haloperidol (ha-loe-per-i-dole)
Haldol, Haldol Decanoate

Classification
Therapeutic: antipsychotics
Pharmacologic: butyrophenones

Pregnancy Category C

Indications
Acute and chronic psychotic disorders including: schizophrenia, manic states, drug-induced psychoses. Patients with schizophrenia 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. Unlabeled 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: 92%.
Metabolism and Excretion: Mostly metabolized by the liver.
Half-life: 21–24 hr.

TIME/ACTION PROFILE (antipsychotic activity)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>2 hr</td>
<td>2–6 hr</td>
<td>8–12 hr</td>
</tr>
<tr>
<td>IM</td>
<td>20–30 min</td>
<td>30–45 min</td>
<td>4–8 hr†</td>
</tr>
<tr>
<td>IM (decanoate)</td>
<td>3–9 days</td>
<td>unknown</td>
<td>1 mo</td>
</tr>
</tbody>
</table>

†Effect may persist for several days.

Contraindications/Precautions
Contraindicated in: Hypersensitivity; Angle-closure glaucoma; Bone marrow depression; CNS depression; Parkinsonism; Severe liver or cardiovascular disease (QT interval prolonging conditions). Some products contain tartrazine, wine or alcohol, and should not be used in patients with known intolerance or hypersensitivity.

Use Cautiously in: Dehydrated patients (dose required); Gastrointestinal bleeding; Seizure disorders; OB: Neonates at risk for extrapyramidal symptoms and withdrawal after delivery if exposed during the 3rd trimester; use only if benefit outweighs risk to fetus; Lactation: Discontinue drug or bottle-feed; Ger: Dose may require dose adjustment; Risk of mortality in elderly patients with dementia-related psychosis.

Adverse Reactions/Side Effects
CNS: SEIZURES, extrapyramidal reactions, confusion, drowsiness, restlessness, tardive dyskinesia.
EENT: blurred vision, dry eyes.
Resp: respiratory depression.
CV: hypotension, tachycardia, ECG changes (QT prolongation, torsade de pointes), ven- tricular arrhythmias.
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: May enhance the QTc-prolonging effect of QTc-prolonging agents. May increase antipsychotic effects of drugs having anticholinergic properties, including antihistaminics, antidepressants, atropine, phenothiazines, quinidine, and disopyramide. May enhance the depression of CNS depression, including alcohol.

Notes
Discard if变为unlabeled.
Haloperidol

PO (Adults): 0.5–5 mg 2–3 times daily. Patients with severe symptoms may require up to 100 mg/day.
PO (Hepatic Patients or Debilitated Patients): 0.5–2 mg twice daily initially; may be gradually increased as needed.
PO (Children 3–12 yr or 15–40 kg): 0.25–0.5 mg/day in 2–3 divided doses, increase by 0.25–0.5 mg every 5–7 days; maximum dose: 0.15 mg/kg/day (up to 0.7 mg/kg/day for Tourette's syndrome or 0.15 mg/kg/day for psychosis).
IM (Adults): 2–5 mg q 1–8 hr (not to exceed 100 mg/day).
IM (Children 6–12 yr): 1–3 mg/dose every 4–8 hours to a maximum of 0.15 mg/kg/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).

NURSING IMPLICATIONS

Assessment
- Assess mental status (orientation, mood, behavior) prior to and periodically during therapy.
- Assess positive (hallucinations, delusions) and negative (social isolation) symptoms of schizophrenia.
- Monitor BP (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 urine, urinoma, hemoconcentration), especially in pediatric 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 occur within 6 hr of 1st dose and may be difficult to distinguish from psychomotor agitation. Benztropine may be used to differentiate agitation from akathisia. Observe closely for extrapyramidal side effects (tardive dyskinesia—difficulty speaking or swallowing, loss of balance control, pill rolling of hands, mask-like facies, shuffling gait, rigidity, tremors, and dystonia—muscle spasm, retrocollis, torticollis, and blepharospasm); 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, by chewing or puckering, pulling 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 (mammary abnormalities, galactorrhea, sexual dysfunction).
- Monitor for development of neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hyperpyrexia or hypothermia, paresthesias, myoclonus, fever, tachycardia, 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 for symptoms of tardive dyskinesia (uncontrolled rhythmic movements of mouth, face, and extremities, by chewing or puckering, pulling of cheeks, uncontrolled chewing, rapid or worm-like movements of tongue, excessive eye blinking). Report immediately; may be irreversible.
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- Lab Test Considerations: Monitor CBC with differential and liver function tests periodically during therapy.
- Monitor serum prolactin before and periodically during therapy. May cause serum prolactin levels.

Potential Nursing Diagnoses
- Disturbed thought processes (Indications)
- Disturbed sensory perception (specify: visual, auditory, kinesthetic, gustatory, tactile, olfactory) (Indications)

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.
haloperidol

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 saline.

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:

Alemtuzumab, amifostine, aminocaproic acid, amiodarone, amphotericin B liposome, ampicillin, ampicillin/sulbactam, azathioprine, bumetanide, calcium chloride, cephalothin, cefazolin, cefepime, cefotaxime, ceftriaxone, cefuroxime, chloramphenicol, clindamycin, colchicine, cyclophosphamide, cytarabine, dactinomycin, daptomycin, dexamethasone, dexmedetomidine, dexrazoxane, diltiazem, docetaxel, doxacurium, doxorubicin hydrochloride, doxorubicin liposome, etoposide, etoposide phosphate, famotidine, fenoldopam, filgrastim, fludarabine, gemcitabine, granisetron, heparin, hydromorphone, idarubicin, ifosfamide, irinotecan, ketamine, leucovorin calcium, leucovorin potassium, levofloxacin, linezolid, lorazepam, mechlorethamine, melphalan, methadone, metronidazole, milrinone, mitoxantrone, morphine, moxifloxacin, mycophenolate, nesiritide, nicardipine, octreotide, oxaliplatin, paclitaxel, palonosetron, pamidronate, pancuronium, pemetrexed, potassium acetate, propofol, quinupristin/dalfopristin, remifentanil, rituximab, rocuronium, sodium acetate, tacrolimus, teniposide, thiotepa, tigecycline, tirofiban, trastuzumab, vecuronium, vinblastine, vincristine, vinorelbine, voriconazole, zoledronic acid.

Y-Site Incompatibility:

Acyclovir, allopurinol, aminophylline, amphotericin B cholesteryl complex, amphotericin B colloidal, amphotericin B lipid complex, amphotericin B lipid complex, amphotericin B liposome, ampicillin, amoxicillin, azathioprine, bumetanide, calcium chloride, cephalothin, cefazolin, cefepime, cefotaxime, ceftriaxone, cefuroxime, chloramphenicol, clindamycin, colchicine, cyclophosphamide, cytarabine, doxorubicin, doxorubicin liposome, etoposide, etoposide phosphate, famotidine, fenoldopam, filgrastim, fludarabine, gemcitabine, granisetron, heparin, hydromorphone, idarubicin, ifosfamide, irinotecan, ketamine, leucovorin calcium, leucovorin potassium, levofloxacin, linezolid, lorazepam, mechlorethamine, melphalan, methadone, metronidazole, milrinone, mitoxantrone, morphine, moxifloxacin, mycophenolate, nesiritide, nicardipine, octreotide, oxaliplatin, paclitaxel, palonosetron, pamidronate, pancuronium, pemetrexed, potassium acetate, propofol, quinupristin/dalfopristin, remifentanil, rituximab, rocuronium, sodium acetate, tacrolimus, teniposide, thiotepa, tigecycline, tirofiban, trastuzumab, vecuronium, vinblastine, vincristine, vinorelbine, voriconazole, zoledronic acid.

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, tardive dyskinesia, and neuroleptic malignant syndrome. Caution patient to report symptoms immediately.

Advise patient to change positions slowly to minimize orthostatic hypotension.

Warn patient to avoid driving or other activities requiring alertness until response to medication is known.

Inform patient to avoid alcohol or other CNS depressants concurrently with this medication.

Instruct patient to use sunscreen and protective clothing when exposed to the sun to prevent photosensitivity reactions. Extreme of temperature should also be avoided; drug impairs both 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.

Inform patient to notify health care professional promptly if weakness, tremor, visual disturbances, dark-colored urine or clay-colored stools, sore throat, fever, numbness in fingers or toes, 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.

Why was this drug prescribed for your patient?