perphenazine (per-fen-a-zeen)

**Classification**
Therapeutic: antiemetics, antipsychotics (conventional)
Pharmacologic: phenothiazines

**Pregnancy Category C**

**Indications**
Schizophrenia. Nausea and vomiting. 

**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.

**Distribution:**
Widely distributed, high concentrations in the CNS; crosses the placenta and enters breast milk.

**Protein Binding:**
90%.

**Metabolism and Excretion:**
Mostly metabolized by the liver (CYP2D6 isoenzyme); the CYP2D6 enzyme system exhibits genetic polymorphism; 7% of population may be poor metabolizers (PMs) and may have significantly reduced perphenazine concentrations and an increased risk of adverse effects.

**Half-life:**
8.4–12.3 hr.

**TIME/ACTION PROFILE (antipsychotic effect†)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>2–6 hr</td>
<td>6–12 hr</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Contraindications/Precautions**

**Contraindicated in:**
CNS depression (cross sensitivity with other phenothiazines may occur). Ample clinical experience in treating patients who have experienced depression or blood dyscrasia. Severe liver or cardiovascular disease, Intestinal obstruction. 

**Use Cautiously in:**
Diabetes mellitus; Respiratory disease; Prostatic hyperplasia; CNS tumors; History of seizure disorder; Geri: Genetic, congenital, or deformed patients (one half to one third of usual initial dose recommended); risk of mortality in elderly patients treated for dementia-related psychosis; OB, Pedi: Safety not established.

**Adverse Reactions/Side Effects**

**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, describes changes in appetite, constipation, diarrhea, nausea, vomiting.

**GU:** Discoloration of urine, urinary retention.

**Derm:** Photosensitivity, pigmented 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, sedative-hypnotics, and general anesthetics. Additive anticholinergic effects with other drugs possessing anticholinergic properties, including anticholinergics, antihistamines, antidepressants, antipsychotics, disopyramide, haloperidol, and other phenothiazines. Interactions with other agents that cause bone marrow suppression, including antineoplastics and other agents that cause bone marrow suppression, including antineoplastics and other anticholinergic agents. Risk of extrapyramidal reactions with lithium. May mask lithium toxicity.**

**Route/Dosage**

<table>
<thead>
<tr>
<th>PO (Adults):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia—2–16 mg 2–4 times daily (not to exceed 64 mg/day).</td>
</tr>
<tr>
<td>Nausea/vomiting—8–16 mg/day in divided doses (not to exceed 24 mg/day).</td>
</tr>
</tbody>
</table>

**NURSING IMPLICATIONS**

**Assessment**

- Assess mental status (orientation, mood, behavior) prior to and periodically during therapy.

**Potential Nursing Diagnoses**

- Risk for injury (diabetes mellitus) related to side effects (leukopenia, agranulocytosis, agranulocytosis)
Assess fasting blood glucose, cholesterol level, weight, and BMI, initially and periodically throughout therapy. Refer as appropriate for nutritional/weight management and medical management.

● Assess positive (hallucinations, delusions, agitation) and negative (social withdrawal) symptoms of schizophrenia.

● Monitor BP (sitting, standing, lying), ECG, pulse, and respiratory rate prior to and periodically 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 chewed.

● Assess fluid intake and bowel function. Increased bulk and fluids in the diet may help minimize constipation.

● Monitor for onset of akathisia (restlessness or desire to keep moving) and extrapyramidal side effects (parkinsonian—difficulty speaking or swallowing, loss of balance control, gait inability; dystonic—muscle spasms, twisting motions, tremor, and rigidity).—muscle spasm of arms and legs (severe dystonia may be refractory to antispasmodic agents).—mask-like face, shuffling gait, pill rolling of hands, rigidity, tremors; and dystonic—muscle spasms, twisting motions, tremor, rigidity, immobility).—bedtime report to hospital if drug treatment is necessary.

● Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, convulsions, diaphoresis, hypotension, or hypotension, 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 skin irritation and output. Patients with severe nausea and vomiting may require IV fluids with electrolytes in addition to antihistamines.

● Lab Test Considerations: Evaluate CBC, liver function tests, and ocular examinations periodically during therapy. May cause neutropenia, hematocrit, hemoglobin, leukocytes, granulocytes, or platelets. May cause serum creatinine, AST, ALT, and alkaline phosphatase. Agranulocytosis occurs after 4–10 wk of therapy; liver function abnormalities may require discontinuation of therapy.

● May cause false-positive or false-negative pregnancy test results and false-positive stool hemoccult results.

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 without regard to meals. 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), tannins (tea), or pectinates (apple juice). The concentration should be 5 mL of perphenazine oral concentrate in 60 mL of diluent.

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 within 4–6 hr after the missed dose. Do not exceed 4 doses/day without prior consultation.
- 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 sun. Exposed surfaces may develop a blue-gray pigmentation, which may fade follow-
Continued

Perphenazine

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 medications.

Instruct patient that the medications 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.

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 positive symptoms (hallucinations, delusions, agitation) of schizophrenia.
- Relief of nausea and vomiting.
- Decrease in excitable, manic behavior.

Why was this drug prescribed for your patient?