches	Tabs: 10, 25, 50, 100, 200 Injection: 25/mL
Fluphenazine	C/ HCl: 18 hr Decanoate: 6.8–9.6 days	• Psychotic disorders	Tabs: 1, 2.5, 5, 10 Elixir: 2.5/5 mL Conc: 5/mL Inj: 2.5/mL Inj (Decanoate): 25/mL
Perphenazine	C/9–12 hr	• Psychotic disorders • Nausea and vomiting	Tabs: 2, 4, 8, 16 Conc: 16/5 mL
Prochlorperazine	C/3–5 hr (oral) 6.9 hr (IV)	• Schizophrenia • Nonpsychotic anxiety • Nausea and vomiting *Unlabeled uses:* • Migraine headache	Tabs: 5, 10 Supp: 25 Inj: 5/mL
Thioridazine	C/24 hr	• Management of schizophrenia in patients who do not have an acceptable response to other antipsychotic therapy	Tabs: 10, 15, 25, 50, 100, 150, 200
Trifluoperazine	C/18 hr	• Schizophrenia • Nonpsychotic anxiety	Tabs: 1, 2, 5, 10

Actions

- These drugs are thought to work by blocking postsynaptic dopamine receptors in the basal ganglia, hypothalamus, limbic system, brainstem, and medulla.
- They also demonstrate varying affinity for cholinergic, alpha$_1$-adrenergic, and histaminic receptors.
- Antipsychotic effects may also be related to inhibition of dopamine-mediated transmission of neural impulses at the synapses.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity (cross-sensitivity may exist among phenothiazines)
- In comatose or severely CNS-depressed clients
- Poorly controlled seizure disorders
- Clients with blood dyscrasias
- Narrow angle glaucoma
- Clients with liver, renal, or cardiac insufficiency
- Bone marrow depression
- Concurrent **pemozide** use
- Coadministration with other drugs that prolong QT interval, or in patients with long QT syndrome or history of cardiac arrhythmias

Continued on the following page

Use cautiously in:

- Elderly and debilitated patients
- Children with acute illnesses, infections, gastroenteritis, or dehydration (increased risk of extrapyramidal reactions)
- Diabetes
- Respiratory disease
- Prostatic hypertrophy
- CNS tumors
- Epilepsy
- Intestinal obstruction
- Pregnancy or lactation (safety not established)
- Elderly patients with dementia-related psychosis (black-box warning)

Adverse Reactions and Side Effects

- Dry mouth
- Blurred vision
- Constipation
- Urinary retention
- Nausea
- Skin rash
- Sedation
- Orthostatic hypotension
- Photosensitivity
- Decreased libido
- Amenorrhea
- Retrograde ejaculation
- Gynecomastia
- Weight gain
- Reduction of seizure threshold
- Agranulocytosis
- Extrapyramidal symptoms
- Tardive dyskinesia
- Neuroleptic malignant syndrome
- Prolongation of QT interval (**thioridazine**)

Interactions

- Co-administration of phenothiazines and **beta-blockers** may increase effects from either or both drugs.
- Increased effects of phenothiazines with **paroxetine.**
- Concurrent administration with **meperidine** may produce excessive sedation and hypotension.
- Therapeutic effects of phenothiazines may be decreased by **centrally acting anticholinergics.** Anticholinergic effects are increased.
- Concurrent use may result in decreased hypotensive effect of **guanethidine.**
- Phenothiazines may reduce effectiveness of **oral anticoagulants.**
- Concurrent use with phenothiazines may increase or decrease **phenytoin** levels.
- Increased orthostatic hypotension with **thiazide diuretics.**
- Increased CNS depression with **alcohol** or other **CNS depressants.**
- Increased hypotension with **antihypertensives.**
- Concurrent use with **epinephrine** or **dopamine** may result in severe hypotension.

Route and Dosage

CHLORPROMAZINE

- ***Psychotic disorders: Adults:*** **PO:** 10 mg 3 or 4 times/day or 25 mg 2 or 3 times/day. Increase by 20 to 50 mg every 3 to 4 days until effective dose is reached, usually 200 to 400 mg/day. **IM:** Initial dose: 25 mg. May give additional 25 to 50 mg in 1 hr. Increase gradually over several days (up to 400 mg every 4 to 6 hr in severe cases).
- ***Pediatric behavioral disorders: Children >6 mo:*** **PO:** 0.5 mg/kg every 4 to 6 hr as needed. **IM:** 0.5 mg/kg every 6 to 8 hr (not to exceed 40 mg/day in children 6 mo–5 yr or 75 mg/day in children 6–12 yr).
- ***Nausea and vomiting: Adults:*** **PO:** 10 to 25 mg every 4 to 6 hr. **IM:** 25 mg initially, may repeat 25–50 mg every 3 to 4 hr. ***Children >6 mo:*** **PO:** 0.55 mg/kg every 4 to 6 hr. **IM:** 0.55 mg/kg every 6 to 8 hr (not to exceed 40 mg/day in children up to 5 yr or 75 mg/day in children 5–12 yr).

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- ***Intractable hiccoughs: Adults:*** **PO:** 25 to 50 mg 3 or 4 times daily. If symptoms persist for 2 to 3 days, give 25 to 50 mg **IM.**
- ***Preoperative sedation: Adults:*** **PO:** 25 to 50 mg 2 to 3 hr before surgery, or **IM:** 12.5 to 25 mg 1 to 2 hr before surgery. ***Children:*** **PO:** 0.5 mg/kg 2 to 3 hr before surgery, or **IM:** 0.5 mg/kg 1 to 2 hr before surgery.
- ***Acute intermittent Porphyria: Adults:*** **PO:** 25 to 50 mg 3 or 4 times/day, or **IM:** 25 mg 3 or 4 times/day until patient can take **PO.**

Fluphenazine

- ***Psychotic disorders: Adults:*** **PO:** Initial dose: 2.5 to 10 mg/day in divided doses every 6 to 8 hr. Maintenance dose: 1 to 5 mg/day. **IM:** 1.25 to 2.5 mg every 6 to 8 hr. ***Elderly or debilitated patients:*** **PO:** 1 to 2.5 mg/day initially. Adjust dosage according to response.
- ***Decanoate formulation: Adults:*** **IM, SC:** Initial dose: 12.5 to 25 mg. May be repeated every 3 to 4 weeks. Dosage may be slowly increased in 12.5 mg increments as needed (not to exceed 100 mg/dose).

PERPHENAZINE

- ***Psychotic disorders: Adults:*** **PO:** *Outpatients:* 4 to 8 mg 3 times/day initially. Reduce as soon as possible to minimum effective dose. *Hospitalized patients with schizophrenia:* 8 to 16 mg 2 to 4 times/day, not to exceed 64 mg/day.
- ***Nausea and vomiting: Adults:*** **PO:** 8 to 16 mg daily in divided doses, up to 24 mg, if necessary.

PROCHLORPERAZINE

- ***Schizophrenia: Adults: (Mild conditions):*** **PO:** 5–10 mg 3 or 4 times/day. *(Moderate conditions):* 10 mg 3 or 4 times/day. Gradually increase dosage by small increments over 2 or 3 days to 50 to 75 mg/day. *(Severe conditions):* 100 to 150 mg/day. **IM:** 10 to 20 mg every 2 to 4 hr for up to 4 doses, then 10 to 20 mg every 4 to 6 hr, if needed. When control is achieved, switch to oral dosage. ***Children ≥12 yr:*** **PO:** 5–10 mg 3 to 4 times/day. ***Children 2 to 12 yr:*** **PO:** 2.5 mg 2 to 3 times/day.
- ***Nonpsychotic anxiety: Adults:*** **PO:** 5 mg 3 to 4 times/day, not to exceed 20 mg/day or longer than 12 weeks.
- ***Nausea and vomiting: Adults:*** **PO:** 5 to 10 mg 3 or 4 times/day. SR caps: 15 mg once daily or 10 mg twice daily. **Rectal:** 25 mg twice daily. **IM:** 5 to 10 mg. May repeat every 3 or 4 hr, not to exceed 40 mg/day. ***Children 20–29 lb:*** **PO/Rectal:** 2.5 mg 1 or 2 times/day, not to exceed 7.5 mg/day. ***Children 30–39 lb:*** **PO/Rectal:** 2.5 mg 2 or 3 times/day, not to exceed 10 mg/day. ***Children 40–85 lb:*** **PO/Rectal:** 2.5 mg 3 times/day or 5 mg twice daily, not to exceed 15 mg/day. ***Children >20 lb or 2 yr:*** **IM:** 0.132 mg/kg. Usually only 1 dose is required.

THIORIDAZINE

- ***Schizophrenia (intractable to other antipsychotics): Adults:*** **PO:** Initial dose: 50 to 100 mg 3 times/day. May increase gradually to maximum dosage of 800 mg/day. Once effective response has been achieved, may reduce gradually to determine the minimum maintenance dose. Usual daily dosage range: 200 to 800 mg, divided into 2 to 4 doses. ***Children:*** **PO:** Initial dose: 0.5 mg/kg/day given in divided doses. Increase gradually until therapeutic effect has been achieved or maximum dose of 3 mg/kg/day has been reached.

TRIFLUOPERAZINE

- ***Schizophrenia: Adults:*** **PO:** 2 to 5 mg twice daily. Usual optimum dosage range: 15 to 20 mg/day, although a few may require 40 mg/day or more. ***Children 6 to 12 yr:*** **PO:** Initial dose: 1 mg once or twice daily. May increase dose gradually to a maximum of 15 mg/day.
- ***Nonpsychotic anxiety: Adults:*** **PO:** 1 or 2 mg twice daily. Do not administer more than 6 mg/day or for longer than 12 weeks.

CHEMICAL CLASS: THIOXANTHENES

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life hr	Indications	Available Forms (mg)
Thiothixene (Navane)	C/34	• Schizophrenia	Caps: 1, 2, 5, 10, 20

Actions

- Blocks postsynaptic dopamine receptors in the basal ganglia, hypothalamus, limbic system, brainstem, and medulla.

Continued on the following page

- Demonstrates varying affinity for cholinergic, α_1-adrenergic, and histaminic receptors.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Comatose or severely CNS-depressed patients
- Bone marrow depression or blood dyscrasias
- Parkinson's disease
- Severe hypotension or hypertension
- Circulatory collapse
- Children under age 12
- Pregnancy and lactation (safety not established)

Use cautiously in:

- Patients with history of seizures
- Respiratory, renal, hepatic, thyroid, or cardiovascular disorders
- Elderly or debilitated patients
- Patients exposed to extreme environmental heat
- Patients taking atropine or atropine-like drugs
- Elderly patients with dementia-related psychosis (black-box warning)

Adverse Reactions and Side Effects

- Refer to this section under Phenothiazines.

Interactions

- Additive CNS depression with **alcohol** and other **CNS depressants.**
- Additive anticholinergic effects with other drugs that have anticholinergic properties.
- Possible additive hypotension with **antihypertensive agents.**
- Concurrent use with **epinephrine** or **dopamine** may result in severe hypotension.

Route and Dosage

- ***Schizophrenia: Adults and children ≥12 yr:*** **PO:** *(Mild conditions):* Initial dose: 2 mg 3 times/day. May increase to 15 mg/day. *(Severe conditions):* Initial dose: 5 mg twice daily. Optimal dose is 20 to 30 mg/day. If needed, may increase gradually, not to exceed 60 mg/day.

CHEMICAL CLASS: PHENYLBUTYLPIPERADINES

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life	Indications	Available Forms (mg)
Haloperidol (Haldol)	C/~18 hr (oral); ~3 wk (IM decanoate)	• Psychotic disorders • Tourette's disorder • Pediatric behavior problems and hyperactivity *Unlabeled uses:* • Intractable hiccoughs • Nausea and vomiting	Tabs: 0.5, 1, 2, 5, 10, 20 Conc: 2/mL Inj (lactate): 5/mL Inj (decanoate): 50/mL; 100/mL
Pimozide (Orap)	C/~ 55 hr	• Tourette's disorder *Unlabeled uses:* • Schizophrenia	Tabs: 1, 2

Actions

- Blocks postsynaptic dopamine receptors in the hypothalamus, limbic system, and reticular formation.
- Demonstrates varying affinity for cholinergic, α_1-adrenergic, and histaminic receptors.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity to the drug
- Co-administration with other drugs that prolong the QT interval
- Co-administration with drugs that inhibit CYP3A enzymes (**pimozide**)
- Treatment of tics other than those associated with Tourette's disorder (**pimozide**)
- Coadministration with other drugs that may cause tics (e.g., pemoline, methylphenidate, amphetamines) until it has been

Continued on the following page

determined whether the tics are caused by the medications or Tourette's disorder (**pimozide**)
- Parkinson's disease (**haloperidol**)
- In comatose or severely CNS-depressed clients
- Clients with blood dyscrasias or bone marrow depression
- Narrow-angle glaucoma
- Clients with liver, renal, or cardiac insufficiency
- Pregnancy and lactation (safety not established)

Use cautiously in:
- Elderly and debilitated clients
- Diabetic clients
- Depressed clients
- Clients with history of seizures
- Clients with respiratory insufficiency
- Prostatic hypertrophy
- Children
- Elderly patients with dementia-related psychosis (black-box warning)

Adverse Reactions and Side Effects

- Dry mouth
- Blurred vision
- Constipation
- Urinary retention
- Nausea
- Skin rash
- Sedation
- Orthostatic hypotension
- Photosensitivity
- Decreased libido
- Amenorrhea
- Retrograde ejaculation
- Gynecomastia
- Weight gain
- Reduction of seizure threshold
- Agranulocytosis
- Extrapyramidal symptoms
- Tardive dyskinesia
- Neuroleptic malignant syndrome
- Prolongation of QT interval

Interactions

- Decreased serum concentrations of haloperidol, worsening schizophrenic symptoms, and tardive dyskinesia with concomitant use of **anticholinergic agents.**
- Increased plasma concentrations when administered with drugs that inhibit CYP3A enzymes (**azole antifungal agents; macrolide antibiotics**) and CYP1A2 enzymes (**fluoxetine; fluvoxamine**).
- Decreased therapeutic effects of haloperidol with **carbamazepine**; increased effects of **carbamazepine.**
- Additive hypotension with **antihypertensives.**
- Additive CNS depression with **alcohol** or other **CNS depressants.**
- Coadministration of haloperidol and **lithium** may result in alterations in consciousness, encephalopathy, extrapyramidal effects, fever, leukocytosis, and increased serum enzymes.
- Decreased therapeutic effects of haloperidol with **rifamycins.**
- Concurrent use with **epinephrine** or **dopamine** may result in severe hypotension.
- Additive effects with other drugs that prolong QT interval (e.g., **phenothiazines, tricyclic antidepressants, antiarrhythmic agents**).

Route and Dosage

HALOPERIDOL (Haldol)

- ***Psychotic disorders: Adults:*** **PO:** *(Moderate symptoms or geriatric or debilitated patients):* 0.5 to 2 mg 2 or 3 times/day. *(Severe symptoms or chronic or resistant patients):* 3 to 5 mg 2 or 3 times/day. Some patients may require dosages up to 100 mg/day. ***Children (3 to 12 yr; weight range 15 to 40 kg):*** **PO:** Initial dose: 0.5 mg/day (25 to 50 mcg/kg/day). May increase in 0.5 mg increments at 5- to 7-day intervals up to 0.15 mg/kg/day or until therapeutic effect is obtained. Administer in 2 or 3 divided doses.
- ***Control of acutely agitated schizophrenic patient: Adults:*** **IM (lactate):** 2 to 5 mg. May be repeated every 1 to 8 hr, not to exceed 100 mg/day.

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- *Chronic psychosis requiring prolonged antipsychotic therapy: Adults:* **IM (decanoate):** 10 to 15 times the previous daily oral dose, not to exceed 100 mg initially. Repeat every 4 weeks, or adjust interval to patient response. For maintenance, titrate dosage upward or downward based on therapeutic response.
- *Tourette's disorder: Adults:* **PO:** Initial dose: 0.5 to 1.5 mg 3 times/day. Increase dosage gradually as determined by patient response. Up to 10 mg/day may be required. *Children (3 to 12 yr; 15 to 40 kg):* **PO:** 0.05 to 0.075 mg/kg/day.
- *Behavioral disorders/hyperactivity: Children (3 to 12 yr; 15 to 40 kg):* **PO:** 0.05 to 0.075 mg/kg/day.

PIMOZIDE (Orap)

- *Tourette's disorder: Adults:* **PO:** Initial dose: 1 to 2 mg/day in divided doses. Thereafter, increase dose every other day. Maintenance dose: Less than 0.2 mg/kg/day or 10 mg/day, whichever is less. Doses greater than 0.2 mg/kg/day or 10 mg/day are not recommended. *Children (12 yr and older):* **PO:** Initial dose: 0.05 mg/kg, preferably taken once at bedtime. The dose may be increased every third day to a maximum of 0.2 mg/kg, not to exceed 10 mg/day.

■ CHEMICAL CLASS: DIHYDROINDOLONES

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life hr	Indications	Available Forms (mg)
Molindone (Moban)	C/12	• Schizophrenia	Tabs: 5, 10, 25, 50

Actions

- The exact mechanism of action is not fully understood.
- It is thought that molindone exerts its effect on the ascending reticular activating system.

Contraindications and Precautions

- **Contraindicated in:** hypersensitivity, comatose or severely CNS-depressed patients, children under 12 (safety not established), lactation
- **Use cautiously in:** patients with history of seizures; respiratory, renal, hepatic, thyroid, or cardiovascular disorders; elderly or debilitated patients, pregnancy

Adverse Reactions and Side Effects

- Drowsiness
- Depression
- Hyperactivity/euphoria
- Extrapyramidal symptoms
- Blurred vision
- Tachycardia
- Nausea
- Dry mouth
- Salivation
- Urinary retention
- Constipation

Interactions

- Additive hypotension with **antihypertensive agents.**
- Additive CNS effects with **CNS depressants.**
- Additive cnticholinergic effects with drugs that have anticholinergic properties.

Route and Dosage

MOLINDONE (Moban)

- *Schizophremna: Adults:* **PO:** Initial dosage: 50 to 75 mg/day. May increase to 100 mg in 3 or 4 days, up to 225 mg/day if required.
- *Maintenance therapy: Adults:* **PO:** *(Mild symptoms):* 5 to 15 mg 3 or 4 times/day. *(Moderate symptoms):* 10 to 25 mg 3 or 4 times/day. *(Severe symptoms):* Up to 225 mg/day may be required.

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CHEMICAL CLASS: DIBENZEPINES

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life hr	Indications	Available Forms (mg)
Loxapine (Loxitane)	C/8 hr	• Schizophrenia	Caps: 5, 10, 25, 50
Clozapine (Clozaril)	B/ 8 hr (single dose); 12 hr (at steady state)	• Treatment resistant schizophrenia • Recurrent suicidal behavior *Unlabeled uses:* • Acute manic episodes associated with bipolar disorder	Tabs: 12.5, 25, 50, 100, 200 Tabs (orally disintegrating): 12.5, 25, 50, 100
Olanzapine (Zyprexa)	C/21–54 hr	• Schizophrenia • Bipolar mania • Acute agitation in schizophrenia (IM) • Acute agitation associated with bipolar mania (IM) *Unlabeled uses:* • Obsessive-compulsive disorder (refractory to SSRIs)	Tabs: 2.5, 5, 7.5, 10, 15, 20 Tabs (orally disintegrating): 5, 10, 15, 20 Inj: 10/vial
Quetiapine (Seroquel)	C/~ 6 hr	• Schizophrenia • Bipolar mania	Tabs: 25, 50, 100, 200, 300, 400 Tabs (XR): 200, 300, 400

Actions

Loxapine

- Mechanism of action has not been fully established.
- Exerts strong antagonistic effects on dopamine D_2 and D_4 and serotonin 5-HT_2 receptors.

Clozapine

- Exerts an antagonistic effect on dopamine receptors, with a particularly high affinity for the D_4 receptor.
- It appears to be more active at limbic than at striatal dopamine receptors.
- Also acts as an antagonist at adrenergic, cholinergic, histaminergic, and serotonergic receptors.

Olanzapine

- Efficacy in schizophrenia is mediated through a combination of dopamine and $5HT_2$ antagonism.
- Also shows antagonism for muscarinic, histaminic, and adrenergic receptors.
- The mechanism of action of olanzapine in the treatment of bipolar mania is unknown.

Quetiapine

- Antipsychotic activity is thought to be mediated through a combination of dopamine type 2 (D_2) and serotonin type 2 ($5HT_2$) antagonism. Other effects may be due to antagonism of histamine H_1 receptors and adrenergic α_1 receptors.

Contraindications and Precautions

Loxapine

- **Contraindicated in:** hypersensitivity; comatose or severe drug-induced depressed states; clients with blood dyscrasias; hepatic, renal, or cardiac insufficiency; severe hypotension or hypertension; children, pregnancy, and lactation (safety not established)
- **Use cautiously in:** patients with epilepsy or history of seizures; glaucoma; urinary retention; respiratory insufficiency; prostatic hypertrophy; elderly patients with dementia-related psychosis (black-box warning)

Clozapine

- **Contraindicated in:** hypersensitivity; myeloproliferative disorders; history of clozapine-induced agranulocytosis or severe granulocytopenia; concomitant use with other drugs that have the potential to suppress bone marrow function; severe CNS depression or comatose states; uncontrolled epilepsy; lactation; children (safety not established)

Continued on the following page

- **Use cautiously in:** patients with hepatic, renal, respiratory, or cardiac insufficiency; diabetes mellitus or risk factors for diabetes; prostatic enlargement; narrow angle glaucoma; pregnancy; elderly patients with dementia-related psychosis (black-box warning)

Olanzapine

- **Contraindicated in:** hypersensitivity; lactation. *Orally disintegrating tablets only:* Phenylketonuria (orally disintegrating tablets contain aspartame)
- **Use cautiously in:** hepatic insufficiency, elderly clients (reduce dosage), pregnancy and children (safety not established), cardiovascular or cerebrovascular disease, history of glaucoma, history of seizures, history of attempted suicide, prostatic hypertrophy, diabetes or risk factors for diabetes, narrow angle glaucoma, history of paralytic ileus; elderly patients with dementia-related psychosis (black-box warning)

Quetiapine

- **Contraindicated in:** hypersensitivity; lactation
- **Use cautiously in:** cardiovascular or cerebrovascular disease; dehydration or hypovolemia (increased risk of hypotension); hepatic impairment; hypothyroidism; history of suicide attempt; pregnancy or children (safety not established); patients with diabetes or risk factors for diabetes; elderly patients with dementia-related psychosis (black-box warning)

Adverse Reactions and Side Effects

Loxapine

- Drowsiness, dizziness
- Anticholinergic effects (dry mouth, blurred vision, urinary retention, constipation, paralytic ileus)
- Nausea and vomiting
- Extrapyramidal symptoms
- Seizures
- Hypotension; hypertension; tachycardia
- Blood dyscrasias
- Neuroleptic malignant syndrome

Clozapine

- Drowsiness, dizziness, sedation
- Nausea and vomiting
- Dry mouth; blurred vision
- Agranulocytosis
- Seizures (appear to be dose-related)
- Salivation
- Myocarditis; cardiomyopathy
- Tachycardia
- Constipation
- Fever
- Weight gain
- Orthostatic hypotension
- Neuroleptic malignant syndrome
- Hyperglycemia

Olanzapine

- Drowsiness, dizziness, weakness
- Dry mouth, constipation, increased appetite
- Nausea; weight gain
- Orthostatic hypotension, tachycardia
- Restlessness; insomnia
- Rhinitis
- Tremor
- Headache
- Hyperglycemia

Quetiapine

- Drowsiness, dizziness
- Hypotension, tachycardia
- Headache
- Nausea, dry mouth, constipation
- Weight gain
- Hyperglycemia

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Interactions

The effects of:	Are increased by:	Are decreased by:	Concurrent use may result in:
Loxapine			Additive CNS depression with alcohol or other CNS depressants. Increased hypotension with antihypertensive agents. Additive anticholinergic effects with anticholinergic agents. Concomitant use with lorazepam (and possibly other benzodiazepines) may result in respiratory depression, stupor, hypotension, and/or respiratory or cardiac arrest.
Clozapine	Caffeine, citalopram, cimetidine, caffeine, fluoxetine, fluvoxamine, sertraline, CYP3A4 inhibiting drugs (e.g., ketoconazole), risperidone, ritonavir	CYP1A2 inducers (e.g., carbamazepine, omeprazole, rifampin), phenobarbital, phenytoin, nicotine	Additive CNS depression with alcohol or other CNS depressants. Increased hypotension with antihypertensive agents. Additive anticholinergic effects with anticholinergic agents. Concomitant use with benzodiazepines may result in respiratory depression, stupor, hypotension, and/or respiratory or cardiac arrest. Increased effects of risperidone with chronic coadministration.
Olanzapine	Fluvoxamine, fluoxetine	Carbamazepine, omeprazole, rifampin	Decreased effects of levodopa and dopamine agonists. Increased hypotension with antihypertensives. Increased CNS depression with alcohol or other CNS depressants. Increased anticholinergic effects with anticholinergic agents.
Quetiapine	Cimetidine; ketoconazole, itraconazole, fluconazole, erythromycin, or other CYP3A4 inhibitors	Phenytoin, thioridazine	Decreased effects of levodopa and dopamine agonists. Increased CNS depression with alcohol or other CNS depressants. Increased hypotension with antihypertensives. Additive anticholinergic effects with anticholinergic agents.

Route and Dosage

LOXAPINE (Loxitane)

- ***Schizophrenia: Adults:*** **PO:** Initial dose: 10 mg twice daily, although some severely disturbed patients may require up to 50 mg/day. Increase dosage fairly rapidly over the first 7 to 10 days until symptoms are controlled. The usual therapeutic and maintenance dosage range is 60 mg to 100 mg/day. Doses higher than 250 mg/day are not recommended. Dosage should be maintained at the lowest level effective for controlling symptoms.

CLOZAPINE (Clozaril)

- ***Schizophrenia and recurrent suicidal behavior: Adults:*** **PO:** Initial dose: 12.5 mg once or twice daily. May increase dosage by 25–50 mg/day over a period of 2 weeks to a target dose of 300 to

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450 mg/day. If required, make additional increases in increments of 100 mg not more than once or twice weekly to a maximum dosage of 900 mg/day in 3 divided doses. The mean and median doses are approximately 600 mg/day for schizophrenia and 300 mg/day for reducing recurrent suicidal behavior. Titrate dosage slowly to observe for possible seizures and agranulocytosis.

NOTE: A baseline white blood cell (WBC) count and absolute neutrophil count (ANC) must be taken before initiation of treatment with clozapine and weekly for the first 6 mo of treatment. Because of the risk of agranulocytosis, clozapine is available only in a 1-week supply through the Clozaril Patient Management System, which combines WBC testing, patient monitoring, and controlled distribution through participating pharmacies. If the counts remain within the acceptable levels (i.e., WBC at least 3,500/mm^3 and the AMC at least 2,000/mm^3) during the 6-mo period, blood counts may be monitored biweekly, and a 2-week supply of medication may then be dispensed. If for a 6-mo period the counts remain within the acceptable level for the biweekly period, counts may then be monitored every 4 weeks thereafter. When the medication is discontinued, weekly WBC counts are continued for an additional 4 weeks.

OLANZAPINE (Zyprexa)

- ***Schizophrenia: Adults:*** **PO:** 5 to 10 mg/day initially; may increase at weekly intervals by 5 mg/day (not to exceed 20 mg/day).
- ***Bipolar disorder: Adults:*** **PO:** 10 to 15 mg/day initially; may increase every 24 hr by 5 mg/day (not to exceed 20 mg/day).
- ***Agitation associated with schizophrenia or mania: Adults:*** **IM:** 2.5 to 10 mg, administered slowly, deep into muscle mass. May repeat in 2 hr and again 4 hr later, if needed.

QUETIAPINE (Seroquel)

- ***Schizophrenia: Adults:*** **PO:** 25 mg twice daily initially, increased by 25 to 50 mg 2 to 3 times daily over 3 days, up to 300 to 400 mg/day in 2 to 3 divided doses by the 4th day (not to exceed 800 mg/day).
- ***Bipolar mania:*** *Adults:* **PO:** 100 mg/day in 2 divided doses on day 1; increase dose by 100 mg/day up to 400 mg/day by day 4 given in twice daily divided doses. May increase in 200 mg/day increments up to 800 mg/day on day 6, if required.

CHEMICAL CLASS: BENZISOXAZOLE

Example

Generic (Trade) Name	Pregnancy Categories/ Half-life hr	Indications	Available Forms (mg)
Risperidone (Risperdal)	C/ ~3–20 hr	• Schizophrenia • Bipolar mania • Irritability associated with autistic disorder in children *Unlabeled uses:* • Obsessive-compulsive disorder (refractory to SSRIs)	Tabs: 0.25, 0.5, 1, 2, 3, 4 Tabs (orally disintegrating): 0.5, 1, 2, 3, 4 Oral solution: 1/mL Powder for injection: 12.5/vial, 25/vial, 37.5/vial, 50/vial
Paliperidone (Invega)	C/ 23 hr	• Schizophrenia	Tabs (ER): 3, 6, 9 Inj (ER): 39/0.25 mL, 78/0.5 mL, 117/0.75 mL, 156/mL, 234/1.5 mL
Iloperidone (Fanapt)	C/ 18–33	• Schizophrenia	Tabs: 1, 2, 4, 6, 8, 10, 12
Ziprasidone (Geodon)	C/ ~7 (oral); 2–5 (IM)	• Schizophrenia • Bipolar mania • Acute agitation in schizophrenia (IM)	Caps: 20, 40, 60, 80 Powder for injection: 20/vial

Action

- Exerts antagonistic effects on dopamine type 2 (D_2), serotonin type 2 ($5HT_2$), α_1- and α_2-adrenergic, and H_1 histaminergic receptors.

Contraindications and Precautions

Contraindicated in:

- Known hypersensitivity
- Comatose or severely depressed patients

Continued on the following page

- Bradycardia, recent MI, or uncompensated heart failure
- Lactation
- Patients with history of QT prolongation or cardiac arrhythmias
- Concurrent use with drugs know to cause QT prolongation

Use cautiously in:

- Clients with hepatic or renal impairment
- Clients with history of seizures
- Clients with diabetes or risk factors for diabetes
- Clients exposed to temperature extremes
- Elderly or debilitated clients
- Clients with history of suicide attempt
- Pregnancy and children (safety not established)
- Elderly patients with dementia-related psychosis (black-box warning)
- Conditions that increase risk of hypotension (e.g., dehydration [including from diuretic therapy or diarrhea], hypovolemia, concurrent antihypertensive therapy)

Adverse Reactions and Side Effects

- Anxiety
- Agitation
- Dry mouth
- Weight gain
- Orthostatic hypotension
- Insomnia
- Sedation
- Extrapyramidal symptoms
- Dizziness
- Headache
- Constipation
- Diarrhea
- Nausea
- Rhinitis
- Rash
- Tachycardia
- Hyperglycemia
- Prolonged QT interval

Interactions

- Increased effects of resperidone with **clozapine, fluoxetine, paroxetine,** or **ritonavir.**
- Decreased effects of **levodopa** and **other dopamine agonists** with resperidone, paliperidone, and ziprasidone.
- Decreased effectiveness of resperidone with **carbamazepine.**
- Additive CNS depression with **CNS depressants,** such as **alcohol, antihistamines, sedative/hypnotics,** or **opioid analgesics.**
- Increased effects of **clozapine** and **valproate** with risperidone.
- Additive hypotension with **antihypertensive agents.**
- Additive orthostatic hypotension with coadministration of other drugs that result in this adverse reaction.
- Additive anticholinergic effects with **anticholinergic agents.**
- Serious life-threatening arrhythmias with drugs known to prolong QT interval (e.g., **antiarrhythmics** [such as, **quinidine, procainamide, amiodarone, sotalol**], **chlorpromazine, thioridazine, gatifloxacin, moxifloxacin, pentamidine, levomethadyl**).

Route and Dosage

RISPERIDONE (Risperdal)

- ***Bipolar mania: Adults:*** **PO:** 2 to 3 mg/day as a single daily dose; dose may be increased at 24-hour intervals by 1 mg (range 1 to 6 mg/day). ***Children:*** Initial dose: 0.5 mg once daily as a single daily dose. May increase at 24-hr intervals by 0.5 or 1 mg/day, to a recommended dose of 2.5 mg/day.
- ***Schizophrenia: Adults:*** **PO:** Initial dose: 2 mg/day administered in a single dose or in 2 divided doses. May increase in increments of 1 to 2 mg/day at intervals of 24 hr to a recommended dose of 4 to 8 mg/day. ***Adolescents (13 to 17 yr):*** Initial dose: 0.5 mg once daily as a single dose. May increase in increments of 0.5 or 1 mg/day at intervals of 24 hr to a recommended dose of 3 mg/day. **IM:** 25 mg every 2 weeks; some patients may require larger dose of 37.5 or 50 mg every 2 weeks.

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- ***Irritability associated with autistic disorder: Children and adolescents (5 to 16 yr weighing <20 kg):*** **PO:** 0.25 mg/day initially. After at least 4 days of therapy, may increase to 0.5 mg/day. Dose increases in increments of 0.25 mg/day may be considered at 2 week or longer intervals. May be as a single or divided dose. ***Children and adolescents (5 to 16 yr weighing >20 kg):*** **PO:** 0.5 mg/day initially. After at least 4 days of therapy, may increase to 1.0 mg/day. Dose increases in increments of 0.5 mg/day may be considered at 2 week or longer intervals. May be as a single or divided dose.

PALIPERIDONE (Invega)

- ***Schizophrenia: Adults:*** **PO:** 6 mg as a single daily dose. After clinical assessment, dose increases may be made at intervals of more than 5 days. When dose increases are indicated, small increments of 3 mg/day are recommended. Maximum recommended dose: 12 mg/day.

ILOPERIDONE (Fanapt)

- ***Schizophrenia: Adults:*** **PO:** Initiate treatment with 1 mg twice daily on the first day, then 2 mg twice daily the second day, then increase by 2 mg/day every day until a target dose of 12 to 24 mg/day given in two divided doses is reached.

ZIPRASIDONE (Geodon)

- ***Schizophrenia: Adults:*** **PO:** Initial dose: 20 mg twice daily with food. May increase dosage by intervals of at least 2 days up to a dosage of 80 mg twice daily.
- ***Bipolar mania: Adults:*** **PO:** Initial dose: 40 mg twice daily with food. On the 2nd day of treatment, increase dose to 60 or 80 mg twice daily. Adjust dosage on the basis of toleration and efficacy within the range of 40 to 80 mg twice daily.
- ***Acute agitation in schizophrenia: Adults:*** **IM:** 10 to 20 mg as needed up to a maximum of 40 mg/day. May be given as 10 mg every 2 hr or 20 mg every 4 hr.

CHEMICAL CLASS: QUINOLINONES

Example

Generic (Trade) Name	Pregnancy Categories/ Half-life hr	Indications	Available Forms (mg)
Aripiprazole (Abilify)	C/75 (aripiprazole); 94 (metabolite)	• Schizophrenia • Bipolar mania • Major depression, adjunctive therapy • Agitation associated with schizophrenia or bipolar mania (IM)	Tabs: 2, 5, 10, 15, 20, 30 Tabs (orally disintegrating): 10, 15 Oral solution: 1/mL Inj: 7.5 mg/mL

Actions

- The efficacy of aripiprazole is thought to occur through a combination of partial agonist activity at D_2 and 5-HT_{1A} receptors and antagonist activity at 5-HT_{2A} receptors.
- Also exhibits antagonist activity at adrenergic α_1 receptors.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Lactation

Use cautiously in:

- History of seizures
- Hepatic or renal impairment
- Known cardiovascular or cerebrovascular disease
- Conditions that cause hypotension (dehydration, hypovolemia, treatment with antihypertensive medication)
- Conditions that increase the core body temperature (excessive exercise, exposure to extreme heat, dehydration)
- Patients with diabetes or risk factors for diabetes
- Pregnancy (weight benefits of the drug to potential risk to fetus)

Continued on the following page

- Children and adolescents (safety and effectiveness not established)
- Elderly patients with dementia-related psychosis (black-box warning)

Adverse Reactions and Side Effects

- Headache
- Nausea and vomiting
- Constipation
- Anxiety, restlessness
- Insomnia
- Lightheadedness
- Drowsiness, sedation, somnolence
- Weight gain
- Blurred vision
- Increased salivation
- Extrapyramidal symptoms
- Hyperglycemia
- Disruption in the body's ability to reduce core body temperature

Interactions

- Decreased plasma levels of aripiprazole with **carbamazepine** and other **CYP3A4 inducers.**
- Increased plasma levels and potential for aripiprazole toxicity with **CYP2D6 inhibitors**, such as **quinidine, fluoxetine,** and **paroxetine.**
- Decreased metabolism and increased effects of aripiprazole with **ketoconazole** or **other CYP3A4 inhibitors.**
- Additive hypotensive effects with **antihypertensive drugs.**
- Additive CNS effects with **alcohol** and other **CNS depressants.**

Route and Dosage

- ***Bipolar mania: Adults:*** **PO:** Initial dose: 15 mg once daily. May increase to 30 mg/day based on clinical response. Maximum dose: 30 mg/day. ***Children (10 to 17 yr):*** **PO:** Initial dose: 2 mg/day. May increase to 5 mg after 2 days and to 10 mg after 2 more days. If required, additional dose increases may be made in 5 mg/day increments. Maintenance dose: 10 to 30 mg/day (maintain at lowest effective dose for symptom remission).
- ***Schizophrenia: Adults:*** **PO:** Initial dose: 10 or 15 mg/day as a single dose. Doses up to 30 mg have been used. Dosage increases should not be made before 2 weeks, the time required to achieve steady state. ***Children (13 to 17 yr):*** **PO:** Initial dose: 2 mg/day. May increase to 5 mg after 2 days and to 10 mg after 2 more days. If required, additional dose increases may be made in 5 mg/day increments. Maintenance dose: 10 to 30 mg/day (maintain at lowest effective dose for symptom remission).
- ***Major depression, adjunctive therapy: Adults:*** **PO:** Initial dose: 2 to 5 mg as adjunctive treatment for patients already taking an antidepressant. May increase dosage in increments of 5 mg/day at intervals of at least 1 week. Maintenance dose: 2 to 15 mg/day.
- ***Agitation associated with schizophrenia or bipolar mania: Adults:*** **IM:** Usual dose: 9.75 mg. May use a dose of 5.25 mg, based on clinical situation. May give additional doses up to a maximum of 30 mg/day if needed for agitation.

CHEMICAL CLASS: DIBENZO-OXEPINO PYRROLE

Example

Generic (Trade) Name	Pregnancy Categories/ Half-life hr	Indications	Available Forms (mg)
Asenapine (Saphris)	C/24	• Schizophrenia • Bipolar mania	Tabs (Sublingual): 5, 10

Actions

- Efficacy in schizophrenia is achieved through a combination of dopamine and serotonin type 2 ($5HT_2$) antagonism.
- Mechanism of action in the treatment of acute manic episodes is unknown.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Lactation

Continued on the following page

- History of QT prolongation or arrhythmias
- Concurrent use of other drugs known to prolong QT interval

Use cautiously in:

- Patients with hepatic, renal, or cardiovascular insufficiency
- Diabetes or risk factors for diabetes
- Patients with pre-existing low white blood cell count and/or history of drug-induced leukopenia/neutropenia
- History of seizures
- History of suicide attempt
- Patients at risk for aspiration pneumonia
- Pregnancy and children (safety not established)
- Elderly patients with dementia-related psychosis (black-box warning).

Adverse Reactions and Side Effects

- Constipation
- Dry mouth
- Nausea and vomiting
- Weight gain
- Restlessness
- Extrapyramidal symptoms
- Drowsiness, dizziness
- Insomnia
- Headache

Interactions

- Increased effects of asenapine with **fluvoxamine, imipramine,** or **valproate.**
- Decreased effects of asenapine with **carbamazepine, cimetidine,** or **paroxetine.**
- Increased effects of **paroxetine** or **dextromethorphan** with asenapine.
- Increased CNS depression with **alcohol** or other **CNS depressants.**
- Increased hypotension with **antihypertensives.**
- Additive effects on QT interval prolongation with **quinidine, dofetilide,** other **class Ia** and **III antiarrhythmics, pimozide, sotalol, thioridazine, chlorpromazine, floquine, pentamadine, arsenic trioxide, mefloquine, dolasetron, tacrolimus, droperidol, gatifloxacin,** or **moxifloxacin.**

Route and Dosage

ASENAPINE (Saphris)

- ***Schizophrenia: Adults:*** **PO:** Usual starting and target dose: 5 mg twice daily. The safety of doses above 10 mg twice daily has not been evaluated in clinical trials.
- ***Bipolar disorder: Adults:*** **PO:** Recommended initial dose: 10 mg twice daily. The dose can be decreased to 5 mg twice daily if there are adverse effects. The safety of doses above 10 mg twice daily has not been evaluated in clinical trials.

NURSING DIAGNOSES RELATED TO ALL ANTIPSYCHOTIC AGENTS

1. Risk for other-directed violence related to panic anxiety and mistrust of others.
2. Risk for injury related to medication side effects of sedation, photosensitivity, reduction of seizure threshold, agranulocytosis, extrapyramidal symptoms, tardive dyskinesia, neuroleptic malignant syndrome, and/or QT prolongation.
3. Risk for activity intolerance related to medication side effects of sedation, blurred vision, and/or weakness.
4. Noncompliance with medication regimen related to suspiciousness and mistrust of others.

NURSING IMPLICATIONS FOR ANTIPSYCHOTIC AGENTS

The plan of care should include monitoring for the following side effects from antipsychotic medications. Nursing implications related to each side effect are designated by an asterisk (*). A profile of side effects comparing various antipsychotic medications is presented in Table 28-1.

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TABLE 28-1 Comparison of Side Effects Among Antipsychotic Agents

Class	Generic (Trade) Name	EPS†	Sedation	Anticholinergic	Orthostatic Hypotension	Weight Gain
Typicals	Chlorpromazine	3	4	3	4	*
	Fluphenazine	5	2	2	2	
	Haloperidol (Haldol)	5	2	2	2	
	Loxapine (Loxitane)	3	2	2	2	*
	Molindone (Moban)	3	2	2	2	*
	Perphenazine	4	2	2	2	*
	Pimozide (Orap)	4	2	3	2	*
	Prochlorperazine	3	2	2	2	*
	Thioridazine	2	4	4	4	*
	Thiothixene (Navane)	4	2	2	2	*
	Trifluoperazine	4	2	2	2	*
Atypicals	Aripiprazole (Abilify)	1	2	1	3	2
	Asenapine (Saphris)	1	3	1	3	4
	Clozapine (Clozaril)	1	5	5	4	5
	Iloperidone (Fanapt)	1	3	2	3	3
	Olanzapine (Zyprexa)	1	3	2	2	5
	Paliperidone (Invega)	1	2	1	3	2
	Quetiapine (Seroquel)	1	3	1	3	4
	Risperidone (Risperdal)	1	2	1	3	4
	Ziprasidone (Geodon)	1	3	1	2	2

Key: 1 = very low; 2 = low; 3 = moderate; 4 = high; 5 = very high.
†EPS = extrapyramidal symptoms.
*Weight gain occurs, but incidence is unknown.

Sources: Adapted from Andreasen, N.C., & Black, D.W. (2006). *Introductory textbook of psychiatry* (4th ed.). Washington, DC: American Psychiatric Publishing; *Drug Facts and Comparisons* (2010). St. Louis, MO: Wolters Kluwer Health; and Schatzberg, A.F., Cole, J.O., & DeBattista, C. (2007). *Manual of clinical psychopharmacology* (6th ed.). Washington, DC: American Psychiatric Publishing.

Continued on the following page

1. **Anticholinergic effects** (see Table 28-1 for differences between typicals and atypicals)
   a. **Dry mouth**
      * Provide the client with sugarless candy or gum, ice, and frequent sips of water.
      * Ensure that client practices strict oral hygiene.
   b. **Blurred vision**
      * Explain that this symptom will most likely subside after a few weeks.
      * Advise client not to drive a car until vision clears.
      * Clear small items from pathway to prevent falls.
   c. **Constipation**
      * Order foods high in fiber; encourage increase in physical activity and fluid intake if not contraindicated.
   d. **Urinary retention**
      * Instruct client to report any difficulty urinating; monitor intake and output.
2. **Nausea; gastrointestinal (GI) upset** (may occur with all classifications)
   * Tablets or capsules may be administered with food to minimize GI upset.
   * Concentrates may be diluted and administered with fruit juice or other liquid; they should be mixed immediately before administration.
3. **Skin rash** (may occur with all classifications)
   * Report appearance of any rash on skin to physician.
   * Avoid spilling any of the liquid concentrate on skin; contact dermatitis can occur.
4. **Sedation** (see Table 28-1 for differences between typicals and atypicals)
   * Discuss with physician possibility of administering drug at bedtime.
   * Discuss with physician possible decrease in dosage or order for less sedating drug.
   * Instruct client not to drive or operate dangerous equipment while experiencing sedation.
5. **Orthostatic hypotension** (see Table 28-1 for differences between typicals and atypicals)
   * Instruct client to rise slowly from a lying or sitting position.
   * Monitor blood pressure (lying and standing) each shift; document and report significant changes.
6. **Photosensitivity** (may occur with all classifications)
   * Ensure that client wears protective sunblock lotion, clothing, and sunglasses while spending time outdoors.
7. **Hormonal effects** (may occur with all classifications, but more common with typicals).
   a. **Decreased libido, retrograde ejaculation, gynecomastia** (men)
      * Provide explanation of the effects and reassurance of reversibility. If necessary, discuss with physician possibility of ordering alternate medication.
   b. **Amenorrhea** (women)
      * Offer reassurance of reversibility; instruct client to continue use of contraception, because amenorrhea does not indicate cessation of ovulation.
   c. **Weight gain** (may occur with all classifications; has been problematic with the atypicals)
      * Weigh client every other day; order calorie-controlled diet; provide opportunity for physical exercise; provide diet and exercise instruction.
8. **ECG changes.** ECG changes, including prolongation of the QT interval, are possible with most of the antipsychotics. This is particularly true with ziprasidone, thioridazine, pimozide, haloperidol, paliperidone, iloperidone, asenapine, and clozapine. Caution is advised in prescribing this medication to individuals with history of arrhythmias. Conditions that produce hypokalemia and/or hypomagnesemia, such as diuretic therapy or diarrhea, should be taken into consideration when prescribing. Routine ECG should be taken before initiation of therapy and periodically during therapy. Clozapine has also been associated with other cardiac events, such as ischemic changes, arrhythmias, congestive heart failure, myocarditis, and cardiomyopathy.
   * Monitor vital signs every shift.
   * Observe for symptoms of dizziness, palpitations, syncope, weakness, dyspnea, and peripheral edema.

Continued on the following page

9. **Reduction of seizure threshold** (more common with typicals than the atypicals, with the exception of clozapine).
   * Closely observe clients with history of seizures.
   * **NOTE:** This is particularly important with clients taking clozapine (Clozaril), with which seizures have been frequently associated. Dose appears to be an important predictor, with a greater likelihood of seizures occurring at higher doses. Extreme caution is advised in prescribing clozapine for clients with history of seizures.
10. **Agranulocytosis** (more common with typicals than the atypicals, with the exception of clozapine).
   * It usually occurs within the first 3 months of treatment. Observe for symptoms of sore throat, fever, and malaise. A complete blood count should be monitored if these symptoms appear.
   * **EXCEPTION:** There is a significant risk of agranulocytosis with clozapine (Clozaril). Agranulocytosis is a potentially fatal blood disorder in which the client's white blood cell (WBC) count can drop to extremely low levels. A baseline WBC count and absolute neutrophil count (ANC) must be taken before initiation of treatment with clozapine and weekly for the first 6 mo of treatment. Only a 1-week's supply of medication is dispensed at a time. If the counts remain within the acceptable levels (i.e., WBC at least 3,500/mm^3 and the ANC at least 2,000/mm^3) during the 6-mo period, blood counts may be monitored biweekly, and a 2-week supply of medication may then be dispensed. If for a 6-mo period the counts remain within the acceptable level for the biweekly period, counts may then be monitored every 4 weeks thereafter. When the medication is discontinued, weekly WBC counts are continued for an additional 4 weeks.
11. **Hypersalivation** (most common with clozapine)
   * A significant number of clients receiving clozapine (Clozaril) therapy experience extreme salivation. Offer support to the client, as this may be an embarrassing situation. It may even be a safety issue (e.g., risk of aspiration), if the problem is very severe. Management has included the use of sugar-free gum to increase the swallowing rate, as well as the prescription of medications such as an anticholinergic (e.g., scopolamine patch) or alpha2-adrenoceptor agonist (e.g., clonidine).
12. **Extrapyramidal symptoms** (EPS) (see Table 28-1 for differences between typicals and atypicals)
   * Observe for symptoms and report; administer antiparkinsonian drugs, as ordered .

   a. **Pseudoparkinsonism** (tremor, shuffling gait, drooling, rigidity)
      * Symptoms may appear 1 to 5 days following initiation of antipsychotic medication; occurs most often in women, the elderly, and dehydrated clients.

   b. **Akinesia** (muscular weakness)
      * Same as pseudoparkinsonism.

   c. **Akathisia** (continuous restlessness and fidgeting)
      * This occurs most frequently in women; symptoms may occur 50 to 60 days following initiation of therapy.

   d. **Dystonia** (involuntary muscular movements [spasms] of face, arms, legs, and neck)
      * This occurs most often in men and in people younger than 25 yr.

   e. **Oculogyric crisis** (uncontrolled rolling back of the eyes)
      * This may appear as part of the syndrome described as dystonia. It may be mistaken for seizure activity. Dystonia and oculogyric crisis should be treated as an emergency situation. The physician should be contacted, and intravenous benztropine mesylate (Cogentin) is commonly administered. Stay with the client and offer reassurance and support during this frightening time.
13. **Tardive dyskinesia** (bizarre facial and tongue movements, stiff neck, and difficulty swallowing) (may occur with all classifications, but more common with typical antipsychotics).
   * All clients receiving long-term (months or years) antipsychotic therapy are at risk.
   * Symptoms are potentially irreversible.
   * Drug should be withdrawn at first sign, which is usually vermiform movements of the tongue; prompt action may prevent irreversibility.

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14. **Neuroleptic malignant syndrome** (NMS) (more common with the typicals than the atypicals).
    - This is a relatively rare, but potentially fatal, complication of treatment with neuroleptic drugs. Routine assessments should include temperature and observation for parkinsonian symptoms.
    - Onset can occur within hours or even years after drug initiation, and progression is rapid over the following 24 to 72 hr.
    - Symptoms include severe parkinsonian muscle rigidity, very high fever, tachycardia, tachypnea, fluctuations in blood pressure, diaphoresis, and rapid deterioration of mental status to stupor and coma.
    - Discontinue neuroleptic medication immediately.
    - Monitor vital signs, degree of muscle rigidity, intake and output, level of consciousness.
    - The physician may order bromocriptine (Parlodel) or dantrolene (Dantrium) to counteract the effects of NMS.
15. **Hyperglycemia and diabetes** (more common with atypicals). Studies have suggested an increased risk of treatment-emergent hyperglycemia-related adverse events in clients using atypical antipsychotics (e.g., risperidone, clozepine, olanzapine, quetiapine, ziprasidone, asenapine, and aripiprazole). The FDA recommends that clients with diabetes starting on atypical antipsychotic drugs be monitored regularly for worsening of glucose control. Clients with risk factors for diabetes should undergo fasting blood glucose testing at the beginning of treatment and periodically thereafter. All clients taking these medications should be monitored for symptoms of hyperglycemia (polydipsia, polyuria, polyphagia, and weakness). If these symptoms appear during treatment, the client should undergo fasting blood glucose testing.
16. **Increased risk of mortality in elderly patients with dementia-related psychosis.** Recent studies have indicated that elderly patients with dementia-related psychosis who are treated with antipsychotic drugs are at increased risk of death, compared with placebo. Causes of death are most commonly related to infections or cardiovascular problems. All antipsychotic drugs now carry black-box warnings to this effect. They are not approved for treatment of elderly patients with dementia-related psychosis.

CLIENT/FAMILY EDUCATION RELATED TO ALL ANTIPSYCHOTICS

- Use caution when driving or operating dangerous machinery. Drowsiness and dizziness can occur.
- Do not stop taking the drug abruptly after long-term use. To do so might produce withdrawal symptoms, such as nausea, vomiting, dizziness, gastritis, headache, tachycardia, insomnia, and tremulousness.
- Use sunblock lotion and wear protective clothing when spending time outdoors. Skin is more susceptible to sunburn, which can occur in as little as 30 min.
- Report weekly (if receiving clozapine therapy) to have blood levels drawn and to obtain a weekly supply of the drug.
- Report occurrence of any of the following symptoms to the physician immediately: sore throat, fever, malaise, unusual bleeding, easy bruising, persistent nausea and vomiting, severe headache, rapid heart rate, fainting, difficulty urinating, muscle twitching, tremors, darkly colored urine, excessive urination, excessive thirst, excessive hunger, weakness, pale stools, yellow skin or eyes, muscular incoordination, or skin rash.
- Rise slowly from a sitting or lying position to prevent a sudden drop in blood pressure.
- Take frequent sips of water, chew sugarless gum, or suck on hard candy, if experiencing a problem with dry mouth. Good oral care (frequent brushing, flossing) is very important.
- Consult the physician regarding smoking while taking this medication. Smoking increases the metabolism of some antipsychotics, possibly requiring adjustment in dosage to achieve therapeutic effect.
- Dress warmly in cold weather and avoid extended exposure to very high or low temperatures. Body temperature is harder to maintain with this medication.
- Do not drink alcohol while on antipsychotic therapy. These drugs potentiate each other's effects.
- Do not consume other medications (including over-the-counter products) without physician's approval. Many medications con-

Continued on the following page

tain substances that interact with antipsychotics in a way that may be harmful.

- Be aware of possible risks of taking antipsychotic medication during pregnancy. Safe use during pregnancy and lactation has not been established. Antipsychotics are thought to readily cross the placental barrier; if so, a fetus could experience adverse effects of the drug. Inform the physician immediately if pregnancy occurs, is suspected, or is planned.
- Be aware of side effects of antipsychotic drugs. Refer to written materials furnished by health-care providers for safe self-administration.
- Continue to take medication, even if feeling well and as though it is not needed. Symptoms may return if medication is discontinued.
- Carry card or other identification at all times describing medications being taken.

INTERNET REFERENCES

- http://www.rxlist.com
- http://www.nimh.nih.gov/publicat/medicate.cfm
- http://www.fadavis.com/townsend
- http://www.mentalhealth.com/
- http://www.nlm.nih.gov/medlineplus/druginformation.html

CHEMICAL CLASS: ANTIMANIC

Examples

Generic (Trade) Name	Pregnancy Category/ Half-life (hr)	Indications	Therapeutic Plasma Level Range	Available Forms (mg)
Lithium Carbonate (Eskalith; Lithobid) Lithium Citrate	D/ 20–27	• Manic episodes associated with bipolar disorder • Maintenance therapy to prevent or diminish intensity of subsequent manic episodes *Unlabeled uses:* • Borderline Personality Disorder • Neutropenia • Cluster headaches (prophylaxis) • Alcohol dependence • Bulimia • Postpartum affective psychosis • Corticosteroid-induced psychosis	Acute mania: 1.0–1.5 mEq/L Maintenance: 0.6–1.2 mEq/L	Caps: 150, 300, 600 Tabs: 300 Tabs (ER): 300, 450 Syrup: 8 mEq (as citrate equivalent to 300 mg lithium carbonate)/5 mL

Actions

- Not fully understood, but lithium may have an influence on the reuptake of norepinephrine and serotonin. Effects on other neurotransmitters have also been noted. Lithium also alters sodium transport in nerve and muscle cells.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- Severe cardiovascular or renal disease
- Dehydrated or debilitated patients
- Sodium depletion
- Pregnancy and lactation

Use cautiously in:

- Elderly patients
- Any degree of cardiac, renal, or thyroid disease
- Diabetes mellitus
- Urinary retention
- Children <12 yr (safety not established)

Adverse Reactions and Side Effects

- Drowsiness, dizziness, headache
- Seizures
- Dry mouth, thirst
- Indigestion, nausea, anorexia
- Fine hand tremors
- Hypotension, arrhythmias, ECG changes
- Polyuria, glycosuria
- Weight gain
- Hypothyroidism
- Dehydration
- Leukocytosis

Interactions

- The effects of lithium (and potential for toxicity) are increased with concurrent use of **carbamazepine, fluoxetine, haloperidol, loop diuretics, methyldopa, NSAIDSs,** and **thiazide diuretics.**
- The effects of lithium are decreased with concurrent use of **acetazolamide, osmotic diuretics, theophylline,** and **urinary alkalinizers.**
- Increased effects of **neuromuscular blocking agents** and **tricyclic antidepressants** with concurrent use of lithium.
- Decreased pressor sensitivity of **sympathomimetics** with lithium.
- Neurotoxicity may occur with concurrent use of lithium and **high-potency antipsychotics** or **calcium channel blockers.**

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Route and Dosage

- *Acute mania:* **PO:** 600 mg three times/day or 900 mg twice daily for the slow release form. Serum levels should be taken twice weekly at the initiation of therapy and until therapeutic level has been achieved.
- *Long-term (maintenance) use:* **PO:** 300 mg three to four times/day. Serum levels should be monitored in uncomplicated cases during maintenance therapy every 1 to 2 mo.
- *Borderline personality disorder:* **PO:** 900 to 2,400 mg/day in 3 to 4 divided doses (or 900 to 1,800 mg/day [ER tabs] in 2 divided doses). Titrate dosage to maintain serum levels of 0.8 to 1 mEq/L.

CHEMICAL CLASS: ANTICONVULSANTS

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life	Indications	Therapeutic Plasma Level Range	Available Forms (mg)
Carbamazepine* (Tegretol, Epitol, Carbatrol, Equetro, Teril, Tegretol-XR)	D/25–65 hr (initial); 12–17 hr (repeated doses)	• Epilepsy • Trigeminal neuralgia *Unlabeled uses:* • Bipolar disorder (FDA approved: *Equetro* only) • Borderline personality disorder • Management of alcohol withdrawal • Restless legs syndrome • Postherpetic neuralgia	4–12 mcg/mL	Tabs: 100, 200 Tabs XR: 100, 200, 400 Caps XR: 100, 200, 300 Oral suspension: 100/5 mL
Clonazepam (C-IV) (Klonopin)	C/18–60 hr	• Petit mal, akinetic, and myoclonic seizures • Panic disorder *Unlabeled uses:* • Acute manic episodes • Restless leg syndrome • Neuralgias	20–80 ng/mL	Tabs: 0.5, 1, 2
Valproic acid* (Depakene; Depakote; Stavzor; Depacon)	D/5–20 hr	• Epilepsy *Unlabeled uses:* • Manic episodes (FDA approved: *Stavzor* only) • Migraine prophylaxis (FDA approved: *Stavzor* only) • Borderline personality disorder	50–150 mcg/mL	Caps: 250 Caps (DR): 125, 250, 500 Syrup: 250/5 mL Tabs (DR): 125, 250, 500 Tabs (ER): 250, 500 Caps (sprinkle): 125 Injection: 100/mL in 5-mL vial
Lamotrigine * (Lamictal)	C/~33 hr	• Epilepsy • Bipolar disorder	Not established	Tabs: 25, 100, 150, 200 Tabs (chewable): 2, 5, 25

Continued on the following page

Generic (Trade) Name	Pregnancy Categories/ Half-life	Indications	Therapeutic Plasma Level Range	Available Forms (mg)
Gabapentin* (Neurontin; Gabarone)	C/5–7 hr	• Epilepsy • Postherpetic neuralgia *Unlabeled uses:* • Bipolar disorder • Migraine prophylaxis • Neuropathic pain • Tremors associated with multiple sclerosis	Not established	Caps: 100, 300, 400 Tabs: 100, 300, 400, 600, 800 Oral solution: 250/5 mL
Topiramate* (Topamax)	C/21 hr	• Epilepsy • Migraine prophylaxis *Unlabeled uses:* • Bipolar disorder • Cluster headaches • Bulimia • Weight loss in obesity	Not established	Tabs: 25, 50, 100, 200 Caps (sprinkle): 15, 25
Oxcarbazepine* (Trileptal)	C/2 hr (metabolite 9 hr)	• Epilepsy *Unlabeled uses:* • Alcohol withdrawal • Bipolar disorder • Diabetic neuropathy	Not established	Tabs: 150, 300, 600 Oral susp: 60/mL

* The FDA has issued a warning indicating reports of suicidal behavior or ideation associated with the use of these drugs (and other antiepileptic medications). The FDA now requires that all manufacturers of drugs in this class include a warning in their labeling to this effect. Results of a recent study indicate that antiepileptic medications "do not increase risk of suicide attempts in patients with bipolar disorder" (Gibbons, R.D., Hur, K., Brown, C.H., & Mann, J.J. (2009). Relationship between antiepileptic drugs and suicide attempts in patients with bipolar disorder. *Archives of General Psychiatry, 66*(12), 1354–1360.)

Action

- Action in the treatment of bipolar disorder is unclear.

Contraindications and Precautions

Carbamazepine
- **Contraindicated in:** hypersensitivity, with MAO inhibitors, lactation, history of previous bone marrow depression
- **Use cautiously in:** elderly, liver/renal/cardiac disease, pregnancy

Clonazepam
- **Contraindicated in:** hypersensitivity, acute narrow-angle glaucoma, liver disease, lactation
- **Use cautiously in:** elderly, liver/renal disease, pregnancy

Valproic acid
- **Contraindicated in:** hypersensitivity, liver disease
- **Use cautiously in:** elderly, renal/cardiac diseases, pregnancy and lactation

Lamotrigine
- **Contraindicated in:** hypersensitivity
- **Use cautiously in:** renal/hepatic/cardiac insufficiency, pregnancy, lactation

Gabapentin
- **Contraindicated in:** hypersensitivity and children <3 yr
- **Use cautiously in:** renal insufficiency, pregnancy, lactation, children, and the elderly

Topiramate
- **Contraindicated in:** hypersensitivity
- **Use cautiously in:** renal and hepatic impairment, pregnancy, lactation, children, and the elderly

Oxcarbazepine
- **Contraindicated in:** hypersensitivity (cross sensitivity with carbamazepine may occur); lactation
- **Use cautiously in:** renal impairment, pregnancy, children <4 yr

Continued on the following page

Adverse Reactions and Side Effects

Carbamazepine
- Drowsiness, ataxia
- Nausea, vomiting
- Blood dyscrasias

Clonazepam
- Drowsiness, ataxia
- Dependence, tolerance
- Blood dyscrasias

Valproic acid
- Drowsiness, dizziness
- Nausea, vomiting
- Prolonged bleeding time
- Tremor

Gabapentin
- Drowsiness, dizziness, ataxia
- Nystagmus
- Tremor

Lamotrigine
- Ataxia, dizziness, headache
- Nausea, vomiting
- Risk of severe rash
- Photosensitivity

Topiramate
- Drowsiness, dizziness, fatigue, ataxia
- Impaired concentration, nervousness
- Vision changes
- Nausea, weight loss
- Decreased efficacy with oral contraceptives

Oxcarbazepine
- Dizziness, drowsiness
- Headache
- Nausea and vomiting
- Abnormal vision, diplopia, nystagmus
- Ataxua
- Tremor

Interactions

The effects of:	Are increased by:	Are decreased by:	Concurrent use may result in:
Carbamazepine	**Verapamil, diltiazem, propoxyphene, erythromycin, clarithromycin, SSRIs, tricyclic antidepressants, cimetidine, isoniazid, danazol, lamotrigine, niacin, acetazolamide, dalfopristin, valproate, nefazodone**	**Cisplatin, doxorubicin, felbamate, rifampin, barbiturates, hydantoins, primidone, theophylline**	Decreased levels of **corticosteroids, doxycycline, felbamate, quinidine, warfarin, estrogen-containing contraceptives, cyclosporine, benzodiazepines, theophylline, lamotrigine, valproic acid, bupropion, haloperidol, olanzapine, tiagabine, topiramate, voriconazole, ziprasidone. felbamate, levothyroxine, antidepressants;** increased levels of **lithium;** life-threatening hypertensive reaction with **MAO inhibitors**
Clonazepam	**CNS depressants, cimetidine, hormonal contraceptives, disulfiram fluoxetine, isoniazid, ketoconazole,**	**Rifampin, theophylline** (↓ sedative effects), **phenytoin**	Increased **phenytoin** levels; decrease efficacy of **levodopa**

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The effects of:	Are increased by:	Are decreased by:	Concurrent use may result in:
	metoprolol, propoxyphene, propranol, valproic acid, or probenecid		
Valproic Acid	**Chlorpromazine, Cimetidine, erythromycin, felbamate, salicylates**	**Rifampin, carbamazepine, cholestyramine, lamotrigine, phenobarbital, ethosuximide, hydantoins**	Increased effects of **tricyclic antidepressants, carbamazepine, CNS depressants, ethosuximide, lamotrigine, phenobarbital, hydantoins, warfarin, zidovudine**
Gabapentin	**Cimetidine, hydrocodone, morphine, naproxin**	**Antacids**	Decreased effects of **hydrocodone**
Lamotrigine	**Valproic acid**	**Primidone, phenobarbital, phenytoin, rifamycin, succinimides, oral contraceptives, oxcarbazepine, carbamazepine, acetaminophen**	Decreased levels of **valproic acid;** increased levels of **carbamazepine** and **topiramate**
Topiramate	**Metformin; hydrochlorothiazide**	**Phenytoin, carbamazepine, valproic acid, lamotrigine**	Increased risk of CNS depression with **alcohol** or other **CNS depressants.** Increased risk of kidney stones with **carbonic anhydrase inhibitors;** increased effects of **phenytoin, metformin, amitriptyline;** decreased effects of **oral contraceptives, digoxin, lithium, risperidone,** and **valproic acid**
Oxcarbazepine		**Carbamazepine, phenobarbital, phenytoin, valproic acid, verapamil**	Increased concentrations of **phenobarbital** and **phenytoin**; decreased effects of **oral contraceptives, felodipine,** and **lamotrigine**

Route and Dosage

CARBAMAZEPINE (Tegretol)

- *Seizure disorders*: *Adults and children >12 yr:* **PO:** 200 mg 2 times/day or 100 mg 4 times/day of suspension. Increase by 200 mg/day every 7 days until therapeutic levels are achieved. Maximum dose: 1,000 mg/day in children 12–15 yr; 1,200 mg/day in patients >15 yr. *Children 6 to 12 yr:* **PO:** 100 mg 2 times/day (50 mg 4 times/day of suspension). Increase by 100 mg weekly until

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therapeutic levels are obtained. (Usual range: 400–800 mg/day). Maximum daily dose: 1,000 mg.

- ***Children <6 yr:*** **PO:** 10–20 mg/kg/day in 2–3 divided doses. May increase weekly to achieve optimal clinical response administered 3 or 4 times/day. Maximum daily dose: 35 mg/kg/day.
- ***Trigeminal neuralgia:*** **PO:** Initial dose 100 mg 2 times/day. May increase by up to 200 mg/day using 100 mg increments every 12 hr. Maximum daily dose: 1,200 mg.
- ***Bipolar disorder, mania:*** *(Equetro only)* **PO:** Initial dose: 200 mg 2 times/day. Dosage may be adjusted in 200 mg daily increments to achieve optimal clinical response. Doses higher than 1,600 mg/day have not been studied.
- ***Borderline personality disorder:*** **PO:** 400 mg/day in 2 divided doses. May increase dose in increments of 200 mg/day depending on response, tolerability, and plasma concentrations. Maximum dosage: 1,600 mg/day.
- ***Management of alcohol withdrawal:*** **PO:** Dosage on day 1: 600 to 1,200 mg. Dosage is then tapered over 5 to 10 days to 0 mg.
- ***Restless leg syndrome:*** **PO:** 100 to 600 mg daily for up to 5 weeks.
- ***Postherpetic neuralgia:*** **PO:** 100 to 200 mg/day, slowly increased to a maximum of 1,200 mg/day.

CLONAZEPAM (Klonopin)

- ***Seizures: Adults:*** **PO:** 0.5 mg tid; may increase by 0.5–1 mg every third day. Maximum daily dose: 20 mg.
- ***Children <10 yr or 30 kg:*** **PO:** Initial daily dose: 0.01–0.03 mg/kg/day (not to exceed 0.05 mg/kg/day) given in 2–3 divided doses; increase by no more than 0.25–0.5 mg every third day until a daily maintenance dose of 0.1 to 0.2 mg/kg has been reached, unless seizures are controlled or side effects preclude further increase.
- ***Panic disorder:*** **PO:** Initial dose: 0.25 mg 2 times/day. Increase after 3 days toward target dose of 1 mg/day. Some patients may require up to 4 mg/day, in which case the dose may be increased in increments of 0.125 to 0.25 mg twice daily every 3 days until symptoms are controlled.
- ***Bipolar disorder, mania:*** **PO:** 1 to 6 mg/day.
- ***Restless leg syndrome:*** **PO:** 0.5 to 2 mg/night.
- ***Neuralgias:*** **PO:** 1.5 to 4 mg/day.

Valproic acid (Depakene; Depakote)

- ***Epilepsy: Adults and children ≥10 yr:*** **PO:** Initial dose: 5–15 mg/kg/day. Increase by 5 to 10 mg/kg/week until therapeutic levels are reached. Maximum recommended dose: 60 mg/kg/day. When daily dosage exceeds 250 mg, give in 2 divided doses.
- ***Manic episodes:*** **PO:** *(Stavzor only):* Initial dose: 750 mg/day in divided doses. Titrate rapidly to desired clinical effect or trough plasma levels of 50–125 mcg/mL. Maximum recommended dose: 60/mg/kg/day.
- ***Migraine prophylaxis:*** **PO:** *(Stavzor only):* 250 mg twice daily. Some patients may require up to 1,000 mg/day. No evidence that higher doses lead to greater efficacy.
- ***Borderline personality disorder:*** **PO:** 750 mg/day in divided doses. Titrate to maintain a therapeutic plasma level of 50 to 100 mcg/mL.

LAMOTRIGINE (Lamictal)

- ***Epilepsy: Adults and children >12 yr:*** *(Adjunctive therapy with carbamazepine, phenobarbital, phenytoin, or primidone):* **PO:** 50 mg as a single daily dose for 2 weeks, then 50 mg twice daily for next 2 weeks; then increase by 100 mg/day on a weekly basis to maintenance dose of 300 to 500 mg/day in 2 doses. If valproic acid is also being taken, the initial dose should be 25 mg every other day for 2 weeks, then 25 mg once daily for next 2 weeks; then increase by 25–50 mg/day every 1–2 weeks to maintenance dose of 50 to 200 mg twice a day. ***Children 2–12 yr:*** Refer to manufacturer's dosing recommendations.
- ***Bipolar disorder: Escalation regimen: For patients not taking carbamazepine, valproic acid, or other enzyme-inducing drugs:*** **PO:** Weeks 1 and 2: 25 mg/day; weeks 3 and 4: 50 mg/day; week 5: 100 mg/day; then 200 mg/day. ***For patients taking valproic acid:*** **PO:** Weeks 1 and 2: 25 mg every other day; weeks 3 and 4: 25 mg/day; week 5: 50 mg/day; then 100 mg/day. ***For patients taking carbamazepine or other enzyme-inducing drugs, but not valproic acid:*** **PO:** Weeks 1 and 2: 50 mg/day; weeks 3 and 4: 100 mg/day in divided doses; week 5: 200 mg/day in divided doses; week 6: 300 mg/day in divided doses; then up to 400 mg/day in divided doses.

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GABAPENTIN (Neurontin)

- ***Epilepsy: Adults and Children >12 yr:*** **PO:** Initial dose: 300 mg 3 times a day. Titration may be continued until desired results have been achieved (range is 900–1,800 mg/day in 3 divided doses). Doses should not be more than 12 hr apart. Doses of 2,400 to 3,600 mg have been well tolerated.
- ***Children 5–12 yr:*** **PO:** Initial dose: 10 to 15 mg/kg/day in 3 divided doses. Titrate dosage over a period of 3 days to 25–35 mg/kg/day in 3 divided doses. Dosage interval should not exceed 12 hr. Dosages up to 50 mg/kg/day have been used.
- ***Children 3–4 yr:*** **PO:** Initial dose: 10–15 mg/kg/day in 3 divided doses. Titrate dosage over a period of 3 days to 40 mg/kg/day in 3 divided doses. Dosage interval should not exceed 12 hr. Dosages up to 50 mg/kg/day have been used.
- ***Bipolar disorder:*** **PO:** 900 to 2,400 mg/day in 2 or 3 divided doses.
- ***Postherpetic neuralgia: Adults:*** **PO:** 300 mg once daily on first day; 300 mg twice daily on second day; then 300 mg three times/day on day 3. May then be titrated upward as needed up to 600 mg three times/day.
- ***Migraine prophylaxis: Adults:*** **PO:** 1,200 to 2,400 mg/day.
- ***Tremors in multiple sclerosis:*** **PO:** 1,200 to 1,800 mg/day.

TOPIRAMATE (Topamax)

- ***Epilepsy: Adults and children ≥17 yr:*** *(Adjunctive therapy):* **PO:** Initial dose: 25–50 mg/day. Gradually increase by 25–50 mg weekly up to 200 to 400 mg/day in 2 divided doses (200 to 400 mg/day in 2 divided doses for partial seizures and 400 mg/day in 2 divided doses for primary generalized tonic/clonic seizures.
- ***Children 2–17 yr:*** *(Adjunctive therapy):* **PO:** 5–9 mg/kg/day in 2 divided doses; initiate with 25 mg (or less, based on 1–3 mg/kg) nightly for 7 days, then increase at 1–2 wk intervals in increments of 1–3 mg/kg/day in 2 divided doses. Titration should be based on clinical outcome.
- ***Adults and children ≥10 yr:*** *(Monotherapy):* **PO:** 50 mg/day initially in 2 divided doses. Gradually increase over 6 weeks to 400 mg/day in 2 divided doses.
- ***Migraine prophylaxis:*** **PO:** Target dose of 100 mg/day in 2 divided doses, titrated weekly according to the following schedule: *Week 1:* 25 mg in the evening; *week 2:* 25 mg in the morning and 25 mg in the evening; *week 3:* 25 mg in the morning and 50 mg in the evening; *week 4:* 50 mg in the morning and 50 mg in the evening.
- ***Bipolar disorder:*** **PO:** Initial dose: 25–50 mg/day. Increase to target range of 100 to 200 mg/day in divided doses. Maximum dose: 400 mg/day.

Oxcarbazepine (Trileptal)

- ***Epilepsy:*** **PO:** ***Adults:*** *(Adjunctive therapy):* 300 mg twice daily, may be increased by up to 600 mg/day at weekly intervals up to 1,200 mg/day (up to 2,400 mg/day may be needed). *(Conversion to monotherapy):* 300 mg twice daily; may be increased by 600 mg/day at weekly intervals, whereas other antiepileptic drugs are tapered over 3–6 weeks; dose of oxcarbazepine should be increased up to 2,400 mg/day over a period of 2–4 weeks. *(Initiation of monotherapy):* 300 mg twice daily, increase by 300 mg/day every third day, up to 1,200 mg/day. Maximum maintenance dose should be achieved over 2–4 weeks. **PO:** ***Children 2–16 yr:*** *(Adjunctive therapy):* 4–5 mg/kg twice daily (up to 600 mg/day), increased over 2 weeks to achieve 900 mg/day in patients 20–29 kg, 1,200 mg/day in patients 29.1–39 kg, and 1,800 mg/day in patients >39 kg (range 6–51 mg/kg/day). In patients <20 kg, initial dose of 16–20 mg/kg/day may be used, not to exceed 60 mg/kg/day. *(Conversion to monotherapy):* 8–10 mg/kg/day given twice daily; may be increased by 10 mg/kg/day at weekly intervals, whereas other antiepileptic drugs are tapered over 3–6 weeks; dose of oxcarbazepine should be increased up to 600–900 mg/day in patient <20 kg, 900–1,200 mg/day in patients 25–30 kg, 900–1,500 mg/day in patients 35–40 kg, 1,200–1,500 mg/day in patients 45 kg, 1,200–1,800 mg/day in patients 50–55 kg, 1,200–2,100 mg/day in patients 60–65 kg, and 1,500–2,100 mg/day in patients 70 kg. Maximum maintenance dose should be achieved over 2–4 weeks.
- ***Alcohol withdrawal:*** **PO:** 600 to 1,800 mg in divided doses for 6 weeks to 6 mo.
- ***Bipolar disorder: Adults:*** **PO:** Initial dose: 300 mg/day. Titrate to a maximum dose of 900 to 2,400 mg/day.
- ***Diabetic neuropathy:*** **PO:** Initial dose: 150 to 300 mg/day. Titrate to recommended dose of 900–1,200 mg/day. Maximum dose: 1,800 mg/day.

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CHEMICAL CLASS: CALCIUM CHANNEL BLOCKERS

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life	Indications	Therapeutic Plasma Level Range	Available Forms (mg)
Verapamil (Calan; Isoptin)	C/3–7 hr (initially) 4.5–12 hr (repeated dosing); ~12 hr (SR); 2–5 hr (IV)	• Angina • Arrhythmias • Hypertension *Unlabeled uses:* • Bipolar mania • Migraine headache prophylaxis	80–300 ng/mL	Tabs: 40, 80, 120 Tabs (XR; SR): 120, 180, 240 Caps XR: 100, 120, 180, 200, 240, 300, 360 Injection: 2.5/mL

Action

- Action in the treatment of bipolar disorder is unclear.

Contraindications and Precautions

Contraindicated in:
- Hypersensitivity
- Severe left ventricular dysfunction
- Heart block
- Hypotension
- Cardiogenic shock
- Congestive heart failure
- Patients with atrial flutter or atrial fibrillation and an accessory bypass tract

Use cautiously in:
- Liver or renal disease
- Cardiomyopathy
- Intracranial pressure
- Elderly patients
- Pregnancy and lactation (safety not established)

Adverse Reactions and Side Effects

- Drowsiness
- Dizziness
- Headache
- Hypotension
- Bradycardia
- Nausea
- Constipation

Interactions

- Effects of verapamil are increased with concomitant use of **amiodarone, beta blockers, cimetidine, ranitidine,** and **grapefruit juice.**
- Effects of verapamil are decreased with concomitant use of **barbiturates, calcium salts, hydantoins, rifampin** and **antineoplastics.**
- Effects of the following drugs are increased with concomitant us of verapamil: **beta blockers, disopyramide, flecainide, doxorubicin, benzodiazepines, buspirone, carbamazepine, digoxin, dofetilide, ethanol, imipramine, nondepolarizing muscle relaxants, prazosin, quinidine, sirolimus, tacrolimus, theophylline,** and **HMG-CoA reductase inhibitors.**
- Serum **lithium** levels may be altered when administered concurrently with verapamil.

Route and Dosage

- ***Angina:*** **PO:** 80 to 120 mg 3 times/day.
- ***Arrhythmias:*** **PO:** 240 to 320 mg/day in 3 or 4 divided doses.
- ***Hypertension:*** **PO:** 40 to 80 mg 3 times/day. Maximum recommended daily dose: 360 mg.
- ***Bipolar mania:*** **PO:** 80 to 320 mg/day in divided doses.
- ***Migraine prophylaxis:*** **PO:** 160 to 320 mg/day in 3 to 4 divided doses.

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CHEMICAL CLASS: ANTIPSYCHOTICS

Examples

Generic (Trade) Name	Pregnancy Categories/ Half-life (hours)	Indications	Available Forms (mg)
Olanzapine (Zyprexa)	C/21–54	• Schizophrenia • Bipolar disorder • Agitation associated with schizophrenia and mania (IM)	Tabs: 2.5, 5, 7.5, 10, 15, 20 Tabs (Orally disintegrating): 5, 10, 15, 20 Powder for injection: 10 mg/vial
Olanzapine and fluoxetine (Symbyax)*		Symbyax: • For the treatment of depressive episodes associated with bipolar disorder • Treatment-resistant depression	Symbyax: Caps: 3 olanzapine/25 fluoxetine, 6 olanzapine/25 fluoxetine 6 olanzapine/50 fluoxetine, 12 olanzapine/25 fluoxetine, 12 olanzapine/50 fluoxetine
Aripiprazole (Abilify)	C/75–94 (including metabolite)	• Bipolar mania • Schizophrenia • Major depressive disorder (adjunctive treatment)	Tabs: 2, 5, 10, 15, 20, 30 Tabs (orally disintegrating): 10, 15 Oral solution: 1/mL Injection: 7.5/mL
Chlorpromazine	C/24	• Bipolar mania • Schizophrenia • Emesis/hiccoughs • Acute intermittent porphyria • Hyperexcitable, combative behavior in children • Preoperative apprehension *Unlabeled uses:* • Migraine headaches	Tabs: 10, 25, 50, 100, 200 Injection: 25/mL
Quetiapine (Seroquel)	C/6	• Schizophrenia • Acute manic episodes	Tabs: 25, 50, 100, 200, 300, 400 Tabs (XR): 200, 300, 400
Risperidone (Risperdal)	C/3–21 (including metabolite)	• Bipolar mania • Schizophrenia • Behavioral problems associated with autism *Unlabeled uses:* • Severe behavioral problems in children • Obsessive-compulsive disorder	Tabs: 0.25, 0.5, 1, 2, 3, 4 Tabs (orally disintegrating): 0.5, 1, 2, 3, 4 Oral solution: 1/mL Powder for injection: 12.5/vial, 25/vial, 37.5/vial, 50/vial
Ziprasidone (Geodon)	C/7 (oral); 2–5 (IM)	• Bipolar mania • Schizophrenia • Acute agitation in schizophrenia (IM)	Caps: 20, 40, 60, 80 Powder for injection: 20/vial
Asenapine (Saphris)	C/24	• Schizophrenia • Bipolar disorder	Tabs (sublingual): 5, 10

*For information related to action, contraindications/precautions, adverse reactions and side effects, and interactions, refer to the monographs for olanzapine and fluoxetine.

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Actions

- Efficacy in schizophrenia is achieved through a combination of dopamine and serotonin type 2 ($5HT_2$) antagonism.
- Mechanism of action in the treatment of acute manic episodes is unknown.

Contraindications and Precautions

Olanzapine

- **Contraindicated in:** hypersensitivity; lactation. *Orally disintegrating tablets only:* Phenylketonuria (orally disintegrating tablets contain aspartame)
- **Use cautiously in:** hepatic insufficiency, elderly clients (reduce dosage), pregnancy and children (safety not established), cardiovascular or cerebrovascular disease, history of glaucoma, history of seizures, history of attempted suicide, prostatic hypertrophy, diabetes or risk factors for diabetes, narrow angle glaucoma, history of paralytic ileus; patients with pre-existing low white blood cell count and/or history of drug-induced leukopenia/neutropenia; elderly patients with dementia-related psychosis (black-box warning)

Aripiprazole

- **Contraindicated in:** hypersensitivity; lactation
- **Use cautiously in:** cardiovascular or cerebrovascular disease; conditions that cause hypotension (dehydration, treatment with antihypertensives or diuretics); elderly patients; pregnancy, children, and adolescents (safety not established); elderly patients with dementia-related psychosis (black-box warning).

Chlorpromazine

- **Contraindicated in:** hypersensitivity (cross-sensitivity with other phenothiazines may occur); narrow-angle glaucoma; bone marrow depression; severe liver or cardiovascular disease; concurrent pimozide use
- **Use cautiously in:** elderly and debilitated patients; children with acute illnesses, infections, gastroenteritis, or dehydration (increased risk of extrapyramidal reactions); diabetes; respiratory disease; prostatic hypertrophy; CNS tumors, epilepsy; intestinal obstruction; pregnancy or lactation (safety not established); elderly patients with dementia-related psychosis (black-box warning)

Quetiapine

- **Contraindicated in:** hypersensitivity; lactation
- **Use cautiously in:** cardiovascular or cerebrovascular disease; dehydration or hypovolemia (increased risk of hypotension); elderly patients; hepatic impairment; hypothyroidism; history of suicide attempt; pregnancy or children (safety not established); elderly patients with dementia-related psychosis (black-box warning)

Risperidone

- **Contraindicated in:** hypersensitivity; lactation
- **Use cautiously in:** elderly or debilitated patients; renal or hepatic impairment; cardiovascular disease; history of seizures; history of suicide attempt or drug abuse; diabetes or risk factors for diabetes; pregnancy or children (safety not established); elderly patients with dementia-related psychosis (black-box warning)

Ziprasidone

- **Contraindicated in:** hypersensitivity; history of QT prolongation, arrhythmias, recent MI, or uncompensated heart failure; concurrent use of other drugs known to prolong QT interval; hypokalemia or hypomagnesemia; lactation
- **Use cautiously in:** concurrent diuretic therapy or diarrhea (may increase the risk of hypotension, hypokalemia, or hypomagnesemia); hepatic impairment; cardiovascular or cerebrovascular disease; hypotension, concurrent antihypertensive therapy, dehydration, or hypovolemia (may increase risk of orthostatic hypotension); elderly patients; patients at risk for aspiration pneumonia; history of suicide attempt; pregnancy and children (safety not established); patients with pre-existing low white blood cell count and/or history of drug-induced leukopenia/neutropenia; elderly patients with dementia-related psychosis (black-box warning)

Asenapine

- **Contraindicated in:** hypersensitivity; lactation; history of QT prolongation or arrhythmias; concurrent use of other drugs known to prolong QT interval

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- **Use cautiously in:** patients with hepatic, renal, or cardiovascular insufficiency; diabetes or risk factors for diabetes; patients with pre-existing low white blood cell count and/or history of drug-induced leukopenia/neutropenia; history of seizures; history of suicide attempt; patients at risk for aspiration pneumonia; elderly patients; pregnancy and children (safety not established); elderly patients with dementia-related psychosis (black-box warning)

Adverse Reactions and Side Effects

Olanzapine
- Drowsiness, dizziness, weakness
- Dry mouth, constipation, increased appetite
- Nausea
- Weight gain or loss
- Orthostatic hypotension, tachycardia
- Restlessness
- Rhinitis
- Tremor
- Headache

Aripiprazole
- Drowsiness, lightheadedness
- Headache
- Insomnia, restlessness
- Constipation
- Nausea
- Weight gain

Chlorpromazine
- Sedation
- Blurred vision
- Hypotension
- Constipation
- Dry mouth
- Photosensitivity
- Extrapyramidal symptoms
- Weight gain
- Urinary retention

Quetiapine
- Drowsiness, dizziness
- Hypotension, tachycardia
- Headache
- Constipation
- Dry mouth
- Nausea
- Weight gain

Risperidone
- Agitation, anxiety
- Drowsiness, dizziness
- Extrapyramidal symptoms
- Headache
- Insomnia
- Constipation
- Nausea/vomiting
- Weight gain
- Rhinitis
- Sexual dysfunction
- Diarrhea
- Dry mouth

Ziprasidone
- Drowsiness, dizziness
- Restlessness
- Headache
- Constipation
- Diarrhea
- Dry mouth
- Nausea
- Weight gain
- Prolonged QT interval

Asenapine
- Constipation
- Dry mouth
- Nausea and vomiting
- Weight gain
- Restlessness

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- Extrapyramidal symptoms
- Drowsiness, dizziness
- Insomnia
- Headache

Interactions

The effects of	Are increased by:	Are decreased by:	Concurrent use may result in:
Olanzapine	Fluvoxamine and other CYP1A2 inhibitors, fluoxetine	Carbamazepine and other CYP1A2 inducers, omeprazole, rifampin	Decreased effects of levodopa and dopamine agonists; increased hypotension with antihypertensives; increased CNS depression with alcohol or other CNS depressants
Aripiprazole	Ketoconazole and other CYP3A4 inhibitors; quinidine, fluoxetine, paroxetine, or other potential CYP2D6 inhibitors	Carbamazepine, famotidine, valproate	Increased CNS depression with alcohol or other CNS depressants; increased hypotension with antihypertensives
Chlorpromazine	Beta-blockers, paroxetine	Centrally acting anticholinergics	Increased effects of beta blockers; excessive sedation and hypotension with meperidine; decreased hypotensive effect of guanethidine; decreased effect of oral anticoagulants; decreased or increased phenytoin levels; increased orthostatic hypotension with thiazide diuretics; increased CNS depression with alcohol or other CNS depressants; increased hypotension with antihypertensives; increased anticholinergic effects with anticholinergic agents
Quetiapine	Cimetidine; ketoconazole, itraconazole, fluconazole, erythromycin, or other CYP3A4 inhibitors	Phenytoin, thioridazine	Decreased effects of levodopa and dopamine agonists; increased CNS depression with alcohol or other CNS depressants; increased hypotension with antihypertensives
Risperidone	Clozapine, fluoxetine, paroxetine, or ritonavir	Carbamazepine	Decreased effects of levodopa and dopamine agonists; increased effects of clozapine and valproate; increased CNS depression with alcohol or other CNS depressants; increased hypotension with antihypertensives
Ziprasidone	Ketoconazole and other CYP3A4 inhibitors	Carbamazepine	Life-threatening prolongation of QT interval with quinidine, dofetilide, other class Ia and III antiarrhythmics, pimozide, sotalol, thioridazine, chlorpromazine, floquine, pentamidine, arsenic trioxide, mefloquine, dolasetron, tacrolimus, droperidol, gatifloxacin, or moxifloxacin; decreased

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The effects of	Are increased by:	Are decreased by:	Concurrent use may result in:
			effects of levodopa and dopamine agonists; increased CNS depression with alcohol or other CNS depressants; increased hypotension with antihypertensives
Asenapine	Fluvoxamine, imipramine, valproate	Carbamazepine, cimetidine, paroxetine	Increased effects of paroxetine and dextromethorphan; increased CNS depression with alcohol or other CNS depressants; increased hypotension with antihypertensives; additive effects on QT interval prolongation with quinidine, dofetilide, other class Ia and III antiarrhythmics, pimozide, sotalol, thioridazine, chlorpromazine, floquine, pentamadine, arsenic trioxide, mefloquine, dolasetron, tacrolimus, droperidol, gatifloxacin, or moxifloxacin

Route and Dosage

OLANZAPINE (Zyprexa)

- *Bipolar disorder: Adults:* **PO:** 10 to 15 mg/day initially; may increase every 24 hr by 5 mg/day (not to exceed 20 mg/day).
- *Schizophrenia: Adults:* **PO:** 5 to 10 mg/day initially; may increase at weekly intervals by 5 mg/day (not to exceed 20 mg/day).
- *Agitation associated with schizophrenia or mania: Adults:* **IM:** 2.5 to 10 mg, administered slowly, deep into muscle mass. May repeat in 2 hr and again 4 hr later, if needed.

OLANZAPINE AND FLUOXETINE (Symbyax)

- *Depressive episodes associated with bipolar disorder: Adults:* **PO:** Initial dose: 6/25 given once daily in the evening. Adjust dosage according to efficacy and tolerability to within a range of 6–12 olanzapine/25–50 fluoxetine.

ARIPIPRAZOLE (Abilify)

- *Bipolar mania: Adults:* **PO:** Usual starting dose: 15 mg/day. Dosage may be increased to 30 mg/day based on clinical response. The safety of dosages higher than 30 mg have not been evaluated.
- *Major depressive disorder (adjunctive treatment): Adults:* **PO:** Initial dose: 2 to 5 mg/day for patients already taking another antidepressant. May increase dosage by up to 5 mg/day at intervals of at least a week. Maintenance dose range: 2 to 15 mg/day.
- *Schizophrenia: Adults:* **PO:** Initial dose: 10 or 15 mg/day as a single dose. Doses up to 30 mg have been used. Dosage increases should not be made before 2 weeks, the time required to achieve steady state.

CHLORPROMAZINE (Thorazine)

- *Psychotic disorders: Adults:* **PO:** 10 mg 3 or 4 times/day or 25 mg 2 or 3 times/day. Increase by 20 to 50 mg every 3 to 4 days until effective dose is reached, usually 200 to 400 mg/day. **IM:** Initial dose: 25 mg. May give additional 25 to 50 mg in 1 hr. Increase gradually over several days (up to 400 mg every 4 to 6 hr in severe cases).
- *Pediatric behavioral disorders: Children >6 mo:* **PO:** 0.5 mg/kg every 4 to 6 hr as needed. **IM:** 0.5 mg/kg every 6 to 8 hr (not to exceed 40 mg/day in children 6 mo–5 yr or 75 mg/day in children 6–12 yr)
- *Nausea and vomiting: Adults:* **PO:** 10 to 25 mg every 4 to 6 hr. **IM:** 25 mg initially, may repeat 25–50 mg every 3 to 4 hr. *Children >6 mo:* **PO:** 0.55 mg/kg every 4 to 6 hr. **IM:** 0.55 mg/kg every 6 to 8 hr (not to exceed 40 mg/day in children up to 5 yr or 75 mg/day in children 5–12 yr).
- *Intractable hiccoughs: Adults:* **PO:** 25 to 50 mg 3 or 4 times daily. If symptoms persist for 2 to 3 days, give 25 to 50 mg **IM.**
- *Preoperative sedation: Adults:* **PO:** 25 to 50 mg 2 to 3 hr before surgery, or **IM:** 12.5 to 25 mg 1 to 2 hr before surgery. *Children:* **PO:**

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0.5 mg/kg 2 to 3 hr before surgery, or **IM:** 0.5 mg/kg 1 to 2 hr before surgery.

- ***Acute intermittent porphyria: Adults:*** **PO:** 25 to 50 mg 3 or 4 times/day, or **IM:** 25 mg 3 or 4 times/day until patient can take **PO.**

QUETIAPINE (Seroquel)

- ***Schizophrenia: Adults:*** **PO:** 25 mg twice daily initially, increased by 25 to 50 mg 2 to 3 times daily over 3 days, up to 300 to 400 mg/day in 2 to 3 divided doses by the 4th day (not to exceed 800 mg/day).
- ***Bipolar mania: Adults:*** **PO:** 100 mg/day in 2 divided doses on day 1; increase dose by 100 mg/day up to 400 mg/day by day 4 given in twice daily divided doses. May increase in 200 mg/day increments up to 800 mg/day by day 6 if required.

RISPERIDONE (Risperdal)

- ***Bipolar mania: Adults:*** **PO:** 2 to 3 mg/day as a single daily dose; dose may be increased at 24-hour intervals by 1 mg (range 1 to 6 mg/day).
- ***Schizophrenia: Adults:*** **PO:** Initial dose: 2 mg/day administered as a single dose or in two divided doses. May increase dose at 24-hour intervals in increments of 1 to 2 mg/day to a recommended dose of 4 to 8 mg/day. **IM:** 25 mg every 2 weeks; some patients may require larger dose of 37.5 or 50 mg every 2 weeks. ***Adolescents 13–17 yr:*** **PO:** 0.5 mg once daily, increased by 0.5–1.0 mg no more frequently than every 24 hr to 3 mg daily. May administer half the daily dose twice daily if drowsiness persists.
- ***Behavioral problems associated with autistic disorder: Children and adolescents 5–16 yr weighing <20 kg:*** **PO:** 0.25 mg/day initially. After at least 4 days of therapy, may increase to 0.5 mg/day. Dose increases in increments of 0.25 mg/day may be considered at 2-week or longer intervals. May be given as a single dose or in divided doses. ***Children and adolescents 5–16 yr weighing >20 kg:*** **PO:** 0.5 mg/day initially. After at least 4 days of therapy, may increase to 1.0 mg/day. Dose increases in increments of 0.5 mg/day may be considered at 2-week or longer intervals. May be given as a single dose or in divided doses.

ZIPRASIDONE (Geodon)

- ***Bipolar mania: Adults:*** **PO:** 40 mg twice daily with food. Increase dose to 60 or 80 mg twice/day on the 2nd day of treatment. Adjust dose on the basis of toleration and efficacy within the range of 40 to 80 mg twice/day.
- ***Schizophrenia: Adults:*** **PO:** Initial dose: 20 mg twice daily with food. Dose increments may be made at 2-day intervals up to 80 mg twice daily.
- ***Acute agitation in schizophrenia: Adults:*** **IM:** 10 to 20 mg as needed up to 40 mg/day. May be given as 10 mg every 2 hr or 20 mg every 4 hr. Maximum dose: 40 mg/day.

ASENAPINE (Saphris)

- ***Schizophrenia: Adults:*** **PO:** Usual starting and target dose: 5 mg twice daily. The safety of doses above 10 mg twice daily has not been evaluated in clinical trials.
- ***Bipolar disorder: Adults:*** **PO:** Recommended initial dose: 0 mg twice daily. The dose can be decreased to 5 mg twice daily if there are adverse effects. The safety of doses above 10 mg twice daily has not been evaluated in clinical trials.

NURSING DIAGNOSES RELATED TO ALL MOOD-STABILIZING DRUGS

1. Risk for injury related to manic hyperactivity.
2. Risk for self-directed or other-directed violence related to unresolved anger turned inward on the self or outward on the environment.
3. Risk for injury related to lithium toxicity.
4. Risk for injury related to adverse effects of mood-stabilizing drugs.
5. Risk for activity intolerance related to side effects of drowsiness and dizziness.

NURSING IMPLICATIONS FOR MOOD-STABILIZING DRUGS

The plan of care should include monitoring for the following side effects from mood-stabilizing drugs. Nursing implications are designated by an asterisk (*).

1. **May occur with lithium:**
   a. **Drowsiness, dizziness, headache**
      * Ensure that client does not participate in activities that require alertness, or operate dangerous machinery.

Continued on the following page

b. **Dry mouth; thirst**
   * Provide sugarless candy, ice, frequent sips of water. Ensure that strict oral hygiene is maintained.
c. **Gastrointestinal (GI) upset; nausea/vomiting**
   * Administer medications with meals to minimize GI upset.
d. **Fine hand tremors**
   * Report to physician, who may decrease dosage. Some physicians prescribe a small dose of beta-blocker propranolol to counteract this effect.
e. **Hypotension; arrhythmias; pulse irregularities**
   * Monitor vital signs two or three times a day. Physician may decrease dose of medication.
f. **Polyuria; dehydration**
   * May subside after initial week or two. Monitor daily intake and output and weight. Monitor skin turgor daily.
g. **Weight gain**
   * Provide instructions for reduced calorie diet. Emphasize importance of maintaining adequate intake of sodium.

2. **May occur with anticonvulsants:**
   a. **Nausea/vomiting**
      * May give with food or milk to minimize GI upset.
   b. **Drowsiness; dizziness**
      * Ensure that client does not operate dangerous machinery or participate in activities that require alertness.
   c. **Blood dyscrasias**
      * Ensure that client understands the importance of regular blood tests while receiving anticonvulsant therapy.
   d. **Prolonged bleeding time (with valproic acid)**
      * Ensure that platelet counts and bleed time are determined before initiation of therapy with valproic acid. Monitor for spontaneous bleeding or bruising.
   e. **Risk of severe rash (with lamotrigine)**
      * Ensure that client is informed that he or she must report evidence of skin rash to physician immediately.
   f. **Decreased efficacy of oral contraceptives (with topiramate)**
      * Ensure that client is aware of decreased efficacy of oral contraceptives with concomitant use.
   g. **Risk of suicide with all antiepileptic drugs** (warning by FDA, December 2008)
      * Monitoring for worsening of depression, suicidal thoughts or behavior, or any unusual changes in mood or behavior.

3. **May occur with calcium channel blocker:**
   a. **Drowsiness; dizziness**
      * Ensure that client does not operate dangerous machinery or participate in activities that require alertness.
   b. **Hypotension; bradycardia**
      * Take vital signs just before initiation of therapy and before daily administration of the medication. Physician will provide acceptable parameters for administration. Report marked changes immediately.
   c. **Nausea**
      * May give with food to minimize GI upset.
   d. **Constipation**
      * Encourage increased fluid (if not contraindicated) and fiber in the diet.

4. **May occur with antipsychotics:**
   a. **Drowsiness; dizziness**
      * Ensure that client does not operate dangerous machinery or participate in activities that require alertness.
   b. **Dry mouth; constipation**
      * Provide sugarless candy or gum, ice, and frequent sips of water. Provide foods high in fiber; encourage physical activity and fluid if not contraindicated.
   c. **Increased appetite; weight gain**
      * Provide calorie-controlled diet; provide opportunity for physical exercise; provide diet and exercise instruction.
   d. **ECG changes**
      * Monitor vital signs. Observe for symptoms of dizziness, palpitations, syncope, or weakness.
   e. **Extrapyramidal symptoms**
      * Monitor for symptoms. Administer prn medication at first sign.

Continued on the following page

f. **Hyperglycemia and diabetes**
   * Monitor blood glucose regularly. Observe for the appearance of symptoms of polydipsia, polyuria, polyphagia, and weakness at any time during therapy.

CLIENT/FAMILY EDUCATION RELATED TO MOOD-STABILIZING DRUGS

- Do not drive or operate dangerous machinery. Drowsiness or dizziness can occur.
- Do not stop taking the drug abruptly. Can produce serious withdrawal symptoms. The physician will administer orders for tapering the drug when therapy is to be discontinued.
- Report the following symptoms to the physician immediately:
  - ***Client taking anticonvulsant:*** unusual bleeding, spontaneous bruising, sore throat, fever, malaise, skin rash, dark urine, and yellow skin or eyes.
  - ***Client taking calcium channel blocker:*** irregular heartbeat, shortness of breath, swelling of the hands and feet, pronounced dizziness, chest pain, profound mood swings, severe and persistent headache.
  - ***Client taking lithium:*** ataxia, blurred vision, severe diarrhea, persistent nausea and vomiting, tinnitus, excessive urine output, increasing tremors, or mental confusion.
  - ***Client taking antipsychotic:*** sore throat, fever, malaise, unusual bleeding, easy bruising, persistent nausea and vomiting, severe headache, rapid heart rate, difficulty urinating, muscle twitching, tremors, darkly colored urine, excessive urination, excessive thirst, excessive hunger, weakness, pale stools, yellow skin or eyes, muscular incoordination, or skin rash.
- For the client on lithium: Ensure that the diet contains adequate sodium. Drink six to eight glasses of water each day. Avoid drinks that contain caffeine (that have a diuretic effect). Have serum lithium level checked every 1 to 2 mo, or as advised by a physician.
- For the client on asenapine: Place the tablet *under* the tongue and allow to dissolve completely. Do not chew or swallow tablet. Do not eat or drink for 10 min.
- Avoid consuming alcoholic beverages and nonprescription medications without approval from physician.
- Carry card at all times identifying the name of medications being taken.

INTERNET REFERENCES

- http://www.rxlist.com
- http://www.nimh.nih.gov/publicat/medicate.cfm
- http://www.fadavis.com/townsend
- http://www.mentalhealth.com/
- http://www.nlm.nih.gov/medlineplus/druginformation.html

CHEMICAL CLASS: BENZODIAZEPINES

Examples

Generic (Trade) Name	Controlled/ Pregnancy Categories	Half-life (hr)	Indications	Available Forms (mg)
Estazolam	CIV/X	8–28	Insomnia	Tabs: 1, 2
Flurazepam (Dalmane)	CIV/ (Contraindicated in pregnancy)	2–3 (active metabolite, 47–100)	Insomnia	Caps: 15, 30
Quazepam (Doral)	CIV/X	41 (active metabolite, 47–100)	Insomnia	Tabs: 7.5, 15
Temazepam (Restoril)	CIV/X	9–15	Insomnia	Caps: 7.5, 15, 22.5, 30
Triazolam (Halcion)	CIV/X	1.5–5.5	Insomnia	Tabs: 0.125, 0.25

Actions

- Potentiate gamma aminobutyric acid (GABA) neuronal inhibition.
- The sedative effects involve GABA receptors in the limbic, neocortical, and mesencephalic reticular systems.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity to these or other benzodiazepines
- Pregnancy and lactation
- Respiratory depression and sleep apnea
- *(Triazolam):* concurrent use with ketoconazole, itraconazole, or nefazodone, medications that impair the metabolism of triazolam by cytochrome P450 3A (CYP3A)
- *(Flurazepam):* Children younger than age 15
- *(Estazolam, quazepam, temazepam, triazolam):* Children younger than age 18

Use cautiously in:

- Elderly and debilitated patients
- Hepatic or renal dysfunction
- Patients with history of drug abuse and dependence
- Depressed or suicidal patients

Adverse Reactions and Side Effects

- Drowsiness
- Headache
- Confusion
- Lethargy
- Tolerance
- Physical and psychological dependence
- Potentiates the effects of other CNS depressants
- May aggravate symptoms in depressed persons
- Palpitations; tachycardia; hypotension
- Paradoxical excitement
- Dry mouth
- Nausea and vomiting
- Blood dyscrasias

Interactions

- Additive CNS depression with **alcohol** and **other CNS depressants.**
- Decreased clearance and increased effects of benzodiazepines with **cimetidine, oral contraceptives, disulfiram,** and **isoniazid.**
- More rapid onset or more prolonged benzodiazepine effect with **probenecid.**
- Increased clearance and decreased half-life of benzodiazepines with **rifampin.**
- Increased benzodiazepine clearance with **cigarette smoking.**
- Decreased pharmacological effects of benzodiazepines with **theophylline.**
- Increased bioavailability of triazolam with **macrolides.**
- Benzodiazepines may increase serum levels of **digoxin** and **phenytoin,** and increase risk of toxicity.

Continued on the following page

Route and Dosage

ESTAZOLAM

- ***Insomnia: Adults:*** **PO:** 1 to 2 mg at bedtime.
- ***Healthy elderly:*** **PO:** 1 mg at bedtime. Increase with caution.
- ***Debilitated or small elderly patients:*** **PO:** 0.5 mg at bedtime.

FLURAZEPAM (Dalmane)

- ***Insomnia: Adults:*** **PO:** 15 to 30 mg at bedtime.
- ***Elderly or debilitated:*** **PO:** 15 mg at bedtime.

QUAZEPAM (Doral)

- ***Insomnia: Adults:*** **PO:** 7.5 to 15 mg at bedtime.
- ***Elderly or debilitated:*** **PO:** Initial dose: 7.5 mg at bedtime. If not effective after 1 or 2 nights, may increase to 15 mg.

TEMAZEPAM (Restoril)

- ***Insomnia: Adults:*** **PO:** 15 to 30 mg at bedtime. 7.5 mg may be sufficient for some patients.
- ***Elderly or debilitated:*** **PO:** 7.5 mg at bedtime.

TRIAZOLAM (Halcion)

- ***Insomnia: Adults:*** **PO:** 0.125 to 0.5 mg at bedtime.
- ***Elderly or debilitated:*** **PO:** 0.125 to 0.25 mg at bedtime.

CHEMICAL CLASS: BARBITURATES

Examples

Generic (Trade) Name	Controlled/ Pregnancy Categories	Half-life (hours)	Indications	Available Forms (mg)
Amobarbital	CII/D	16–40	• Sedation • Insomnia	Injection: powder, 500/vial
Butabarbital (Butisol)	CIII/D	66–140	• Sedation • Insomnia	Tabs: 15, 30, 50 Elixir: 30/5 mL
Mephobarbital (Mebaral)	CIV/D	11–67	• Sedation • Epilepsy	Tabs: 32, 50, 100
Pentobarbital (Nembutal)	CII/D	15–50	• Sedation • Insomnia • Preanesthetic • Acute convulsive episodes	Inj: 50/mL
Phenobarbital (Solfoton; Luminal)	CIV/D	53–118	• Sedation • Epilepsy	Tabs: 15, 16, 30, 60, 90, 100 Caps: 16 Elixir: 15/5 mL; 20/5 mL Inj (mg/mL): 30, 60, 65, 130
Secobarbital (Seconal)	CII/D	15–40	• Preoperative sedation • Insomnia	Caps: 100

Actions

- Depress the sensory cortex, decrease motor activity, and alter cerebellar function.
- All levels of CNS depression can occur, from mild sedation to hypnosis to coma to death.
- Can induce anesthesia in sufficiently high therapeutic doses.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity to barbiturates
- Severe hepatic, renal, cardiac, or respiratory disease
- Individuals with history of drug abuse or dependence
- Porphyria

Continued on the following page

- Uncontrolled severe pain
- Intra-arterial or subcutaneous administration
- Lactation

Use cautiously in:

- Elderly and debilitated patients
- Patients with hepatic, renal, cardiac, or respiratory impairment
- Depressed or suicidal patients
- Pregnancy
- Children

Adverse Reactions and Side Effects

- Bradycardia
- Hypotension
- Somnolence
- Agitation
- Confusion
- Nausea, vomiting
- Constipation
- Skin rashes
- Respiratory depression
- Physical and psychological dependence

Interactions

- Additive CNS depression with **alcohol** and **other CNS depressants.**
- Decreased effects of barbiturates with **rifampin.**
- Increased effects of barbiturates with **MAO inhibitors** or **valproic acid.**
- Decreased effects of the following drugs with concurrent use of barbiturates: **anticoagulants, beta blockers, carbamazepine, clonazepam, oral contraceptives, corticosteroids, digitoxin, doxorubicin, doxycycline, felodipine, fenoprofen, griseofulvin, metronidazole, phenylbutazone, quinidine, theophylline, chloramphenicol,** and **verapamil.**
- Concomitant use with **methoxyflurane** may enhance renal toxicity.

Route and Dosage

Amobarbital

- ***Sedation: Adults:*** **IM:** 30 to 50 mg, 2 or 3 times/day.
- ***Insomnia: Adults:*** **IM:** 65 to 200 mg at bedtime.
  NOTE: Do not inject a volume >5 mL **IM** at any one site regardless of drug concentration. Tissue irritation can occur.

BUTABARBITAL (Butisol)

- ***Daytime sedation: Adults:*** **PO:** 15 to 30 mg, 3 or 4 times/day.
- ***Insomnia: Adults:*** **PO:** 50 to 100 mg at bedtime.
- ***Preoperative sedation: Adults:*** **PO:** 50 to 100 mg, 60 to 90 min before surgery. ***Children:*** **PO:** 2 to 6 mg/kg; maximum 100 mg.

MEPHOBARBITAL (Mebaral)

- ***Sedation: Adults:*** **PO:** 32 to 100 mg 3 or 4 times/day. Optimum dose: 50 mg 3 or 4 times/day. ***Children:*** **PO:** 16 to 32 mg 3 or 4 times/day.
- ***Epilepsy: Adults:*** **PO:** 400 to 600 mg daily.
- ***Children <5 yr:*** **PO:** 16 to 32 mg 3 or 4 times/day.
- ***Children >5 yr:*** **PO:** 32 to 64 mg 3 or 4 times/day.

PENTOBARBITAL (Nembutal)

- ***Sedation, insomnia, preanesthetic: Adults:*** **IM:** Usual dosage: 150 to 200 mg. ***Children:*** **IM:** 2 to 6 mg/kg as a single IM injection, not to exceed 100 mg.
  NOTE: Inject deeply into large muscle mass. Do not exceed a volume of 5 mL at any one site because of possible tissue irritation.

PHENOBARBITAL (Luminal)

- ***Sedation: Adults:*** **PO or IM:** 30 to 120 mg/day in 2 to 3 divided doses not to exceed 400 mg/day. ***Children:*** **PO:** 2 mg/kg 3 times daily.
- ***Preoperative sedation: Adults:*** **IM only:** 100 to 200 mg, 60 to 90 min before the procedure. ***Children:*** **PO, IM, or IV:** 1 to 3 mg/kg 60 to 90 min before the procedure.
- ***Insomnia: Adults:*** **PO:** 100 to 200 mg at bedtime. **IM or IV:** 100 to 320 mg.
- ***Children:*** Route and dosage determined by age and weight.
- ***Epilepsy: Adults:*** **PO:** 60 to 200 mg/day. ***Children:*** **PO:** 3 to 6 mg/kg/day.

SECOBARBITAL (Seconal)

- ***Preoperative sedation: Adults:*** **PO:** 200 to 300 mg 1 to 2 hr before surgery. ***Children:*** **PO:** 2 to 6 mg/kg, not to exceed 100 mg.
- ***Insomnia: Adults:*** **PO:** 100 mg at bedtime.

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CHEMICAL CLASS: MISCELLANEOUS

Examples

Generic (Trade) Name	Controlled/ Pregnancy Categories	Half-life (hours)	Indications	Available Forms (mg)
Chloral hydrate	CIV/C	7–10	• Sedation • Insomnia	Caps: 500 Syrup: 250/5 mL; 500/5 mL
Eszopiclone (Lunesta)	CIV/C	6	• Insomnia	Tabs: 1, 2, 3
Ramelteon (Rozerem)	Not controlled/ C	1–2.6	• Insomnia	Tabs: 8
Zaleplon (Sonata)	CIV/C	1	• Insomnia	Caps: 5, 10
Zolpidem (Ambien)	CIV/B	2–3	• Insomnia	Tabs: 5, 10 Tabs CR: 6.25, 12.5 Tabs sublingual: 5, 10 Spray solution, lingual: 5 per actuation

Actions

Zolpidem and zaleplon

- Bind to GABA receptors in the central nervous system. Appear to be selective for the $omega_1$-receptor subtype.

Eszopiclone

- Action as a hypnotic is unclear, but thought to interact with GABA-receptor complexes near benzodiazepine receptors.

Chloral hydrate

- Action unknown. Produces a calming effect through depression of the CNS.
- Has generally been replaced by safer and more effective agents.

Ramelteon:

- Ramelteon is a melatonin receptor agonist with high affinity for melatonin MT_1 and MT_2 receptors.

Contraindications and Precautions

Contraindicated in:

- Hypersensitivity
- In combination with other CNS depressants
- Pregnancy and lactation

Zolpidem, zaleplon, eszopiclone, ramelteon

- Children (safety not established)

Chloral hydrate

- Severe hepatic, renal, or cardiac impairment
- Esophagitis, gastritis, or peptic ulcer disease

Ramelteon

- Severe hepatic function impairment
- Concomitantly with fluvoxamine

Use cautiously in:

- Elderly or debilitated patients
- Depressed or suicidal patients
- Patients with history of drug abuse or dependence
- Patients with hepatic, renal or respiratory dysfunction
- Patients susceptible to acute intermittent porphyria (**chloral hydrate**)

Adverse Reactions and Side Effects

- Headache
- Drowsiness
- Dizziness
- Lethargy
- Amnesia
- Nausea
- Dry mouth
- Rash
- Paradoxical excitement
- Physical and/or psychological dependence

Chloral hydrate, eszopiclone

- Unpleasant taste

Continued on the following page

Interactions

The effects of:	Are increased by:	Are decreased by:	Concurrent use may result in:
Chloral Hydrate	**Alcohol** and other **CNS depressants** including **antihistamines, antidepressants, opioids, sedative/hypnotics,** and **antipsychotics**		Increased effects of **oral anticoagulants;** symptoms of sweating, hot flashes, tachycardia, hypertension, weakness, and nausea with **IV furosemide;** decreased effects of **phenytoin**
Eszopiclone	Drugs that inhibit the CYP3A4 enzyme system, including **ketoconazole, itraconazole, clarithromycin, nefazodone, ritonavir,** and **nelfinavir**	**Lorazepam**; drugs that induce the CYP3A4 enzyme system, such as **rifampin;** taking eszopiclone with or immediately after a **high-fat or heavy meal**	Additive CNS depression with **alcohol** and other **CNS depressants,** including **antihistamines, antidepressants, opioids, sedative/hypnotics,** and **antipsychotics;** decreased effects of **lorazepam**
Ramelteon	**Alcohol, azole antifungals,** and **fluoxetine**	**Rifampin;** taking ramelteon with or immediately after a **high-fat or heavy meal**	
Zaleplon	**Cimetidine**	Drugs that induce the CYP3A4, including **rifampin, phenytoin, carbamazzepine,** and **phenobarbital;** taking zaleplon with or immediately after a **high-fat or heavy meal**	Additive CNS depression with **alcohol** and other **CNS depressants,** including **antihistamines, antidepressants, opioids, sedative/hypnotics,** and **antipsychotics**
Zolpidem	**Azole antifungals, ritonavir, SSRIs**	**Flumazenil; rifampin;** Administration with **food**	Risk of life-threatening cardiac arrhythmias with **amiodarone; additive** CNS depression with **alcohol** and other **CNS depressants,** including **antihistamines, antidepressants, opioids, sedative/hypnotics,** and **antipsychotics**

Route and Dosage

Chloral Hydrate

- *Sedation: Adults:* **PO:** 250 mg 3 times/day after meals. Maximum daily dose: 2 g. *Children:* **PO:** 25 mg/kg/day, not to exceed 500 mg per single dose. May be given in divided doses.
- *Insomnia: Adults:* **PO:** 500 mg to 1 g 15 to 30 min before bedtime.
- *Children:* **PO:** 50 mg/kg/day, up to 1 g per single dose. May give in divided doses.

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ESZOPICLONE (Lunesta)

- ***Insomnia: Adults:*** **PO:** 2 mg immediately before bedtime; may be increased to 3 mg if needed (3-mg dose is more effective for sleep maintenance).
- ***Elderly patients:*** **PO:** 1 mg immediately before bedtime for patients who have difficulty falling asleep; 2 mg immediately before bedtime for patient who have difficulty staying asleep.

RAMELTEON (Rozerem)

- ***Insomnia: Adults:*** **PO:** 8 mg within 30 min of bedtime. It is recommended that ramelteon not be taken with or immediately after a high-fat meal.

ZALEPLON (Sonata)

- ***Insomnia: Adults:*** **PO:** 10 mg (range 5 to 20 mg) at bedtime.
- ***Elderly and debilitated patients:*** **PO:** 5 mg at bedtime, not to exceed 10 mg.

ZOLPIDEM (Ambien)

- ***Insomnia: Adults:*** **PO:** 10 mg at bedtime. *Extended-release tablets:* 12.5 mg at bedtime.
- ***Elderly or debilitated patients and patients with hepatic impairment:*** **PO:** 5 mg at bedtime. *Extended-release tablets:* 6.25 mg at bedtime.

NURSING DIAGNOSES RELATED TO ALL SEDATIVE-HYPNOTICS

1. Risk for injury related to abrupt withdrawal from long-term use or decreased mental alertness caused by residual sedation.
2. Disturbed sleep pattern related to situational crises, physical condition, or severe level of anxiety.
3. Risk for activity intolerance related to side effects of lethargy, drowsiness, dizziness.
4. Risk for acute confusion related to action of the medication on the central nervous system.

NURSING IMPLICATIONS FOR SEDATIVE-HYPNOTICS

The nursing care plan should include monitoring for the following side effects from sedative-hypnotics. Nursing implications related to each side effect are designated by an asterisk (*):

1. **Drowsiness, dizziness, lethargy (most common side effects)**
   * Instruct client not to drive or operate dangerous machinery while taking the medication.
2. **Tolerance, physical and psychological dependence**
   * Instruct client to take the medication exactly as directed. Do not take more than the amount prescribed because of the habit-forming potential. Recommended for short-term use only. Abrupt withdrawal after long-term use may result in serious, even life-threatening, symptoms. **EXCEPTION: Ramelteon** is not considered to be a drug of abuse or dependence. It is not classified as a controlled substance. It has, however, been associated with cases of rebound insomnia after abrupt discontinuation following long-term use.
3. **Potentiates the effects of other CNS depressants.**
   * Instruct client not to drink alcohol or take other medications that depress the CNS while taking this medication.
4. **May aggravate symptoms in depressed persons.**
   * Assess mood daily.
   * Take necessary precautions for potential suicide.
5. **Orthostatic hypotension; palpitations; tachycardia**
   * Monitor lying and standing blood pressure and pulse every shift.
   * Instruct client to arise slowly from a lying or sitting position.
   * Monitor pulse rate and rhythm and report any significant change to the physician.
6. **Paradoxical excitement**
   * Withhold drug and notify the physician.
7. **Dry mouth**
   * Have client take frequent sips of water, ice chips, suck on hard candy, or chew sugarless gum.
8. **Nausea and vomiting.**
   * Have client take drug with food or milk (unless it is a drug in which taking with food is not recommended).
9. **Blood dyscrasias**
   * Symptoms of sore throat, fever, malaise, easy bruising, or unusual bleeding should be reported to the physician immediately.

Continued on the following page

CLIENT/FAMILY EDUCATION RELATED TO ALL SEDATIVE-HYPNOTICS

- Do not drive or operate dangerous machinery. Drowsiness and dizziness can occur.
- Do not stop taking the drug abruptly after prolonged use. Can produce serious withdrawal symptoms, such as depression, insomnia, anxiety, abdominal and muscle cramps, tremors, vomiting, sweating, convulsions, and delirium.
- Do not consume other CNS depressants (including alcohol).
- Do not take nonprescription medication without approval from physician.
- Rise slowly from the sitting or lying position to prevent a sudden drop in blood pressure.
- Report to physician immediately symptoms of sore throat, fever, malaise, easy bruising, unusual bleeding, or motor restlessness.
- Be aware of risks of taking these drugs during pregnancy. (Congenital malformations have been associated with use during the first trimester.) If pregnancy is suspected or planned, notify the physician of the desirability to discontinue the drug.
- Be aware of possible side effects. Refer to written materials furnished by health-care providers regarding the correct method of self-administration.
- Carry card or piece of paper at all times stating names of medications being taken.

INTERNET REFERENCES

- http://www.rxlist.com/
- http://www.drugguide.com/
- http://www.nimh.nih.gov/publicat/medicate.cfm
- http://www.fadavis.com/townsend
- http://www.nlm.nih.gov/medlineplus/druginformation.html

The AIMS rating scale is a 5- to 10-minute rating scale to assess for tardive dyskinesia (TD). A baseline exam should be administered before instituting pharmacotherapy with antipsychotics, and then every 3 to 6 months thereafter.

There are two parallel procedures, the *Examination Procedure*, which tells the client what to do, and the *Scoring Procedure*, which tells the clinician how to rate what he or she observes.

EXAMINATION PROCEDURE

Either before or after completing the Examination Procedure, observe the client unobtrusively, at rest (e.g., in waiting room). The chair to be used in this examination should be a hard, firm one without arms.

1. Ask client to remove shoes and socks.
2. Ask client whether there is anything in his/her mouth (e.g., gum, candy), and if there is, to remove it.
3. Ask client about the current condition of his/her teeth. Ask client if he/she wears dentures. Do teeth or dentures bother client now?
4. Ask client whether he/she notices any movements in mouth, face, hands, or feet. If yes, ask to describe and to what extent they currently bother client or interfere with his/her activities.
5. Have client sit in chair with both hands on knees, legs slightly apart, and feet flat on floor. (Look at entire body for movements while in this position.)
6. Ask client to sit with hands hanging unsupported. If male, between legs, if female and wearing a dress, hanging over knees. (Observe hands and other body areas.)
7. Ask client to open mouth. (Observe tongue at rest within mouth.) Do this twice.
8. Ask client to protrude tongue. (Observe abnormalities of tongue movement.) Do this twice.
9. Ask client to tap thumb with each finger as rapidly as possible for 10 to 15 seconds; separately with right hand, then with left hand. (Observe facial and leg movements.)
10. Flex and extend client's left and right arms (one at a time). (Note any rigidity.)
11. Ask client to stand up. (Observe in profile. Observe all body areas again, including hips.)
12. Ask client to extend both arms outstretched in front with palms down. (Observe trunk, legs, and mouth.)
13. Have client walk a few paces, turn, and walk back to chair. (Observe hands and gait.) Do this twice.

SCORING PROCEDURE

Instructions: Complete examination procedure before making ratings.

Rate highest severity observed.

Code:
- 0 None
- 1 Minimal, may be extreme normal
- 2 Mild
- 3 Moderate
- 4 Severe

Facial and Oral Movements

1. Muscles of facial expression (e.g., movement of forehead, eyebrows, periorbital area, cheeks; include frowning, blinking, smiling, grimacing)
   0 1 2 3 4
2. Lips and perioral area (e.g., puckering, pouting, smacking)
   0 1 2 3 4
3. Jaws (e.g., biting, clenching, chewing, mouth opening, lateral movement)
   0 1 2 3 4
4. Tongue (Rate only increase in movement both in and out of mouth, NOT inability to sustain movement.)
   0 1 2 3 4

Extremity Movements

5. Upper (arms, wrists, hands, fingers). Include choreic movements (e.g., rapid, objectively purposeless, irregular, spontaneous), athetoid movements (e.g., slow, irregular, complex, serpentine). Do NOT include tremor (e.g., repetitive, regular, rhythmic).
   0 1 2 3 4

Continued on the following page

6. Lower (legs, knees, ankles, toes) (e.g., lateral knee movement, foot taping, heel dropping, foot squirming, inversion and eversion of foot).

0 1 2 3 4

Trunk Movements

7. Neck, shoulders, hips (e.g., rocking, twisting, squirming, pelvic gyrations)

0 1 2 3 4

Global Judgments

8. Severity of abnormal movements:
   0 1 2 3 4 (Based on the highest single score on the above items.)
9. Incapacitation due to abnormal movements:
   0. None, normal
   1. Minimal
   2. Mild
   3. Moderate
   4. Severe
10. Client's awareness of abnormal movements (rate only client's report):
    0. No awareness
    1. Aware, no distress
    2. Aware, mild distress
    3. Aware, moderate distress
    4. Aware, severe distress

Dental Status

11. Current problems with teeth and/or dentures?
    0. No
    1. Yes
12. Does client usually wear dentures?
    0. No
    1. Yes

INTERPRETATION OF AIMS SCORE

Add client scores and note areas of difficulty.

Score of:

- 0 to 1 = low risk
- 2 in only ONE of the areas assessed = borderline/observe closely
- 2 in TWO or more of the areas assessed, **or** 3 to 4 in ONLY ONE area = indicative of TD

Source: U.S. Department of Health and Human Services. Available for use in the public domain.

Area of Mental Function Evaluated	Evaluation Activity
Orientation to time	"What year is it? What month is it? What day is it? (3 points)
Orientation to place	"Where are you now?" (1 point)
Attention and immediate recall	"Repeat these words now: bell, book, & candle." (3 points) "Remember these words and I will ask you to repeat them in a few minutes."
Abstract thinking	"What does this mean: No use crying over spilled milk." (3 points)
Recent memory	"Say the three words I asked you to remember earlier." (3 points)
Naming objects	Point to eyeglasses and ask, "What is this?" Repeat with one other item (e.g., calendar, watch, pencil). (2 points possible)
Ability to follow simple verbal command	"Tear this piece of paper in half and put it in the trash container." (2 points)
Ability to follow simple written command	Write a command on a piece of paper (e.g., TOUCH YOUR NOSE), give the paper to the patient and say, "Do what it says on this paper." (1 point for correct action)
Ability to use language correctly	Ask the patient to write a sentence. (3 points if sentence has a subject, a verb, and has valid meaning)
Ability to concentrate	"Say the months of the year in reverse, starting with December." (1 point each for correct answers from November through August; 4 points possible)
Understanding spatial relationships	Draw a clock, put in all the numbers, and set the hands on 3 o'clock. (clock circle = 1 pt; numbers in correct sequence = 1 pt; numbers placed on clock correctly = 1 pt; two hands on the clock = 1 pt; hands set at correct time = 1 pt; 5 points possible)

Scoring: 30–21 = normal; 20–11 = mild cognitive impairment; 10–0 = severe cognitive impairment
(Scores are not absolute and must be considered within the comprehensive diagnostic assessment.)

Sources: *The Merck Manual of Health & Aging* (2005); Folstein, Folstein, & McHugh (1975); Kaufman & Zun (1995); Kokman et al (1991); and Pfeiffer (1975).

Classes or schedules are determined by the Drug Enforcement Agency (DEA), an arm of the U.S. Justice Department, and are based on the potential for abuse and dependence liability (physical and psychological) of the medication. Some states may have stricter prescription regulations. Physicians, dentists, podiatrists, and veterinarians may prescribe controlled substances. Nurse practitioners and physician's assistants may prescribe controlled substances with certain limitations.

SCHEDULE I (C-I)

Potential for abuse is so high as to be unacceptable. May be used for research with appropriate limitations. Examples are LSD and heroin.

SCHEDULE II (C-II)

High potential for abuse and extreme liability for physical and psychological dependence (amphetamines, opioid analgesics, dronabinol, certain barbiturates). Outpatient prescriptions must be in writing. In emergencies, telephone orders may be acceptable if a written prescription is provided within 72 hours. No refills are allowed.

SCHEDULE III (C-III)

Intermediate potential for abuse (less than C-II) and intermediate liability for physical and psychological dependence (certain nonbarbiturate sedatives, certain nonamphetamine CNS stimulants, and limited dosages of certain opioid analgesics). Outpatient prescriptions can be refilled five times within 6 months from date of issue if authorized by prescriber. Telephone orders are acceptable.

SCHEDULE IV (C-IV)

Less abuse potential than Schedule III with minimal liability for physical or psychological dependence (certain sedative/hypnotics, certain antianxiety agents, some barbiturates, benzodiazepines, chloral hydrate, pentazocine, and propoxyphene). Outpatient prescriptions can be refilled six times within 6 months from date of issue if authorized by prescriber. Telephone orders are acceptable.

SCHEDULE V (C-V)

Minimal abuse potential. Number of outpatient refills determined by prescriber. Some products (cough suppressants with small amounts of codeine, antidiarrheals containing paregoric) may be available without prescription to patients at least 18 years of age.

Source: Deglin, J.H., & Vallerand, A.H. (2009). *Davis's Drug Guide for Nurses* (11th ed.). Philadelphia: F.A. Davis. With permission.

Category A	Adequate, well-controlled studies in pregnant women have not shown an increased risk of fetal abnormalities.
Category B	Animal studies have revealed no evidence of harm to the fetus; however, there are no adequate and well-controlled studies in pregnant women. **OR** Animal studies have shown an adverse effect, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus.
Category C	Animal studies have shown an adverse effect and there are no adequate and well-controlled studies in pregnant women. **OR** No animal studies have been conducted and there are no adequate and well-controlled studies in pregnant women.
Category D	Studies, adequate well-controlled or observational, in pregnant women have demonstrated a risk to the fetus. However, the benefits of therapy may outweigh the potential risk.
Category X	Studies, adequate well-controlled or observational, in animals or pregnant women have demonstrated positive evidence of fetal abnormalities. The use of the product is contraindicated in women who are or may become pregnant.

Source: Deglin, J.H., & Vallerand, A.H. (2009). *Davis's Drug Guide for Nurses* (11th ed.). Philadelphia: F.A. Davis. With permission.

Gathering the correct information about the client's mental status is essential to the development of an appropriate plan of care. The mental status examination is a description of all the areas of the client's mental functioning. The following are the components that are considered critical in the assessment of a client's mental status. Examples of interview questions and criteria for assessment are included.

IDENTIFYING DATA

1. Name
2. Gender
3. Age
   a. How old are you?
   b. When were you born?
4. Race/culture
   a. What country did you (your ancestors) come from?
5. Occupational/financial status
   a. How do you make your living?
   b. How do you obtain money for your needs?
6. Educational level
   a. What was the highest grade level you completed in school?
7. Significant other
   a. Are you married?
   b. Do you have a significant relationship with another person?
8. Living arrangements
   a. Do you live alone?
   b. With whom do you share your home?
9. Religious preference
   a. Do you have a religious preference?
10. Allergies
    a. Are you allergic to anything?
    b. Foods? Medications?
11. Special diet considerations
    a. Do you have any special diet requirements?
    b. Diabetic? Low sodium?
12. Chief complaint
    a. For what reason did you come for help today?
    b. What seems to be the problem?
13. Medical diagnosis

GENERAL DESCRIPTION

Appearance

1. Grooming and dress
   a. Note unusual modes of dress.
   b. Evidence of soiled clothing?
   c. Use of makeup
   d. Neat; unkempt
2. Hygiene
   a. Note evidence of body or breath odor.
   b. Condition of skin, fingernails
3. Posture
   a. Note if standing upright, rigid, slumped over.
4. Height and weight
   a. Perform accurate measurements.
5. Level of eye contact
   a. Intermittent?
   b. Occasional and fleeting?
   c. Sustained and intense?
   d. No eye contact?
6. Hair color and texture
   a. Is hair clean and healthy looking?
   b. Greasy, matted, tangled?
7. Evidence of scars, tattoos, or other distinguishing skin marks
   a. Note any evidence of swelling or bruises.
   b. Birth marks?
   c. Rashes?
8. Evaluation of client's appearance compared with chronological age.

Motor Activity

1. Tremors
   a. Do hands or legs tremble?
      - Continuously?
      - At specific times?
2. Tics or other stereotypical movements
   a. Any evidence of facial tics?
   b. Jerking or spastic movements?

Continued on the following page

3. Mannerisms and gestures
   a. Specific facial or body movements during conversation?
   b. Nail biting?
   c. Covering face with hands?
   d. Grimacing?
4. Hyperactivity
   a. Gets up and down out of chair
   b. Paces
   c. Unable to sit still
5. Restlessness or agitation
   a. Lots of fidgeting
   b. Clenching hands
6. Aggressiveness
   a. Overtly angry and hostile
   b. Threatening
   c. Uses sarcasm
7. Rigidity
   a. Sits or stands in a rigid position.
   b. Arms and legs appear stiff and unyielding.
8. Gait patterns
   a. Any evidence of limping?
   b. Limitation of range of motion?
   c. Ataxia?
   d. Shuffling?
9. Echopraxia
   a. Evidence of mimicking the actions of others?
10. Psychomotor retardation
    a. Movements are very slow.
    b. Thinking and speech are very slow.
    c. Posture is slumped.
11. Freedom of movement (range of motion)
    a. Note any limitation in ability to move.

Speech Patterns

1. Slowness or rapidity of speech
   a. Note whether speech seems very rapid or slower than normal.
2. Pressure of speech
   a. Note whether speech seems frenzied.
   b. Unable to be interrupted?
3. Intonation
   a. Are words spoken with appropriate emphasis?
   b. Are words spoken in monotone, without emphasis?
4. Volume
   a. Is speech very loud? Soft?
   b. Is speech low-pitched? High-pitched?
5. Stuttering or other speech impairments
   a. Hoarseness?
   b. Slurred speech?
6. Aphasia
   a. Difficulty forming words
   b. Use of incorrect words
   c. Difficulty thinking of specific words
   d. Making up words (neologisms)

General Attitude

1. Cooperative/uncooperative
   a. Answers questions willingly
   b. Refuses to answer questions
2. Friendly/hostile/defensive
   a. Is sociable and responsive
   b. Is sarcastic and irritable
3. Uninterested/apathetic
   a. Refuses to participate in interview process
4. Attentive/interested
   a. Actively participates in interview process
5. Guarded/suspicious
   a. Continuously scans the environment
   b. Questions motives of interviewer
   c. Refuses to answer questions

Continued on the following page

EMOTIONS

Mood

1. Depressed; despairing
   a. An overwhelming feeling of sadness
   b. Loss of interest in regular activities
2. Irritable
   a. Easily annoyed and provoked to anger
3. Anxious
   a. Demonstrates or verbalizes feeling of apprehension
4. Elated
   a. Expresses feelings of joy and intense pleasure
   b. Is intensely optimistic
5. Euphoric
   a. Demonstrates a heightened sense of elation
   b. Expresses feelings of grandeur ("Everything is wonderful!")
6. Fearful
   a. Demonstrates or verbalizes feeling of apprehension associated with real or perceived danger
7. Guilty
   a. Expresses a feeling of discomfort associated with real or perceived wrongdoing
   b. May be associated with feelings of sadness and despair
8. Labile
   a. Exhibits mood swings that range from euphoria to depression or anxiety

Affect

1. Congruence with mood
   a. Outward emotional expression is consistent with mood (e.g., if depressed, emotional expression is sadness, eyes downcast, may be crying).
2. Constricted or blunted
   a. Minimal outward emotional expression is observed.
3. Flat
   a. There is an absence of outward emotional expression.
4. Appropriate
   a. The outward emotional expression is what would be expected in a certain situation (e.g., crying upon hearing of a death).
5. Inappropriate
   a. The outward emotional expression is incompatible with the situation (e.g., laughing upon hearing of a death).

THOUGHT PROCESSES

Form of Thought

1. Flight of ideas
   a. Verbalizations are continuous and rapid, and flow from one to another.
2. Associative looseness
   a. Verbalizations shift from one unrelated topic to another.
3. Circumstantiality
   a. Verbalizations are lengthy and tedious, and because of numerous details, are delayed reaching the intended point.
4. Tangentiality
   a. Verbalizations are lengthy and tedious, and never reach an intended point.
5. Neologisms
   a. The individual is making up nonsensical-sounding words, which only have meaning to him or her.
6. Concrete thinking
   a. Thinking is literal; elemental.
   b. Absence of ability to think abstractly
   c. Unable to translate simple proverbs
7. Clang associations
   a. Speaking in puns or rhymes; using words that sound alike but have different meanings.
8. Word salad
   a. Using a mixture of words that have no meaning together; sounding incoherent
9. Perseveration
   a. Persistently repeating the last word of a sentence spoken to the client (e.g., Nurse: "George, it's time to go to lunch." George: "lunch, lunch, lunch, lunch.").

Continued on the following page

10. Echolalia
    a. Persistently repeating what another person says
11. Mutism
    a. Does not speak (either cannot or will not).
12. Poverty of speech
    a. Speaks very little; may respond in monosyllables.
13. Ability to concentrate and disturbance of attention
    a. Does the person hold attention to the topic at hand?
    b. Is the person easily distractible?
    c. Is there selective attention (e.g., blocks out topics that create anxiety)?

Content of Thought

1. Delusions (Does the person have unrealistic ideas or beliefs?)
    a. Persecutory: A belief that someone is out to get him or her in some way (e.g., "The FBI will be here at any time to take me away.").
    b. Grandiose: An idea that he or she is all-powerful or of great importance (e.g., "I am the king . . . and this is my kingdom! I can do anything!").
    c. Reference: An idea that whatever is happening in the environment is about him or her (e.g., "Just watch the movie on TV tonight. It is about my life.").
    d. Control or influence: A belief that his or her behavior and thoughts are being controlled by external forces (e.g., "I get my orders from Channel 27. I do only what the forces dictate.").
    e. Somatic: A belief that he or she has a dysfunctional body part (e.g., "My heart is at a standstill. It is no longer beating.").
    f. Nihilistic: A belief that he or she, or a part of the body, or even the world does not exist or has been destroyed (e.g., "I am no longer alive.").
2. Suicidal or homicidal ideas
    a. Is the individual expressing ideas of harming self or others?
3. Obsessions
    a. Is the person verbalizing about a persistent thought or feeling that he or she is unable to eliminate from their consciousness?
4. Paranoia/suspiciousness
    a. Continuously scans the environment
    b. Questions motives of interviewer
    c. Refuses to answer questions
5. Magical thinking
    a. Is the client speaking in a way that indicates his or her words or actions have power (e.g., "If you step on a crack, you break your mother's back!")?
6. Religiosity
    a. Is the individual demonstrating obsession with religious ideas and behavior?
7. Phobias
    a. Is there evidence of irrational fears (of a specific object or a social situation)?
8. Poverty of content
    a. Is little information conveyed by the client because of vagueness or stereotypical statements or clichés?

PERCEPTUAL DISTURBANCES

1. Hallucinations (Is the person experiencing unrealistic sensory perceptions?)
    a. Auditory (Is the individual hearing voices or other sounds that do not exist?)
    b. Visual (Is the individual seeing images that do not exist?)
    c. Tactile (Does the individual feel unrealistic sensations on the skin?)
    d. Olfactory (Does the individual smell odors that do not exist?)
    e. Gustatory (Does the individual have a false perception of an unpleasant taste?)
2. Illusions
    a. Does the individual misperceive or misinterpret real stimuli within the environment? (sees something and thinks it is something else)
3. Depersonalization (altered perception of the self)
    a. The individual verbalizes feeling "outside the body"; visualizing him- or herself from afar.

Continued on the following page

4. Derealization (altered perception of the environment)
   a. The individual verbalizes that the environment feels "strange or unreal." A feeling that the surroundings have changed.

SENSORIUM AND COGNITIVE ABILITY

1. Level of alertness/consciousness
   a. Is the individual clear-minded and attentive to the environment?
   b Or is there disturbance in perception and awareness of the surroundings?
2. Orientation: Is the person oriented to the following?
   a. Time
   b. Place
   c. Person
   d. Circumstances
3. Memory
   a. Recent (Is the individual able to remember occurrences of the past few days?)
   b. Remote (Is the individual able to remember occurrences of the distant past?)
   c. Confabulation (Does the individual fill in memory gaps with experiences that have no basis in fact?
4. Capacity for abstract thought
   a Can the individual interpret proverbs correctly?
   - "What does 'no use crying over spilled milk' mean?"

IMPULSE CONTROL

1. Ability to control impulses (Does psychosocial history reveal problems with any of the following?)
   a. Aggression
   b. Hostility
   c. Fear
   d. Guilt
   e. Affection
   f. Sexual feelings

JUDGMENT AND INSIGHT

1. Ability to solve problems and make decisions
   a. What are your plans for the future?
   b. What do you plan to do to reach your goals?
2. Knowledge about self
   a. Awareness of limitations
   b. Awareness of consequences of actions
   c. Awareness of illness
      - "Do you think you have a problem?"
      - "Do you think you need treatment?"
3. Adaptive/maladaptive use of coping strategies and ego defense mechanisms (e.g., rationalizing maladaptive behaviors, projection of blame, displacement of anger)

A

abandonment. A unilateral severance of the professional relationship between a health-care provider and a client without reasonable notice at a time when there is still a need for continuing health care.

abreaction. "Remembering with feeling"; bringing into conscious awareness painful events that have been repressed, and re-experiencing the emotions that were associated with the events.

abuse. To use wrongfully or in a harmful way. Improper treatment or conduct that may result in injury.

acquired immunodeficiency syndrome (AIDS). A condition in which the immune system becomes deficient in its efforts to prevent opportunistic infections, malignancies, and neurological disease. It is caused by the human immunodeficiency virus (HIV), which is passed from one individual to another through body fluids.

acupoints. In Chinese medicine, acupoints represent areas along the body that link pathways of healing energy.

acupressure. A technique in which the fingers, thumbs, palms, or elbows are used to apply pressure to certain points along the body. This pressure is thought to dissolve any obstructions in the flow of healing energy and to restore the body to a healthier functioning.

acupuncture. A technique in which hair-thin, sterile, disposable, stainless-steel needles are inserted into points along the body to dissolve obstructions in the flow of healing energy and restore the body to a healthier functioning.

adaptation. Restoration of the body to homeostasis following a physiological and/or psychological response to stress.

adjustment. The process of modifying one's behavior in changed circumstances or an altered environment in order to fulfill psychological, physiological, and social needs.

adjustment disorder. A maladaptive reaction to an identifiable psychosocial stressor that occurs within 3 months after onset of the stressor. The individual shows impairment in social and occupational functioning, or exhibits symptoms that are in excess of a normal and expectable reaction to the stressor.

advance directive. A legal document that a competent individual may sign to convey to wishes regarding future health-care decisions intended for a time when the individual is no longer capable of informed consent. It may include one or both of the following: (1) a living will, in which the individual identifies the type of care that he or she does or does not wish to have performed, and (2) a durable power of attorney for health care, in which the individual names another person who is given the right to make health-care decisions for the individual who is incapable of doing so.

advocacy. The act of pleading for, supporting, or representing a cause or individual. Advocacy in nursing applies to any act in which the nurse is serving in the best interests of the patient, from simple procedures such as hand washing to protect the patient from infection to complex ethically and morally charged issues in which certain clients are unable to advocate for themselves. Nurses also advocate for their patients indirectly by serving in organizations that support and serve to improve health care for all individuals, and by participating in policy-making legislation that affects health care of the public.

affect. The behavioral expression of emotion; may be appropriate (congruent with the situation); inappropriate (incongruent with the situation); constricted or blunted (diminished range and intensity); or flat (absence of emotional expression).

affective domain. A category of learning that includes attitudes, feelings, and values.

aggression. Harsh physical or verbal actions intended (either consciously or unconsciously) to harm or injure another.

aggressiveness. Behavior that defends an individual's own basic rights by violating the basic rights of others (as contrasted with **assertiveness**).

agoraphobia. The fear of being in places or situations from which escape might be difficult (or embarrassing) or in which help might not be available in the event of a panic attack.

agranulocytosis. Extremely low levels of white blood cells. Symptoms include sore throat, fever, and malaise. This may be a side effect of long-term therapy with some antipsychotic medications.

Continued on the following page

AIDS. See **acquired immunodeficiency syndrome (AIDS).**

akathisia. Restlessness; an urgent need for movement. A type of extrapyramidal side effect associated with some antipsychotic medications.

akinesia. Muscular weakness; or a loss or partial loss of muscle movement; a type of extrapyramidal side effect associated with some antipsychotic medications.

Alcoholics Anonymous (AA). A major self-help organization for the treatment of alcoholism. It is based on a 12-step program to help members attain and maintain sobriety. Once individuals have achieved sobriety, they in turn are expected to help other alcoholic persons.

allopathic medicine. Traditional medicine. The type traditionally, and currently, practiced in the United States and taught in U.S. medical schools.

alternative medicine. Practices that differ from usual traditional (allopathic) medicine.

altruism. One curative factor of group therapy (identified by Yalom) in which individuals gain self-esteem through mutual sharing and concern. Providing assistance and support to others creates a positive self-image and promotes self-growth.

altruistic suicide. Suicide based on behavior of a group into which an individual is excessively integrated.

amenorrhea. Cessation of the menses; may be a side effect of some antipsychotic medications.

amnesia. An inability to recall important personal information that is too extensive to be explained by ordinary forgetfulness.

amnesia, continuous. The inability to recall events occurring after a specific time up to and including the present.

amnesia, generalized. The inability to recall anything that has happened during the individual's entire lifetime.

amnesia, localized. The inability to recall all incidents associated with a traumatic event for a specific time period following the event (usually a few hours to a few days).

amnesia, selective. The inability to recall only certain incidents associated with a traumatic event for a specific time period following the event.

amnesia, systematized. The inability to remember events that relate to a specific category of information, such as one's family, a particular person, or an event.

amphetamine. A racemic sympathomimetic amine that acts as a central nervous system stimulant. It (and its derivatives, such as methamphetamine and dextroamphetamine) is a commonly abused substance, but has therapeutic use in the treatment of narcolepsy and attention-deficit/hyperactivity disorder.

andropause. A term used to identify the male climacteric. Also called *male menopause.* A syndrome of symptoms related to the decline of testosterone levels in men. Some symptoms include depression, weight gain, insomnia, hot flashes, decreased libido, mood swings, decreased strength, and erectile dysfunction.

anger. An emotional response to one's perception of a situation. Anger has both positive and negative functions.

anger management. The use of various techniques and strategies to control responses to anger-provoking situations. The goal of anger management is to reduce both the emotional feelings and the physiological arousal that anger engenders.

anhedonia. The inability to experience or even imagine any pleasant emotion.

anomic suicide. Suicide that occurs in response to changes that occur in an individual's life that disrupt cohesiveness from a group and cause that person to feel he or she is without support from the formerly cohesive group.

anorexia. Loss of appetite.

anorexiants. Drugs that suppress appetite.

anorgasmia. Inability to achieve orgasm.

anosmia. Inability to smell.

Continued on the following page

anticipatory grief. A subjective state of emotional, physical, and social responses to an anticipated loss of a valued entity. The grief response is repeated once the loss actually occurs, but it may not be as intense as it might have been if anticipatory grieving has not occurred.

antisocial personality disorder. A pattern of socially irresponsible, exploitative, and guiltless behavior, evident in the tendency to fail to conform to the law, develop stable relationships, or sustain consistent employment; exploitation and manipulation of others for personal gain is common.

anxiety. Vague diffuse apprehension that is associated with feelings of uncertainty and helplessness.

aphasia. Inability to communicate through speech, writing, or signs, caused by dysfunction of brain centers.

aphonia. Inability to speak.

apraxia. Inability to carry out motor activities despite intact motor function.

arbitrary inference. A type of thinking error in which the individual automatically comes to a conclusion about an incident without the facts to support it, or even sometimes despite contradictory evidence to support it.

ascites. Excessive accumulation of serous fluid in the abdominal cavity, occurring in response to portal hypertension caused by cirrhosis of the liver.

assault. An act that results in a person's genuine fear and apprehension that he or she will be touched without consent. Nurses may be guilty of assault for threatening to place an individual in restraints against his or her will.

assertive behavior. Behavior that enables individuals to act in their own best interests, to stand up for themselves without undue anxiety, to express their honest feelings comfortably, or to exercise their own rights without denying those of others.

assessment. A systematic, dynamic process by which the registered nurse, through interaction with the patient, family, groups, communities, populations, and health-care providers, collects and analyzes data. Assessment may include the following dimensions: physical, psychological, sociocultural, spiritual, cognitive, functional abilities, developmental, economic, and lifestyle (ANA, 2010).

associative looseness. Sometimes called loose associations, a thinking process characterized by speech in which ideas shift from one unrelated subject to another. The individual is unaware that the topics are unconnected.

ataxia. Muscular incoordination.

attachment theory. The hypothesis that individuals who maintain close relationships with others into old age are more likely to remain independent and less likely to be institutionalized than those who do not.

attitude. A frame of reference around which an individual organizes knowledge about his or her world. It includes an emotional element and can have a positive or negative connotation.

autism. A focus inward on a fantasy world, while distorting or excluding the external environment; common in schizophrenia.

autism spectrum disorders. A group of disorders that are characterized by impairment in several areas of development, including social interaction skills and interpersonal communication. Included in this category are autistic disorder, Rett's disorder, childhood disintegrative disorder, pervasive developmental disorder not otherwise specified, and Asperger's disorder (APA, 2000).

autistic disorder. The withdrawal of an infant or child into the self and into a fantasy world of his or her own creation. There is marked impairment in interpersonal functioning and communication and in imaginative play. Activities and interests are restricted and may be considered somewhat bizarre.

autocratic. A leadership style in which the leader makes all decisions for the group. Productivity is very high with this type of leadership, but morale is often low because of the lack of member input and creativity.

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autoimmunity. A condition in which the body produces a disordered immunological response against itself. In this situation, the body fails to differentiate between what is normal and what is a foreign substance. When this occurs, the body produces antibodies against normal parts of the body to such an extent as to cause tissue injury.

automatic thoughts. Thoughts that occur rapidly in response to a situation, and without rational analysis. They are often negative and based on erroneous logic.

autonomy. Independence; self-governance. An ethical principle that emphasizes the status of persons as autonomous moral agents whose right to determine their destinies should always be respected.

aversive stimulus. A stimulus that follows a behavioral response and decreases the probability that the behavior will recur; also called *punishment.*

axon. The cellular process of a neuron that carries impulses away from the cell body.

B

battering. A pattern of repeated physical assault, usually of a woman by her spouse or intimate partner. Men are also battered, although this occurs much less frequently.

battery. The unconsented touching of another person. Nurses may be charged with battery should they participate in the treatment of a client without his or her consent and outside of an emergency situation.

behavior modification. A treatment modality aimed at changing undesirable behaviors, using a system of reinforcement to bring about the modifications desired.

behavior therapy. A form of psychotherapy, the goal of which is to modify maladaptive behavior patterns by reinforcing more adaptive behaviors.

behavioral objectives. Statements that indicate to an individual what is expected of him or her. Behavioral objectives are a way of measuring learning outcomes, and are based on the affective, cognitive, and psychomotor domains of learning.

belief. A belief is an idea that one holds to be true. It can be rational, irrational, taken on faith, or a stereotypical idea.

beneficence. An ethical principle that refers to one's duty to benefit or promote the good of others.

bereavement overload. An accumulation of grief that occurs when an individual experiences many losses over a short period of time and is unable to resolve one before another is experienced. This phenomenon is common among the elderly.

binge and purge. A syndrome associated with eating disorders, especially bulimia, in which an individual consumes thousands of calories of food at one sitting (binging), and then purges through the use of laxatives or self-induced vomiting.

bioethics. The term used with ethical principles that refer to concepts within the scope of medicine, nursing, and allied health.

biofeedback. The use of instrumentation to become aware of processes in the body that usually go unnoticed and to bring them under voluntary control (e.g., the blood pressure or pulse); used as a method of stress reduction.

bipolar disorder. Characterized by mood swings from profound depression to extreme euphoria (mania), with intervening periods of normalcy. Psychotic symptoms may or may not be present.

body image. One's perception of his or her own body. It may also be how one believes others perceive his or her body. (See also **physical self**.)

borderline personality disorder. A disorder characterized by a pattern of intense and chaotic relationships, with affective instability, fluctuating and extreme attitudes regarding other people, impulsivity, direct and indirect self-destructive behavior, and lack of a clear or certain sense of identity, life plan, or values.

boundaries. The level of participation and interaction between individuals and between subsystems. Boundaries denote physical

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and psychological space individuals identify as their own. They are sometimes referred to as limits. Boundaries are appropriate when they permit appropriate contact with others while preventing excessive interference. Boundaries may be clearly defined (healthy) or rigid or diffuse (unhealthy).

bulimia. Excessive, insatiable appetite.

C

cachexia. A state of ill health, malnutrition, and wasting; extreme emaciation.

cannabis. The dried flowering tops of the hemp plant. It produces euphoric effects when ingested or smoked and is commonly used in the form of marijuana or hashish.

carcinogen. Any substance or agent that produces or increases the risk of developing cancer in humans or lower animals.

case management. A health-care delivery process, the goals of which are to provide quality health care, decrease fragmentation, enhance the client's quality of life, and contain costs. A case manager coordinates the client's care from admission to discharge and sometimes following discharge. Critical pathways of care are the tools used for the provision of care in a case management system.

case manager. The individual responsible for negotiating with multiple health-care providers to obtain a variety of services for a client.

catastrophic thinking. Always thinking that the worst will occur without considering the possibility of more likely, positive outcomes.

catatonia. A type of schizophrenia that is typified by stupor or excitement. Stupor is characterized by extreme psychomotor retardation, mutism, negativism, and posturing; excitement by psychomotor agitation, in which the movements are frenzied and purposeless.

catharsis. One curative factor of group therapy (identified by Yalom), in which members in a group can express both positive and negative feelings in a nonthreatening atmosphere.

cell body. The part of the neuron that contains the nucleus and is essential for the continued life of the neuron.

Centers for Medicare and Medicaid Services (CMS). The division of the U.S. Department of Health and Human Services responsible for Medicare funding.

child sexual abuse. Any sexual act, ranging from indecent exposure or improper touching to penetration (sexual intercourse), that is carried out with a child.

chiropractic medicine. A system of alternative medicine based on the premise that the relationship between structure and function in the human body is a significant health factor and that such relationships between the spinal column and the nervous system are important because the normal transmission and expression of nerve energy are essential to the restoration and maintenance of health.

Christian ethics. The ethical philosophy that states one should treat others as moral equals, and recognize the equality of other persons by permitting them to act as we do when they occupy a position similar to ours; sometimes referred to as "the ethic of the golden rule."

circadian rhythm. A 24-hour biological rhythm controlled by a "pacemaker" in the brain that sends messages to other systems in the body. Circadian rhythm influences various regulatory functions, including the sleep-wake cycle, body temperature regulation, patterns of activity such as eating and drinking, and hormonal and neurotransmitter secretion.

circumstantiality. In speaking, the delay of an individual to reach the point of a communication, owing to unnecessary and tedious details.

civil law. Law that protects the private and property rights of individuals and businesses.

clang association. A pattern of speech in which the choice of words is governed by sounds. Clang associations often take the form of rhyming.

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classical conditioning. A type of learning that occurs when an unconditioned stimulus (UCS) that produces an unconditioned response (UCR) is paired with a conditioned stimulus (CS), until the CS alone produces the same response, which is then called a conditioned response (CR). Pavlov's example: food (i.e., UCS) causes salivation (i.e., UCR); ringing bell (i.e., CS) with food (i.e., UCS) causes salivation (i.e., UCR), ringing bell alone (i.e., CS) causes salivation (i.e., CR).

codependency. An exaggerated dependent pattern of learned behaviors, beliefs, and feelings that make life painful. It is a dependence on people and things outside the self, along with neglect of the self to the point of having little self-identity.

cognition. Mental operations that relate to logic, awareness, intellect, memory, language, and reasoning powers.

cognitive. Relating to the mental processes of thinking and reasoning.

cognitive development. A series of stages described by Piaget through which individuals progress, demonstrating at each successive stage a higher level of logical organization than at each previous stage.

cognitive domain. A category of learning that involves knowledge and thought processes within the individual's intellectual ability. The individual must be able to synthesize information at an intellectual level before the actual behaviors are performed.

cognitive maturity. The capability to perform all mental operations needed for adulthood.

cognitive therapy. A type of therapy in which the individual is taught to control thought distortions that are considered to be a factor in the development and maintenance of emotional disorders.

colposcope. An instrument that contains a magnifying lens and to which a 35-mm camera can be attached. A colposcope is used to examine for tears and abrasions inside the vaginal area of a sexual assault victim.

common law. Laws that are derived from decisions made in previous cases.

communication. An interactive process of transmitting information between two or more entities.

community. A group of people living close to and depending to some extent on each other.

compensation. Covering up a real or perceived weakness by emphasizing a trait one considers more desirable.

complementary medicine. Practices that differ from usual traditional (allopathic) medicine, but may in fact supplement it in a positive way.

compounded rape reaction. Symptoms that are in addition to the typical rape response of physical complaints, rage, humiliation, fear, and sleep disturbances. They include depression and suicide, substance abuse, and even psychotic behaviors.

compulsions. Unwanted repetitive behavior patterns or mental acts (e.g., praying, counting, repeating words silently) that are intended to reduce anxiety, not to provide pleasure or gratification (APA, 2000). They may be performed in response to an obsession or in a stereotyped fashion.

concept mapping. A diagrammatic teaching and learning strategy that allows students and faculty to visualize interrelationships between medical diagnoses, nursing diagnoses, assessment data, and treatments. A diagram of client problems and interventions.

concrete thinking. Thought processes that are focused on specifics rather than on generalities and immediate issues rather than eventual outcomes. Individuals who are experiencing concrete thinking are unable to comprehend abstract terminology.

conditioned response. In classical conditioning, a response that is a *learned* response (not reflexive) following repeated exposure to a target stimulus.

conditioned stimulus. In classical conditioning, an unrelated stimulus that is presented to a subject with a target stimulus, and that, with repeated exposure, comes to elicit the same response as the original target stimulus.

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confabulation. Creating imaginary events to fill in memory gaps.

confidentiality. The right of an individual to the assurance that his or her case will not be discussed outside the boundaries of the health-care team.

contextual stimuli. Conditions present in the environment that support a focal stimulus and influence a threat to self-esteem.

contingency contracting. A written contract between individuals used to modify behavior. Benefits and consequences for fulfilling the terms of the contract are delineated.

controlled response pattern. The response to rape in which feelings are masked or hidden, and a calm, composed, or subdued affect is seen.

counselor. One who listens as the client reviews feelings related to difficulties he or she is experiencing in any aspect of life; one of the nursing roles identified by H. Peplau.

countertransferance. In psychoanalytic theory, countertransference refers to the counselor's behavioral and emotional responses to the client. These responses may be related to unresolved feelings toward significant others from the counselor's past, or they may be generated in response to the client's behavior toward the counselor.

covert sensitization. An aversion technique used to modify behavior that relies on the individual's imagination to produce unpleasant symptoms. When the individual is about to succumb to undesirable behavior, he or she visualizes something that is offensive or even nauseating in an effort to block the behavior.

criminal law. Law that provides protection from conduct deemed injurious to the public welfare. It provides for punishment of those found to have engaged in such conduct.

crisis. Psychological disequilibrium in a person who confronts a hazardous circumstance that constitutes an important problem that, for the time, he or she can neither escape nor solve with usual problem-solving resources.

crisis intervention. An emergency type of assistance in which the intervener becomes a part of the individual's life situation. The focus is to provide guidance and support to help mobilize the resources needed to resolve the crisis and restore or generate an improvement in previous level of functioning. Usually lasts no longer than 6 to 8 weeks.

critical pathways of care. An abbreviated plan of care that provides outcome-based guidelines for goal achievement within a designated length of time.

culture. A particular society's entire way of living, encompassing shared patterns of belief, feeling, and knowledge that guide people's conduct and are passed down from generation to generation.

curandera. A female folk healer in the Latino culture.

curandero. A male folk healer in the Latino culture.

cycle of battering. Three phases of predictable behaviors that are repeated over time in a relationship between a batterer and a victim: tension-building phase; the acute battering incident; and the calm, loving, respite (honeymoon) phase.

cyclothymic disorder. A chronic mood disturbance involving numerous episodes of hypomania and depressed mood, of insufficient severity or duration to meet the criteria for bipolar disorder.

D

date rape. A situation in which the rapist is known to the victim. This may occur during dating or with acquaintances or schoolmates. (Also called *acquaintance rape.*)

decatastrophizing. In cognitive therapy, with this technique the therapist assists the client to examine the validity of a negative automatic thought. Even if some validity exists, the client is then encouraged to review ways to cope adaptively, moving beyond the current crisis situation.

defamation of character. An individual may be liable for defamation of character by sharing with others information about a person that is detrimental to that person's reputation.

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deinstitutionalization. The removal of mentally ill individuals from institutions and the subsequent plan to provide care for these individuals in the community setting.

delayed grief. The absence of evidence of grief when it ordinarily would be expected.

delirious mania. A grave form of mania characterized by severe clouding of consciousness and representing an intensification of the symptoms associated with mania. The symptoms of delirious mania have become relatively rare since the availability of antipsychotic medications.

delirium. A state of mental confusion and excitement characterized by disorientation to time and place, often with hallucinations, incoherent speech, and a continual state of aimless physical activity.

delusions. False personal beliefs, not consistent with a person's intelligence or cultural background. The individual continues to have the belief in spite of obvious proof that it is false and/or irrational.

dementia. Global impairment of cognitive functioning that is progressive and interferes with social and occupational abilities.

dendrites. The cellular processes of a neuron that carry impulses toward the cell body.

denial. Refusal to acknowledge the existence of a real situation and/or the feelings associated with it.

density. The number of people in a given environmental space, influencing interpersonal interaction.

dependence. A compulsive or chronic requirement. The need is so strong as to generate distress (either physical or psychological) if left unfulfilled.

depersonalization. An alteration in the perception or experience of the self so that the feeling of one's own reality is temporarily lost.

depression. An alteration in mood that is expressed by feelings of sadness, despair, and pessimism. There is a loss of interest in usual activities, and somatic symptoms may be evident. Changes in appetite and sleep patterns are common.

derealization. An alteration in the perception or experience of the external world so that it seems strange or unreal.

detoxification. The process of withdrawal from a substance on which one has become dependent.

diagnosis-related groups (DRGs). A system used to determine prospective payment rates for reimbursement of hospital care based on the client's diagnosis.

Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR). Standard nomenclature of emotional illness published by the American Psychiatric Association (APA) and used by all health-care practitioners. It classifies mental illness and presents guidelines and diagnostic criteria for various mental disorders.

dichotomous thinking. In this type of thinking, situations are viewed in all-or-nothing, black-or-white, good-or-bad terms.

directed association. A technique used to help clients bring into consciousness events that have been repressed. Specific thoughts are guided and directed by the psychoanalyst.

disaster. A natural or man-made occurrence that overwhelms the resources of an individual or community, and increases the need for emergency evacuation and medical services.

discriminative stimulus. A stimulus that precedes a behavioral response and predicts that a particular reinforcement will occur. Individuals learn to discriminate between various stimuli that will produce the responses they desire.

disengagement. In family theory, disengagement refers to extreme separateness among family members. It is promoted by rigid boundaries or lack of communication among family members.

disengagement theory. The hypothesis that there is a process of mutual withdrawal of aging persons and society from each other that is

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correlated with successful aging. This theory has been challenged by many investigators.

displacement. Feelings are transferred from one target to another that is considered less threatening or neutral.

disruptive behavior disorders. A disturbance of conduct severe enough to produce significant impairment in social, occupational, or academic functioning because of symptoms that range from oppositional defiant to moderate and severe conduct disturbances (Shahrokh & Hales, 2003).

dissociation. The splitting off of clusters of mental contents from conscious awareness, a mechanism central to hysterical conversion and dissociative disorder (Shahrokh & Hales, 2003).

distraction. In cognitive therapy, when dysfunctional cognitions have been recognized, activities are identified that can be used to distract the client and divert him or her from the intrustive thoughts or depressive ruminations that are contributing to the client's maladaptive responses.

disulfiram. A drug that is administered to individuals who abuse alcohol as a deterrent to drinking. Ingestion of alcohol while disulfiram is in the body results in a syndrome of symptoms that can produce a great deal of discomfort, and can even result in death if the blood alcohol level is high.

domains of learning. Categories in which individuals learn or gain knowledge and demonstrate behavior. There are three domains of learning: affective, cognitive, and psychomotor.

double-bind communication. An emotionally distressing situation in which an individual receives conflicting messages in the communication process, whereby one message is negated by another. This creates a condition in which a successful response to one message results in a failed response to the other.

dual diagnosis. A client has a dual diagnosis when it is determined that he or she has a coexisting substance disorder and mental illness. Treatment is designed to target both problems.

dyspareunia. Pain during sexual intercourse.

dysthymic disorder. A depressive neurosis. The symptoms are similar to, if somewhat milder than, those ascribed to major depression. There is no loss of contact with reality.

dystonia. Involuntary muscular movements (spasms) of the face, arms, legs, and neck; may occur as an extrapyramidal side effect of some antipsychotic medications.

E

echolalia. The parrot-like repetition, by an individual with loose ego boundaries, of the words spoken by another.

echopraxia. An individual with loose ego boundaries attempting to identify with another person by imitating movements that the other person makes.

ego. One of the three elements of the personality identified by Freud as the rational self or "reality principle." The ego seeks to maintain harmony between the external world, the id, and the superego.

ego defense mechanisms. Strategies employed by the ego for protection in the face of threat to biological or psychological integrity. (See individual defense mechanisms.)

egoistic suicide. The response of an individual who feels separate and apart from the mainstream of society.

electroconvulsive therapy (ECT). A type of somatic treatment in which electrical current is applied to the brain through electrodes placed on the temples. A grand mal seizure produces the desired effect. This is used with severely depressed patients refractory to antidepressant medications.

emaciated. The state of being excessively thin or physically wasted.

emotional abuse. A pattern of behavior on the part of the parent or caregiver that results in serious impairment of the child's social, emotional, or intellectual functioning.

emotional neglect. A chronic failure by the parent or caregiver to provide the child with the hope, love, and support necessary for the development of a sound, healthy personality.

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empathy. The ability to see beyond outward behavior, and sense accurately another's inner experiencing. With empathy, one can accurately perceive and understand the meaning and relevance in the thoughts and feelings of another.

enmeshment. Exaggerated connectedness among family members. It occurs in response to diffuse boundaries in which there is overinvestment, overinvolvement, and lack of differentiation between individuals or subsystems.

esophageal varices. Veins in the esophagus become distended because of excessive pressure from defective blood flow through a cirrhotic liver.

essential hypertension. Persistent elevation of blood pressure for which there is no apparent cause or associated underlying disease.

ethical dilemma. A situation that arises when, on the basis of moral considerations, an appeal can be made for taking each of two opposing courses of action.

ethical egoism. An ethical theory espousing that what is "right" and "good" is what is best for the individual making the decision.

ethics. A branch of philosophy dealing with values related to human conduct, to the rightness and wrongness of certain actions, and to the goodness and badness of the motives and ends of such actions.

ethnicity. The concept of people identifying with each other because of a shared heritage.

evaluation. The process of determining the progress toward attainment of expected outcomes, including the effectiveness of care (ANA, 2010).

exhibitionism. A paraphilic disorder characterized by a recurrent urge to expose one's genitals to a stranger.

expressed response pattern. Pattern of behavior in which the victim of rape expresses feelings of fear, anger, and anxiety through such behavior as crying, sobbing, smiling, restlessness, and tenseness (in contrast to the rape victim who withholds feelings in the **controlled response pattern**).

extinction. In behavior therapy, the gradual decrease in frequency or disappearance of a response when the positive reinforcement is withheld.

extrapyramidal symptoms (EPS). A variety of responses that originate outside the pyramidal tracts and in the basal ganglion of the brain. Symptoms may include tremors, chorea, dystonia, akinesia, akathisia, and others. May occur as a side effect of some antipsychotic medications.

F

false imprisonment. The deliberate and unauthorized confinement of a person within fixed limits by the use of threat or force. A nurse may be charged with false imprisonment by placing a patient in restraints against his or her will in a nonemergency situation.

family. Two or more individuals who depend on one another for emotional, physical, and economic support. The members of the family are self-defined. (Kaakinen, Hanson, & Denham, 2010).

family structure. A family system in which the structure is founded on a set of invisible principles that influence the interaction among family members. These principles are established over time and become the "laws" that govern the conduct of various family members.

family system. A system in which the parts of the whole may be the marital dyad, parent-child dyad, or sibling groups. Each of these subsystems is further divided into subsystems of individuals.

family therapy. A type of therapy in which the focus is on relationships within the family. The family is viewed as a system in which the members are interdependent, and a change in one creates change in all.

fetishism. A paraphilic disorder characterized by recurrent sexual urges and sexually arousing fantasies involving the use of nonliving objects.

"fight-or-flight" syndrome. A syndrome of physical symptoms that result from an individual's real or perceived notion that harm or danger is imminent.

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flexible boundary. A personal boundary is flexible when, because of unusual circumstances, individuals can alter limits that they have set for themselves. Flexible boundaries are healthy boundaries.

flooding. Sometimes called *implosion therapy,* this technique is used to desensitize individuals to phobic stimuli. The individual is "flooded" with a continuous presentation (usually through mental imagery) of the phobic stimulus until it no longer elicits anxiety.

focal stimulus. A situation of immediate concern that results in a threat to self-esteem.

Focus Charting®. A type of documentation that follows a data, action, and response (DAR) format. The main perspective is a client "focus," which can be a nursing diagnosis, a client's concern, a change in status, or a significant event in the client's therapy. The focus cannot be a medical diagnosis.

folk medicine. A system of health care within various cultures that is provided by a local practitioner, not professionally trained, but who uses techniques specific to that culture in the art of healing.

forensic. Pertaining to the law; legal.

forensic nursing. The application of forensic science combined with the biopsychological education of the registered nurse in the scientific investigation, evidence collection and preservation, analysis, prevention, and treatment of trauma- and/or death-related medical-legal issues.

free association. A technique used to help individuals bring to consciousness material that has been repressed. The individual is encouraged to verbalize whatever comes into his or her mind, drifting naturally from one thought to another.

frotteurism. A paraphilic disorder characterized by the recurrent preoccupation with intense sexual urges or fantasies involving touching or rubbing against a nonconsenting person.

fugue. A sudden unexpected travel away from home or customary work locale with the assumption of a new identity and an inability to recall one's previous identity; usually occurring in response to severe psychosocial stress.

G

gains. The reinforcements an individual receives for somaticizing.

Gamblers Anonymous (GA). An organization of inspirational group therapy, modeled after Alcoholics Anonymous (AA), for individuals who desire to, but cannot, stop gambling.

gender. The condition of being either male or female.

gender identity disorder. A sense of discomfort associated with an incongruence between biologically assigned gender and subjectively experienced gender.

general adaptation syndrome. The general biological reaction of the body to a stressful situation, as described by Hans Selye. It occurs in three stages: the alarm reaction stage, the stage of resistance, and the stage of exhaustion.

generalized anxiety disorder. A disorder characterized by chronic (at least 6 months), unrealistic, and excessive anxiety and worry.

genetics. Study of the biological transmission of certain characteristics (physical and/or behavioral) from parent to offspring.

genogram. A graphic representation of a family system. It may cover several generations. Emphasis is on family roles and emotional relatedness among members. Genograms facilitate recognition of areas requiring change.

genotype. The total set of genes present in an individual at the time of conception, and coded in the DNA.

genuineness. The ability to be open, honest, and "real" in interactions with others; the awareness of what one is experiencing internally and the ability to project the quality of this inner experiencing in a relationship.

geriatrics. The branch of clinical medicine specializing in the care of the elderly and concerned with the problems of aging.

gerontology. The study of normal aging.

geropsychiatry. The branch of clinical medicine specializing in psychopathology of the elderly.

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gonorrhea. A sexually transmitted disease caused by the bacterium *Neisseria gonorrhoeae* and resulting in inflammation of the genital mucosa. Treatment is through the use of antibiotics, particularly penicillin. Serious complications occur if the disease is left untreated.

"granny-bashing." Media-generated term for abuse of the elderly.

"granny-dumping." Media-generated term for abandoning elderly individuals at emergency departments, nursing homes, or other facilities—literally leaving them in the hands of others when the strain of caregiving becomes intolerable.

grief. A subjective state of emotional, physical, and social responses to the real or perceived loss of a valued entity. Change and failure can also be perceived as losses. The grief response consists of a set of relatively predictable behaviors that describe the subjective state that accompanies mourning.

grief, exaggerated. A reaction in which all of the symptoms associated with normal grieving are exaggerated out of proportion. Pathological depression is a type of exaggerated grief.

grief, inhibited. The absence of evidence of grief when it ordinarily would be expected.

group. A collection of individuals whose association is founded on shared commonalities of interest, values, norms, or purpose. Membership in a group is generally by chance (born into the group), by choice (voluntary affiliation), or by circumstance (the result of life-cycle events over which an individual may or may not have control).

group therapy. A therapy group, founded in a specific theoretical framework, led by a person with an advanced degree in psychology, social work, nursing, or medicine. The goal is to encourage improvement in interpersonal functioning.

gynecomastia. Enlargement of the breasts in men; may be a side effect of some antipsychotic medications.

H

hallucinations. False sensory perceptions not associated with real external stimuli. Hallucinations may involve any of the five senses.

hepatic encephalopathy. A brain disorder resulting from the inability of the cirrhotic liver to convert ammonia to urea for excretion. The continued rise in serum ammonia results in progressively impaired mental functioning, apathy, euphoria or depression, sleep disturbances, increasing confusion, and progression to coma and eventual death.

histrionic personality disorder. Conscious or unconscious overly dramatic behavior for the purpose of drawing attention to oneself.

HIV-associated dementia (HAD). A neuropathological syndrome, possibly caused by chronic HIV encephalitis and myelitis and manifested by cognitive, behavioral, and motor symptoms that become more severe with progression of the disease.

home care. A wide range of health and social services that are delivered at home to recovering, disabled, chronically or terminally ill persons in need of medical, nursing, social, or therapeutic treatment and/or assistance with essential activities of daily living.

homocysteine. An amino acid produced by the catabolism of methionine. Elevated levels may be linked to increased risk of cardiovascular disease.

homosexuality. A sexual preference for persons of the same gender.

hospice. A program that provides palliative and supportive care to meet the special needs arising out of the physical, psychosocial, spiritual, social, and economic stresses that are experienced during the final stages of illness and during bereavement.

humors. The four body fluids described by Hippocrates: blood, black bile, yellow bile, and phlegm. Hippocrates associated insanity and mental illness with these four fluids.

hypersomnia. Excessive sleepiness or seeking excessive amounts of sleep.

hyperactivity. Excessive psychomotor activity that may be purposeful or aimless, accompanied by physical movements and verbal utterances that are usually more rapid than normal. Inattention and distractibility are common with hyperactive behavior.

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hypertensive crisis. A potentially life-threatening syndrome that results when an individual taking monoamine oxidase (MAO) inhibitors eats a product high in tyramine. Symptoms include severe occipital headache, palpitations, nausea and vomiting, nuchal rigidity, fever, sweating, marked increase in blood pressure, chest pain, and coma. Foods with tyramine include aged cheeses or other aged, overripe, and fermented foods; broad beans; pickled herring; beef or chicken liver; preserved meats; beer and wine; yeast products; chocolate; caffeinated drinks; canned figs; sour cream; yogurt; soy sauce; and some over-the-counter cold medications and diet pills.

hypnosis. A treatment for disorders brought on by repressed anxiety. The individual is directed into a state of subconsciousness and assisted, through suggestions, to recall certain events that he or she cannot recall while conscious.

hypochondriasis. The unrealistic preoccupation with fear of having a serious illness.

hypomania. A mild form of mania. Symptoms are excessive hyperactivity, but not severe enough to cause marked impairment in social or occupational functioning or to require hospitalization.

hysteria. A polysymptomatic disorder characterized by recurrent, multiple somatic complaints often described dramatically.

I

id. One of the three components of the personality identified by Freud as the "pleasure principle." The id is the locus of instinctual drives; is present at birth; and compels the infant to satisfy needs and seek immediate gratification.

identification. An attempt to increase self-worth by acquiring certain attributes and characteristics of an individual one admires.

illusion. A misperception of a real external stimulus.

implosion therapy. See **flooding.**

impulsive. The urge or inclination to act without consideration of the possible consequences of one's behavior.

incest. Sexual exploitation of a child under 18 years of age by a relative or nonrelative who holds a position of trust in the family.

informed consent. Permission granted to a physician by a client to perform a therapeutic procedure, prior to which information about the procedure has been presented to the client with adequate time given for consideration about the pros and cons.

insomnia. Difficulty initiating or maintaining sleep.

insulin coma therapy. The induction of a hypoglycemic coma aimed at alleviating psychotic symptoms; a dangerous procedure, questionably effective, no longer used in psychiatry.

integration. The process used with individuals with dissociative identity disorder in an effort to bring all the personalities together into one; usually achieved through hypnosis.

intellectualization. An attempt to avoid expressing actual emotions associated with a stressful situation by using the intellectual processes of logic, reasoning, and analysis.

interdisciplinary care. A concept of providing care for a client in which members of various disciplines work together with common goals and shared responsibilities for meeting those goals.

intimate distance. The closest distance that individuals will allow between themselves and others. In the United States, this distance is 0 to 18 inches.

intoxication. A physical and mental state of exhilaration and emotional frenzy or lethargy and stupor.

introjection. The beliefs and values of another individual are internalized and symbolically become a part of the self, to the extent that the feeling of separateness or distinctness is lost.

isolation. The separation of a thought or a memory from the feeling tone or emotions associated with it (sometimes called *emotional isolation*).

J

justice. An ethical principle reflecting that all individuals should be treated equally and fairly.

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K

Kantianism. The ethical principle espousing that decisions should be made and actions taken out of a sense of duty.

kleptomania. A recurrent failure to resist impulses to steal objects not needed for personal use or monetary value.

Korsakoff's psychosis. A syndrome of confusion, loss of recent memory, and confabulation in alcoholics, caused by a deficiency of thiamine. It often occurs together with Wernicke's encephalopathy and may be termed *Wernicke-Korsakoff syndrome.*

L

la belle indifference. A symptom of conversion disorder in which there is a relative lack of concern that is out of keeping with the severity of the impairment.

laissez-faire. A leadership type in which the leader lets group members do as they please. There is no direction from the leader. Member productivity and morale may be low, owing to frustration from lack of direction.

lesbian. A female homosexual.

libel. An action with which an individual may be charged for sharing with another individual, in writing, information that is detrimental to someone's reputation.

libido. Freud's term for the psychic energy used to fulfill basic physiological needs or instinctual drives such as hunger, thirst, and sexuality.

limbic system. The part of the brain that is sometimes called the "emotional brain." It is associated with feelings of fear and anxiety; anger and aggression; love, joy, and hope; and with sexuality and social behavior.

long-term memory. Memory for remote events, or those that occurred many years ago. The type of memory that is preserved in the elderly individual.

loss. The experience of separation from something of personal importance.

luto. In the Mexican-American culture, the period of mourning following the death of a loved one, which is symbolized by wearing black, black and white, or dark clothing and by subdued behavior.

M

magical thinking. A primitive form of thinking in which an individual believes that thinking about a possible occurrence can make it happen.

magnification. A type of thinking in which the negative significance of an event is exaggerated.

maladaptation. A failure of the body to return to homeostasis following a physiological and/or psychological response to stress, disrupting the individual's integrity.

malpractice. The failure of one rendering professional services to exercise that degree of skill and learning commonly applied under all the circumstances in the community by the average prudent reputable member of the profession, with the result of injury, loss, or damage to the recipient of those services or to those entitled to rely upon them.

managed care. A concept purposefully designed to control the balance between cost and quality of care. Examples of managed care are health maintenance organizations (HMOs) and preferred provider organizations (PPOs). The amount and type of health care that the individual receives is determined by the organization providing the managed care.

mania. A type of bipolar disorder in which the predominant mood is elevated, expansive, or irritable. Motor activity is frenzied and excessive. Psychotic features may or may not be present.

marital rape. Sexual violence directed at a marital partner against that person's will.

marital schism. A state of severe chronic disequilibrium and discord within the marital dyad, with recurrent threats of separation.

marital skew. A marital relationship in which there is lack of equal partnership. One partner dominates the relationship and the other partner.

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masochism. Sexual stimulation derived from being humiliated, beaten, bound, or otherwise made to suffer.

Medicaid. A system established by the federal government to provide medical care benefits for indigent Americans. The Medicaid program is jointly funded by state and federal governments, and coverage varies significantly from state to state.

Medicare. A system established by the federal government to provide medical care benefits for elderly Americans.

meditation. A method of relaxation in which an individual sits in a quiet place and focuses total concentration on an object, word, or thought.

melancholia. A severe form of major depressive episode. Symptoms are exaggerated, and interest or pleasure in virtually all activities is lost.

menopause. The period marking the permanent cessation of menstrual activity; usually occurs at approximately 48 to 51 years of age.

mental health. The successful adaptation to stressors from the internal or external environment, evidenced by thoughts, feelings, and behaviors that are age-appropriate and congruent with local and cultural norms.

mental illness. Maladaptive responses to stressors from the internal or external environment, evidenced by thoughts, feelings, and behaviors that are incongruent with the local and cultural norms, and interfere with the individual's social, occupational, and/or physical functioning.

mental imagery. A method of stress reduction that employs the imagination. The individual focuses imagination on a scenario that is particularly relaxing to him or her (e.g., a scene on a quiet seashore, a mountain atmosphere, or floating through the air on a fluffy white cloud).

meridians. In Chinese medicine, pathways along the body in which the healing energy (*qi*) flows, and which are links between acupoints.

migraine personality. Personality characteristics that have been attributed to the migraine-prone person. The characteristics include perfectionistic, overly conscientious, somewhat inflexible, neat and tidy, compulsive, hard worker, intelligent, exacting, and places a very high premium on success, setting high (sometimes unrealistic) expectations on self and others.

milieu. French for "middle;" the English translation connotes "surroundings, or environment."

milieu therapy. Also called therapeutic community, or therapeutic environment, this type of therapy consists of a scientific structuring of the environment in order to effect behavioral changes and to improve the individual's psychological health and functioning.

minimization. A type of thinking in which the positive significance of an event is minimized or undervalued.

mobile outreach units. Programs in which volunteers and paid professionals drive or walk around and seek out homeless individuals who need assistance with physical or psychological care.

modeling. Learning new behaviors by imitating the behaviors of others.

mood. An individual's sustained emotional tone, which significantly influences behavior, personality, and perception.

moral behavior. Conduct that results from serious critical thinking about how individuals ought to treat others; reflects respect for human life, freedom, justice, or confidentiality.

moral-ethical self. That aspect of the personal identity that functions as observer, standard setter, dreamer, comparer, and most of all evaluator of who the individual says he or she is. This component of the personal identity makes judgments that influence an individual's self-evaluation.

mourning. The psychological process (or stages) through which the individual passes on the way to successful adaptation to the loss of a valued entity.

multidisciplinary care. A concept of providing care for a client in which individual disciplines provide specific services for the client without formal arrangement for interaction between the disciplines.

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N

narcissism. Self-love or self-admiration.

narcissistic personality disorder. A disorder characterized by an exaggerated sense of self-worth. These individuals lack empathy and are hypersensitive to the evaluation of others.

narcolepsy. A disorder in which the characteristic manifestation is sleep attacks. The individual cannot prevent falling asleep, even in the middle of a sentence or performing a task.

natural law theory. The ethical theory that has as its moral precept to "do good and avoid evil" at all costs. Natural law ethics are grounded in a concern for the human good, that is based on people's ability to live according to the dictates of reason.

negative reinforcement. Increasing the probability that a behavior will recur by removal of an undesirable reinforcing stimulus.

negativism. Strong resistance to suggestions or directions; exhibiting behaviors contrary to what is expected.

Neglect of a child. ***Physical neglect*** of a child includes refusal of or delay in seeking health care, abandonment, expulsion from the home or refusal to allow a runaway to return home, and inadequate supervision. ***Emotional neglect*** refers to a chronic failure by the parent or caregiver to provide the child with the hope, love, and support necessary for the development of a sound, healthy personality.

negligence. The failure to do something that a reasonable person, guided by those considerations that ordinarily regulate human affairs, would do, or doing something that a prudent and reasonable person would not do.

neologism. New words that an individual invents that are meaningless to others, but have symbolic meaning to the psychotic person.

neuroendocrinology. The study of hormones functioning within the neurological system.

neuroleptic. Antipsychotic medication used to prevent or control psychotic symptoms.

neuroleptic malignant syndrome (NMS). A rare but potentially fatal complication of treatment with neuroleptic drugs. Symptoms include severe muscle rigidity, high fever, tachycardia, fluctuations in blood pressure, diaphoresis, and rapid deterioration of mental status to stupor and coma.

neuron. A nerve cell; consists of a cell body, an axon, and dendrites.

neurosis. An unconscious conflict that produces anxiety and other symptoms and leads to maladaptive use of defense mechanisms.

neurotic disorder. A psychiatric disturbance, characterized by excessive anxiety and/or depression, disrupted bodily functions, unsatisfying interpersonal relationships, and behaviors that interfere with routine functioning. There is no loss of contact with reality.

neurotransmitter. A chemical that is stored in the axon terminals of the presynaptic neuron. An electrical impulse through the neuron stimulates the release of the neurotransmitter into the synaptic cleft, which in turn determines whether or not another electrical impulse is generated.

nonassertive. Individuals who are nonassertive (sometimes called passive) seek to please others at the expense of denying their own basic human rights.

nonmaleficence. The ethical principle that espouses abstaining from negative acts toward another, including acting carefully to avoid harm.

nursing diagnosis. A clinical judgment about individual, family, or community responses to actual and potential health problems/life processes. Nursing diagnoses provide the basis for selection of nursing interventions to achieve outcomes for which the nurse is accountable.

Nursing Interventions Classification (NIC). A comprehensive, research-based, standardized classification of interventions that nurses perform.

Nursing Outcomes Classification (NOC). A comprehensive, standardized classification of patient/client outcomes developed to evaluate the effects of nursing interventions (Moorhead et al., 2008).

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nursing process. A dynamic, systematic process by which nurses assess, diagnose, identify outcomes, plan, implement, and evaluate nursing care. It has been called "nursing's scientific methodology." Nursing process gives order and consistency to nursing intervention.

O

obesity. The state of having a body mass index of 30 or above.

object constancy. The phase in the separation/individuation process when the child learns to relate to objects in an effective, constant manner. A sense of separateness is established, and the child is able to internalize a sustained image of the loved object or person when out of sight.

obsessions. Unwanted, intrusive, persistent ideas, thoughts, impulses, or images that cause marked anxiety or distress. The most common ones include repeated thoughts about contamination, repeated doubts, a need to have things in a particular order, aggressive or horrific impulses, and sexual imagery (APA, 2000).

obsessive-compulsive disorder. Recurrent thoughts or ideas (obsessions) that an individual is unable to put out of his or her mind, and actions that an individual is unable to refrain from performing (compulsions). The obsessions and compulsions are severe enough to interfere with social and occupational functioning.

oculogyric crisis. An attack of involuntary deviation and fixation of the eyeballs, usually in the upward position. It may last for several minutes or hours and may occur as an extrapyramidal side effect of some antipsychotic medications.

operant conditioning. The learning of a particular action or type of behavior that is followed by a reinforcement.

opioids. A group of compounds that includes opium, opium derivatives, and synthetic substitutes.

orgasm. A peaking of sexual pleasure, with release of sexual tension and rhythmic contraction of the perineal muscles and pelvic reproductive organs.

osteoporosis. A reduction in the mass of bone per unit of volume that interferes with the mechanical support function of bone. This process occurs because of demineralization of the bones, and is escalated in women about the time of menopause.

outcomes. End results that are measurable, desirable, and observable, and translate into observable behaviors (ANA, 2010).

overgeneralization. Also called "absolutistic thinking." With overgeneralization, sweeping conclusions are made based on one incident—an "all or nothing" type of thinking.

overt sensitization. A type of aversion therapy that produces unpleasant consequences for undesirable behavior. An example is the use of disulfiram therapy with alcoholics, which induces an undesirable physical response if the individual has consumed any alcohol.

P

palilalia. Repeating one's own sounds or words (a type of vocal tic associated with Tourette's disorder).

panic. A sudden overwhelming feeling of terror or impending doom. This most severe form of emotional anxiety is usually accompanied by behavioral, cognitive, and physiological signs and symptoms considered to be outside the expected range of normalcy.

panic disorder. A disorder characterized by recurrent panic attacks, the onset of which are unpredictable, and manifested by intense apprehension, fear, or terror, often associated with feelings of impending doom, and accompanied by intense physical discomfort.

paradoxical intervention. In family therapy, "prescribing the symptom." The therapist requests that the family continue to engage in the behavior that they are trying to change. Tension is relieved, and the family is able to view more clearly the possible solutions to their problem.

paralanguage. The gestural component of the spoken word. It consists of pitch, tone, and loudness of spoken messages, the rate of speaking, expressively placed pauses, and emphasis assigned to certain words.

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paranoia. A term that implies extreme suspiciousness. Paranoid schizophrenia is characterized by persecutory delusions and hallucinations of a threatening nature.

paraphilia. Repetitive behavior or fantasy that involves nonhuman objects, real or simulated suffering or humiliation, or nonconsenting partners.

parasomnia. Unusual or undesirable behaviors that occur during sleep (e.g., nightmares, sleep terrors, and sleepwalking).

passive-aggressive behavior. Behavior that defends an individual's own basic rights by expressing resistance to social and occupational demands. Sometimes called *indirect aggression,* this behavior takes the form of sly, devious, and undermining actions that express the opposite of what the person is really feeling.

pathological gambling. A failure to resist impulses to gamble, and gambling behavior that compromises, disrupts, or damages personal, family, or vocational pursuits.

pedophilia. Recurrent urges and sexually arousing fantasies involving sexual activity with a prepubescent child.

peer assistance programs. A program established by the American Nurses Association to assist impaired nurses. The individuals who administer these efforts are nurse members of the state associations, as well as nurses who are in recovery themselves.

perseveration. Persistent repetition of the same word or idea in response to different questions.

personal distance. The distance between individuals who are having interactions of a personal nature, such as a close conversation. In the U.S. culture, personal distance is approximately 18 to 40 inches.

personal identity. An individual's self-perception that defines his or her functions as observer, standard setter, and self-evaluator. It strives to maintain a stable self-image and relates to what the individual strives to become.

personal self. See **personal identity.**

personality. Deeply ingrained patterns of behavior, which include the way one relates to, perceives, and thinks about the environment and oneself.

personalization. Taking complete responsibility for situations without considering that other circumstances may have contributed to the outcome.

pharmacoconvulsive therapy. The chemical induction of a convulsion, used in the past for the reduction of psychotic symptoms; a type of therapy no longer used in psychiatry.

phencyclidine. An anesthetic used in veterinary medicine; used illegally as a hallucinogen, referred to as PCP or angel dust.

phenotype. Characteristics of physical manifestations that identify a particular genotype. Examples of phenotypes include eye color, height, blood type, language, and hairstyle. Phenotypes may be genetic or acquired.

phobia. An irrational fear.

physical neglect of a child. The failure on the part of the parent or caregiver to provide for a child's basic needs, such as food, clothing, shelter, medical-dental care, and supervision.

physical self. A personal appraisal by an individual of his or her physical being; includes physical attributes, functioning, sexuality, wellness-illness state, and appearance.

PIE charting. More specifically called "APIE," this method of documentation has an assessment, problem, intervention, and evaluation (APIE) format and is a problem-oriented system used to document nursing process.

positive reinforcement. A reinforcement stimulus that increases the probability that the behavior will recur.

postpartum depression. Depression that occurs during the postpartum period. It may be related to hormonal changes, tryptophan metabolism, or alterations in membrane transport during the early postpartum period. Other predisposing factors may also be influential.

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posttraumatic stress disorder (PTSD). A syndrome of symptoms that develop following a psychologically distressing event that is outside the range of usual human experience (e.g., rape, war). The individual is unable to put the experience out of his or her mind, and has nightmares, flashbacks, and panic attacks.

posturing. The voluntary assumption of inappropriate or bizarre postures.

preassaultive tension state. Behaviors predictive of potential violence. They include excessive motor activity, tense posture, defiant affect, clenched teeth and fists, and other arguing, demanding, and threatening behaviors.

precipitating event. A stimulus arising from the internal or external environment that is perceived by an individual as taxing or exceeding his or her resources and endangering his or her well-being.

predisposing factors. A variety of elements that influence how an individual perceives and responds to a stressful event. Types of predisposing factors include genetic influences, past experiences, and existing conditions.

Premack principle. This principle states that a frequently occurring response (R1) can serve as a positive reinforcement for a response (R2) that occurs less frequently. For example, a girl may talk to friends on the phone (R2) only if she does her homework (R1).

premature ejaculation. Ejaculation that occurs with minimal sexual stimulation or before, upon, or shortly after penetration and before the person wishes it.

premenstrual dysphoric disorder. A disorder that is characterized by depressed mood, anxiety, mood swings, and decreased interest in activities during the week prior to menses and subsiding shortly after the onset of menstruation.

presenile. Pertaining to premature old age as judged by mental or physical condition. In presenile-onset dementia, initial symptoms appear at age 65 or younger.

priapism. Prolonged painful penile erection, may occur as an adverse effect of some antidepressant medications, particularly trazodone.

primary dementia. Dementia, such as Alzheimer's disease, in which the dementia itself is the major sign of some organic brain disease not directly related to any other organic illness.

primary gain. The receipt of positive reinforcement for somaticizing by being able to avoid difficult situations because of physical complaint.

primary prevention. Reduction of the incidence of mental disorders within the population by helping individuals to cope more effectively with stress and by trying to diminish stressors within the environment.

privileged communication. A doctrine common to most states that grants certain privileges under which health-care professionals may refuse to reveal information about and communications with clients.

problem-oriented recording (POR). A system of documentation that follows a subjective data, objective data, assessment, plan, implementation, and evaluation (SOAPIE) format. It is based on a list of identified patient problems to which each entry is directed.

prodromal syndrome. A syndrome of symptoms that often precede the onset of aggressive or violent behavior. These symptoms include anxiety and tension, verbal abuse and profanity, and increasing hyperactivity.

progressive relaxation. A method of deep muscle relaxation in which each muscle group is alternately tensed and relaxed in a systematic order, with the person concentrating on the contrast of sensations experienced from tensing and relaxing.

projection. Attributing to another person feelings or impulses unacceptable to oneself.

prospective payment. The program of cost containment within the health-care profession directed at setting forth preestablished amounts that would be reimbursed for specific diagnoses.

pseudocyesis. A condition in which an individual has nearly all the signs and symptoms of pregnancy but is not pregnant; a conversion reaction.

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pseudodementia. Symptoms of depression that mimic those of dementia.

pseudohostility. A family interaction pattern characterized by a state of chronic conflict and alienation among family members. This relationship pattern allows family members to deny underlying fears of tenderness and intimacy.

pseudomutuality. A family interaction pattern characterized by a facade of mutual regard with the purpose of denying underlying fears of separation and hostility.

pseudoparkinsonism. A side effect of some antipsychotic medications. Symptoms mimic those of Parkinson's disease, such as tremor, shuffling gait, drooling, and rigidity.

psychiatric home care. Care provided by psychiatric nurses in the client's home. Psychiatric home care nurses must have physical and psychosocial nursing skills to meet the demands of the client population they serve.

psychobiology. The study of the biological foundations of cognitive, emotional, and behavioral processes.

psychodrama. A specialized type of group therapy that employs a dramatic approach in which patients become "actors" in life situation scenarios. The goal is to resolve interpersonal conflicts in a less-threatening atmosphere than the real-life situation would present.

psychodynamic nursing. Being able to understand one's own behavior, to help others identify felt difficulties, and to apply principles of human relations to the problems that arise at all levels of experience.

psychoimmunology. The study of the implications of the immune system in psychiatry.

psychomotor domain. A category of learning in which the behaviors are processed and demonstrated. The information has been intellectually processed, and the individual is displaying motor behaviors.

psychomotor retardation. Extreme slowdown of physical movements. Posture slumps; speech is slowed; digestion becomes sluggish. Common in severe depression.

psychophysiological. Referring to psychological factors contributing to the initiation or exacerbation of a physical condition. Either a demonstrable organic pathology or a known pathophysiological process is involved.

psychosis. A mental state in which there is a severe loss of contact with reality. Symptoms may include delusions, hallucinations, disorganized speech patterns, and bizarre or catatonic behaviors.

psychosomatic. See **psychophysiological.**

psychotic disorder. A serious psychiatric disorder in which there is a gross disorganization of the personality, a marked disturbance in reality testing, and the impairment of interpersonal functioning and relationship to the external world.

psychotropic medication. Medication that affects psychic function, behavior, or experience.

public distance. Appropriate interactional distance for speaking in public or yelling to someone some distance away. U.S. culture defines this distance as 12 feet or more.

purging. The act of attempting to rid the body of calories by self-induced vomiting or excessive use of laxatives or diuretics.

pyromania. An inability to resist the impulse to set fires.

Q

qi. In Chinese medicine, the healing energy that flows through pathways in the body called *meridians.* (Also called "chi").

R

rape. The expression of power and dominance by means of sexual violence, most commonly by men over women, although men may also be rape victims. Rape is considered an act of aggression, not of passion.

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rapport. The development between two people in a relationship of special feelings based on mutual acceptance, warmth, friendliness, common interest, a sense of trust, and a nonjudgmental attitude.

rationalization. Attempting to make excuses or formulate logical reasons to justify unacceptable feelings or behaviors.

reaction formation. Preventing unacceptable or undesirable thoughts or behaviors from being expressed by exaggerating opposite thoughts or types of behaviors.

receptor sites. Molecules that are situated on the cell membrane of the postsynaptic neuron that will accept only molecules with a complementary shape. These complementary molecules are specific to certain neurotransmitters that determine whether an electrical impulse will be excited or inhibited.

reciprocal inhibition. Also called counterconditioning, this technique serves to decrease or eliminate a behavior by introducing a more adaptive behavior, but one that is incompatible with the unacceptable behavior (e.g., introducing relaxation techniques to an anxious person; relaxation and anxiety are incompatible behaviors).

reframing. Changing the conceptual or emotional setting or viewpoint in relation to which a situation is experienced and placing it in another frame that fits the "facts" of the same concrete situation equally well or even better, and thereby changing its entire meaning. The behavior may not actually change, but the consequences of the behavior may change because of a change in the meaning attached to the behavior.

regression. A retreat to an earlier level of development and the comfort measures associated with that level of functioning.

relaxation. A decrease in tension or intensity, resulting in refreshment of body and mind. A state of refreshing tranquility.

religion. A set of beliefs, values, rites, and rituals adopted by a group of people. The practices are usually grounded in the teachings of a spiritual leader.

religiosity. Excessive demonstration of or obsession with religious ideas and behavior; common in schizophrenia.

reminiscence therapy. A process of life review by elderly individuals that promotes self-esteem and provides assistance in working through unresolved conflicts from the past.

repression. The involuntary blocking of unpleasant feelings and experiences from one's awareness.

residual stimuli. Certain beliefs, attitudes, experiences, or traits that may contribute to an individual's low self-esteem.

retarded ejaculation. Delayed or absent ejaculation, even though the man has a firm erection and has had more than adequate stimulation.

retrograde ejaculation. Ejaculation of the seminal fluid backward into the bladder; may occur as a side effect of antipsychotic medications.

right. That which an individual is entitled (by ethical, legal, or moral standards) to have, or to do, or to receive from others within the limits of the law.

rigid boundaries. A person with rigid boundaries is "closed" and difficult to bond with. Such a person has a narrow perspective on life, sees things one way, and cannot discuss matters that lie outside his or her perspective.

ritualistic behavior. Purposeless activities that an individual performs repeatedly in an effort to decrease anxiety (e.g., hand washing); common in obsessive-compulsive disorder.

S

sadism. Recurrent urges and sexually arousing fantasies involving acts (real, not simulated) in which the psychological or physical suffering (including humiliation) of the victim is sexually exciting.

safe house or shelter. An establishment set up by many cities to provide protection for battered women and their children.

scapegoating. Occurs when hostility exists in a marriage dyad and an innocent third person (usually a child) becomes the target of blame for the problem.

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schemas (also called *core beliefs*). Cognitive structures that consist of the individual's fundamental beliefs and assumptions, which develop early in life from personal experiences and identification with significant others. These concepts are reinforced by further learning experiences and in turn, influence the formation of other beliefs, values, and attitudes.

schizoid personality disorder. A profound defect in the ability to form personal relationships or to respond to others in any meaningful, emotional way.

schizotypal personality disorder. A disorder characterized by odd and eccentric behavior, not decompensating to the level of schizophrenia.

secondary dementia. Dementia that is caused by or related to another disease or condition, such as HIV disease or a cerebral trauma.

secondary gain. The receipt of positive reinforcement for somaticizing through added attention, sympathy, and nurturing.

secondary prevention. Health care that is directed at reduction of the prevalence of psychiatric illness by shortening the course (duration) of the illness. This is accomplished through early identification of problems and prompt initiation of treatment.

selective abstraction (sometimes referred to as "mental filter"). A type of thinking in which a conclusion is drawn based on only a selected portion of the evidence.

self-concept. The composite of beliefs and feelings that one holds about oneself at a given time, formed from perceptions of others' reactions. The self-concept consists of the physical self, or body image; the personal self, or identity; and the self-esteem.

self-consistency. The component of the personal identity that strives to maintain a stable self-image.

self-esteem. The degree of regard or respect that individuals have for themselves. It is a measure of worth that they place on their abilities and judgments.

self-expectancy. The component of the personal identity that is the individual's perception of what he or she wants to be, to do, or to become.

self-ideal. See **self-expectancy.**

senile. Pertaining to old age and the mental or physical weakness with which it is sometimes associated. In senile-onset dementia, the first symptoms appear after age 65.

sensate focus. A therapeutic technique used to treat individuals and couples with sexual dysfunction. The technique involves touching and being touched by another and focusing attention on the physical sensations encountered thereby. Clients gradually move through various levels of sensate focus that progress from nongenital touching to touching that includes the breasts and genitals; touching done in a simultaneous, mutual format rather than by one person at a time; and touching that extends to and allows eventually for the possibility of intercourse.

seroconversion. The development of evidence of antibody response to a disease or vaccine. The time at which antibodies may be detected in the blood.

sexual assault nurse examiner (SANE). A clinical forensic registered nurse who has received specialized training to provide care to the sexual assault victim.

sexual exploitation of a child. The inducement or coercion of a child into engaging in sexually explicit conduct for the purpose of promoting any performance (e.g., child pornography).

sexuality. The constitution and life of an individual relative to characteristics regarding intimacy. It reflects the totality of the person and does not relate exclusively to the sex organs or sexual behavior.

shaman. The Native American "medicine man" or folk healer.

shaping. In learning, one shapes the behavior of another by giving reinforcements for increasingly closer approximations to the desired behavior.

shelters. A variety of places designed to help the homeless, ranging from converted warehouses that provide cots or floor space on which to sleep overnight to significant operations that provide a multitude of social and health-care services.

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"ship of fools." The term given during the Middle Ages to sailing boats filled with severely mentally ill people who were sent out to sea with little guidance and in search of their lost rationality.

shiva. In the Jewish-American culture, following the death of a loved one, *shiva* is the 7-day period beginning with the burial. During this time, mourners do not work, and no activity is permitted that diverts attention from thinking about the deceased.

short-term memory. The ability to remember events that occurred very recently. This ability deteriorates with age.

silent rape reaction. The response of a rape victim in which he or she tells no one about the assault.

slander. An action with which an individual may be charged for orally sharing information that is detrimental to a person's reputation.

social distance. The distance considered acceptable in interactions with strangers or acquaintances, such as at a cocktail party or in a public building. U.S. culture defines this distance as 4 to 12 feet.

social phobia. The fear of being humiliated in social situations.

social skills training. Educational opportunities through role-play for the person with schizophrenia to learn appropriate social interaction skills and functional skills that are relevant to daily living.

Socratic questioning (also called *guided discovery*). When the therapist questions the client with Socratic questioning, the client is asked to describe feelings associated with specific situations. Questions are stated in a way that may stimulate in the client a recognition of possible dysfunctional thinking and produce a dissonance about the validity of the thoughts.

somatization. A method of coping with psychosocial stress by developing physical symptoms.

specific phobia. A persistent fear of a specific object or situation, other than the fear of being unable to escape from a situation (agoraphobia) or the fear of being humiliated in social situations (social phobia).

spirituality. The human quality that gives meaning and sense of purpose to an individual's existence. Spirituality exists within each individual regardless of belief system and serves as a force for interconnectedness between the self and others, the environment, and a higher power.

splitting. A primitive ego defense mechanism in which the person is unable to integrate and accept both positive and negative feelings. In the view of these individuals, people—including themselves—and life situations are either all good or all bad. This trait is common in borderline personality disorder.

statutory law. A law that has been enacted by legislative bodies, such as a county or city council, state legislature, or the U.S. Congress.

statutory rape. Unlawful intercourse between a person who is over the age of consent and a person who is under the age of consent. Legal age of consent varies from state to state. An individual can be arrested for statutory rape even when the interaction has occurred between consenting individuals.

stereotyping. The process of classifying all individuals from the same culture or ethnic group as identical.

stimulus. In classical conditioning, that which elicits a response.

stimulus generalization. The process by which a conditioned response is elicited from all stimuli *similar* to the one from which the response was learned.

store-front clinics. Establishments that have been converted into clinics that serve the homeless population.

stress. A state of disequilibrium that occurs when there is a disharmony between demands occurring within an individual's internal or external environment and his or her ability to cope with those demands.

stress management. Various methods used by individuals to reduce tension and other maladaptive responses to stress in their lives; includes relaxation exercises, physical exercise, music, mental imagery, or any other technique that is successful for a person.

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stressor. A demand from within an individual's internal or external environment that elicits a physiological and/or psychological response.

sublimation. The rechanneling of personally and/or socially unacceptable drives or impulses into activities that are more tolerable and constructive.

subluxation. The term used in chiropractic medicine to describe vertebrae in the spinal column that have become displaced, possibly pressing on nerves and interfering with normal nerve transmission.

substance abuse. Use of psychoactive drugs that poses significant hazards to health and interferes with social, occupational, psychological, or physical functioning.

substance dependence. Physical dependence is identified by the inability to stop using a substance despite attempts to do so; a continual use of the substance despite adverse consequences; a developing tolerance; and the development of withdrawal symptoms upon cessation or decreased intake. Psychological dependence is said to exist when a substance is perceived by the user to be necessary to maintain an optimal state of personal well-being, interpersonal relations, or skill performance.

substitution therapy. The use of various medications to decrease the intensity of symptoms in an individual who is withdrawing from, or experiencing the effects of excessive use of, substances.

subsystems. The smaller units of which a system is composed. In family systems theory, the subsystems are composed of husband-wife, parent-child(ren), or sibling-sibling.

sundowning. A phenomenon in dementia in which the symptoms seem to worsen in the late afternoon and evening.

superego. One of the three elements of the personality identified by Freud that represents the conscience and the culturally determined restrictions that are placed on an individual.

suppression. The voluntary blocking from one's awareness of unpleasant feelings and experiences.

surrogate. One who serves as a substitute figure for another.

symbiotic relationship. A type of "psychic fusion" that occurs between two people; it is unhealthy in that severe anxiety is generated in either or both if separation is indicated. A symbiotic relationship is normal between infant and mother.

sympathy. The actual sharing of another's thoughts and behaviors. Differs from **empathy,** in that with empathy one experiences an objective understanding of what another is feeling, rather than actually sharing those feelings.

synapse. The junction between two neurons. The small space between the axon terminals of one neuron and the cell body or dendrites of another is called the synaptic cleft.

syphilis. A sexually transmitted disorder caused by the spirochete *Treponema pallidum* and resulting in a chancre on the skin or mucous membranes of the sexual organs. If left untreated, it may become systemic. End-stage disease can have profound effects, such as blindness or insanity.

systematic desensitization. A treatment for phobias in which the individual is taught to relax and then asked to imagine various components of the phobic stimulus on a graded hierarchy, moving from that which produces the least fear to that which produces the most.

T

tangentiality. The inability to get to the point of a story. The speaker introduces many unrelated topics, until the original topic of discussion is lost.

tardive dyskinesia. Syndrome of symptoms characterized by bizarre facial and tongue movements, a stiff neck, and difficulty swallowing. It may occur as an adverse effect of long-term therapy with some antipsychotic medications.

technical expert. Peplau's term for one who understands various professional devices and possesses the clinical skills necessary to perform the interventions that are in the best interest of the client.

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temperament. A set of inborn personality characteristics that influence an individual's manner of reacting to the environment, and ultimately influences his or her developmental progression.

territoriality. The innate tendency of individuals to "own" space. Individuals lay claim to areas around them as their own. This phenomenon can have an influence on interpersonal communication.

tertiary gain. The receipt of positive reinforcement for somaticizing by causing the focus of the family to switch to the individual and away from conflict that may be occurring within the family.

tertiary prevention. Health care that is directed toward reduction of the residual effects associated with severe or chronic physical or mental illness.

therapeutic communication. Caregiver verbal and nonverbal techniques that focus on the care receiver's needs and advance the promotion of healing and change. Therapeutic communication encourages exploration of feelings and fosters understanding of behavioral motivation. It is nonjudgmental, discourages defensiveness, and promotes trust.

therapeutic community. Also called *milieu therapy,* this approach strives to manipulate the environment so that all aspects of the client's hospital experience are considered therapeutic.

therapeutic group. Differs from group therapy in that there is a lesser degree of theoretical foundation. Focus is on group relations, interactions between group members, and the consideration of a selected issue. Leaders of therapeutic groups do not require the degree of educational preparation required of group therapy leaders.

therapeutic relationship. An interaction between two people (usually a caregiver and a care receiver) in which input from both participants contributes to a climate of healing, growth promotion, and/or illness prevention.

thought-stopping technique. A self-taught technique that an individual uses each time he or she wishes to eliminate intrusive or negative, unwanted thoughts from awareness.

time out. An aversive stimulus or punishment during which the individual is removed from the environment where the unacceptable behavior is being exhibited.

token economy. In behavior modification, a type of contracting in which the reinforcers for desired behaviors are presented in the form of tokens, which may then be exchanged for designated privileges.

tolerance. The need for increasingly larger or more frequent doses of a substance in order to obtain the desired effects originally produced by a lower dose.

tort. The violation of a civil law in which an individual has been wronged. In a tort action, one party asserts that wrongful conduct on the part of the other has caused harm, and compensation for harm suffered is sought.

transference. Transference occurs when a client unconsciously displaces (or "transfers") to the nurse or therapist feelings formed toward a person from his or her past.

transgenderism. A disorder of gender identity or gender dysphoria (unhappiness or dissatisfaction with one's gender) of the most extreme variety. The individual, despite having the anatomical characteristics of a given gender, has the self-perception of being of the opposite gender, and may seek to have gender changed through surgical intervention.

transvestic fetishism. Recurrent urges and sexually arousing fantasies involving dressing in the clothes of the opposite gender.

triangles. A three-person emotional configuration that is considered the basic building block of the family system. When anxiety becomes too great between two family members, a third person is brought in to form a triangle. Triangles are dysfunctional in that they offer relief from anxiety through diversion rather than through resolution of the issue.

trichotillomania. The recurrent failure to resist impulses to pull out one's own hair.

type A personality. The personality characteristics attributed to individuals prone to coronary heart disease, including excessive

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competitive drive, chronic sense of time urgency, easy anger, aggressiveness, excessive ambition, and inability to enjoy leisure time.

type B personality. The personality characteristics attributed to individuals who are not prone to coronary heart disease; includes characteristics such as ability to perform even under pressure but without the competitive drive and constant sense of time urgency experienced by the type A personality. Type Bs can enjoy their leisure time without feeling guilty, and they are much less impulsive than type A individuals; that is, they think things through before making decisions.

type C personality. The personality characteristics attributed to the cancer-prone individual. Includes characteristics such as suppression of anger, calm, passive, puts the needs of others before his or her own, but holds resentment toward others for perceived "wrongs."

type D personality. Personality characteristics attributed to individuals who are at increased risk of cardiovascular morbidity and mortality. The characteristics include a combination of negative emotions and social inhibition.

tyramine. An amino acid found in aged cheeses or other aged, overripe, and fermented foods; broad beans; pickled herring; beef or chicken liver; preserved meats; beer and wine; yeast products; chocolate; caffeinated drinks; canned figs; sour cream; yogurt; soy sauce; and some over-the-counter cold medications and diet pills. If foods high in tyramine content are consumed while an individual is taking MAO inhibitors, a potentially life-threatening syndrome called hypertensive crisis can result.

U

unconditional positive regard. Carl Rogers' term for the respect and dignity of an individual regardless of his or her unacceptable behavior.

unconditioned response. In classical conditioning, a reflexive response to a specific target stimulus.

unconditioned stimulus. In classical conditioning, a specific stimulus that elicits an unconditioned, reflexive response.

undoing. A mechanism used to symbolically negate or cancel out a previous action or experience that one finds intolerable.

universality. One curative factor of groups (identified by Yalom) in which individuals realize that they are not alone in a problem and in the thoughts and feelings they are experiencing. Anxiety is relieved by the support and understanding of others in the group who share similar experiences.

utilitarianism. The ethical theory that espouses "the greatest happiness for the greatest number." Under this theory, action would be taken based on the end results that will produce the most good (happiness) for the most people.

V

vaginismus. Involuntary constriction of the outer one third of the vagina that prevents penile insertion and intercourse.

values. Personal beliefs about the truth, beauty, or worth of a thought, object, or behavior, that influence an individual's actions.

values clarification. A process of self-discovery by which people identify their personal values and their value rankings. This process increases awareness about why individuals behave in certain ways.

velorio. In the Mexican-American culture, following the death of a loved one, the *velorio* is a festive watch by family and friends over the body of the deceased person before burial.

veracity. An ethical principle that refers to one's duty to always be truthful.

voyeurism. Recurrent urges and sexually arousing fantasies involving the act of observing unsuspecting people, usually strangers, who are either naked, in the process of disrobing, or engaging in sexual activity.

W

waxy flexibility. A condition by which the individual with schizophrenia passively yields all movable parts of the body to any efforts made at placing them in certain positions.

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Wernicke's encephalopathy. A brain disorder caused by thiamine deficiency and characterized by visual disturbances, ataxia, somnolence, stupor, and, without thiamine replacement, death.

withdrawal. The physiological and mental readjustment that accompanies the discontinuation of an addictive substance.

word salad. A group of words that are put together in a random fashion without any logical connection.

Y

yin and yang. The fundamental concept of Asian health practices. Yin and yang are opposite forces of energy such as negative/positive, dark/light, cold/hot, hard/soft, and feminine/masculine. Food, medicines, and herbs are classified according to their yin and yang properties and are used to restore a balance, thereby restoring health.

yoga. A system of beliefs and practices, the ultimate goal of which is to unite the human soul with the universal spirit. In Western countries, yoga uses body postures, along with meditation and breathing exercises, to achieve a balanced, disciplined workout that releases muscle tension, tones the internal organs, and energizes the mind, body, and spirit, so that natural healing can occur.

References

American Nurses' Association. (ANA). (2010). *Nursing: Scope and standards of practice* (2nd ed.). Silver Spring, MD: Author.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). *Text revision.* Washington, DC: American Psychiatric Publishing.

Kaakinen, J. R., Hanson, S. M. H., & Denham, S. A. (2010). Family health care nursing: An introduction. In J. R. Kaakinen, V. Gedaly-Duff, D. P. Coehlo, & S. M. H. Hanson (Eds.), *Family health care nursing* (4th ed.). Philadelphia: F.A. Davis.

Moorhead, S., Johnson, M., Maas, M., & Swanson, E. (2008). *Nursing outcomes classification (NOC)* (4th ed.). St. Louis, MO: Mosby Elsevier.

Shahrokh, N. C., & Hales, R. E. (2003). *American psychiatric glossary* (8th ed.). Washington, DC: American Psychiatric Publishing.