methotrimeprazine (meth-oh-try-mep-ra-zen)

**Classification**

Pharmacologic: phenothiazines

**Indications**

Management of psychotic disturbances. Management of conditions associated with anxiety/tension. As an analgesic and adjunct in pain due to cancer, zona, trigeminal neuralgia, intercostal neuralgia, phantom limb pain and muscular discomforts. Used as a preoperative sedative. As an antiemetic. As a sedative in the treatment of insomnia.

**Action**

Sedative. **Therapeutic Effects:** Reduction in severity of pain.

**Pharmacokinetics**

**Absorption:** Well absorbed after PO/IM administration. IV administration results in complete bioavailability.

**Distribution:** Enters CSF and crosses the placenta. Minimal amounts enter breast milk.

**Metabolism and Excretion:** Mostly metabolized by the liver. Some metabolites are active; 1% excreted unchanged by the kidneys.

**Half-life:** PO—10.3–10.8 hr; IM—15–30 hr.

**TIME/ACTION PROFILE**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO (blood levels)</td>
<td>unknown</td>
<td>2.7–2.9 hr</td>
<td>8–12 hr</td>
</tr>
<tr>
<td>IM (analgesia)</td>
<td>unknown</td>
<td>20–40 min</td>
<td>8 hr (up to 24 hr in children)</td>
</tr>
</tbody>
</table>

**Contraindications/Precautions**

**Contraindicated in:**
- Blood dyscrasias; Hepatic impairment; Hypersensitivity to methotrimeprazine, phenothiazines or sulfites; Comatose patients or those who have overdosed on CNS depressants including alcohol, analgesics, opioids or sedative/hypnotics.
- OB: Third-trimester use may result in agitation, hypotonia, somnolence, respiratory distress and feeding disturbances in newborns and should be avoided.

**Use Cautiously in:**
- History of seizures; History of glaucoma or prostatic hypertrophy (increased risk of anticholinergic adverse reactions); Bradycardia, electrolyte abnormalities, hypoglycemia, hypokalemia, hypocalcemia, hyperglycemia, hyperprolactinemia; Concomitant use with other drugs may increase the risk of adverse cardiac effects.
- Geri: Administer with caution to elderly patients (initial dosage recommended, risk of death in elderly patients with dementia);
- Lactation: Safety not established.
- Pedi: Safe use in children not established.

**Adverse Reactions/Side Effects**

**CNS:** NEUROLEPTIC MALIGNANT SYNDROME, SEIZURES, amnesia, drowsiness, excess sedation, disorientation, euphoria, extrapyramidal reactions, headache, slurred speech, tardive dyskinesia, weakness.

**EENT:** Nasal congestion.

**CV:** Orthostatic hypotension, bradycardia, palpitations, tachycardia.

**GI:** Constipation, abdominal discomfort, dry mouth, nausea, vomiting.

**GU:** Difficulty in urination.

**Endo:** Hyperglycemia, hyperprolactinemia.

**Hemat:** Blood dyscrasias.

**Local:** Pain at injection site.

**Misc:** Chills.

**Interactions**

**Drug-Drug:**
- CNS depressants, including alcohol, antidepressants, antihistamines, opioid analgesics, sedative/hypnotics (risk of respiratory depression).
- Anticholinergic adverse effects with antihistamines, antidepressants, phenothiazines, quinidine, disopyramide, atropine, or scopolamine (reduce dosage of concomitant atropine or scopolamine). Reversal of anticholinergic adverse effects with anticholinergic agents such as atropine or scopolamine (reduce dosage of concomitant atropine or scopolamine). Reversal of anticholinergic adverse effects with anticholinergic agents such as atropine or scopolamine (reduce dosage of concomitant atropine or scopolamine). Reversal of anticholinergic adverse effects with atropine or scopolamine (reduce dosage of concomitant atropine or scopolamine).

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suppressor effects of epinephrine (avoid concurrent use—risk of hypotension with acute ingestion of alcohol, nitrates, MAH inhibitors, or antihypertensives. Concurrent use with sympathomimetics may result in tachycardia, hypotension, CNS stimulation, delirium, and/or extrapyramidal symptoms.

Drug-Natural Products: Concomitant use of kava, valerian, skullcap, chamomile, or hops risk of CNS depression.

Route/Dosage
PO (Adults): Minor conditions—6–25 mg/day in three divided doses (if sedation occurs, use a smaller daytime dose and a larger dose at bedtime); Night time sedative—10–25 mg as a single bedtime dose; Psychoses/intense pain—50–75 mg/day in two to three divided doses; dose may be increased upward to desired effect (doses of 1 g/day have been used, if daily dose exceeds 100–200 mg, administer in divided doses and keep patient at bedrest).
PO (Children): 0.25 mg/kg/day in three divided doses (not to exceed 40 mg/day in children <12 yr).
IM (Adults): Post-operative analgesic adjunct—10–25 mg q 8 hr, if given with opioids/decrease opioid dose by 50%.
IM (Children): Analgesia—62.5–125 mcg (0.0625–0.125 mg)/kg/day single dose or divided doses, change to oral medication as soon as possible.
IV (Children): Palliative care setting—62.5 mcg (0.0625 mg)/kg/day in 250 mL of 5% dextrose solution as a slow infusion (20–40 drops/min).

NURSING IMPLICATIONS
Assessment
● Assess type, location, and intensity of pain before and 30 min after administration.
● Monitor BP frequently after injection. Orthostatic hypotension, fainting, syncope, and weakness frequently occur from 10 min to 12 hr after administration. Patient should remain supine for 6–12 hr after injection.
● Assess weight and BMI initially and throughout therapy.
● Observe patient carefully for extrapyramidal side effects (parkinsonian—difficulty speaking or swallowing, loss of balance control, pill rolling, mask-like face; dystonic—muscle spasms, twisting, inability to move eyes, weakness of arms or legs). Usually occur only after prolonged or high-dose therapy. Usually resolve with dose decrease or administration of antiparkinsonian agent.
● Monitor for neuroleptic malignant syndrome (fever, respiratory distress, tachycardia, seizures, diaphoresis, hypertension or hypotension, pallor, tachycardia). Discontinue methotrimeprazine and notify health care professional immediately if these symptoms occur.
● Methotrimeprazine potentiates the action of other CNS depressants but can be given in conjunction with modified doses of opioid analgesics for management of severe pain. This medication does not significantly depress respiratory status and can be used where pulmonary reserve is low.
● Monitor for symptoms related to hyperprolactinemia (menstrual abnormalities, galactorrhea, sexual dysfunction).
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● Lab Test Considerations: Monitor CBC prior to and periodically during therapy and liver function tests should be evaluated periodically throughout long-term (>30 days) therapy.
● Monitor blood glucose prior to and periodically during therapy. May cause hyperglycemia.
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Potential Nursing Diagnoses
Acute pain (Indications)
Risk for injury (Side Effects)
Implementation
● PO: May be administered during day or only at night depending on indication.
● IM: Do not inject subcut. Inject slowly into deep, well-developed muscle. Retain injection sites.
● Intravenous Infusion: For patients in palliative care, may be infused at 0.0625 mcg/kg/hr in 250 mL of DSW. Infuse slowly—20–40 drops per minute.
● Y-Site Compatibility: fentanyl, hydromorphone, meperidine, morphine, sufentanil.
● Y-Site Incompatibility: heparin.

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Patient/Family Teaching

- Instruct patient on how and when to ask for pain medication.
- Instruct patient to take medication as directed. Take missed doses as soon as remembered unless almost time for next dose; do not double dose. Advise patient to read Patient Information leaflet prior to starting therapy and with each Rx refill in case of changes.
- Advise patients to make position changes slowly and to remain recumbent for 6–12 hr after administration to minimize orthostatic hypotension.
- May cause dizziness. Caution patient to request assistance with ambulation and transfer and to avoid driving or other activities requiring alertness until response to the medication is known.
- Advise patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to consult with health care professional before taking any other medications, especially OTC medications.
- 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. Extreme of temperatures 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.
- Instruct patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, weakness, tremors, dark-colored urine, or clay-colored stools or signs of blood clots (swelling, pain, and redness in an arm or leg that can be warm to touch, sudden chest pain, difficulty breathing, heart palpitations) occur.

Evaluation/Desired Outcomes

- Decrease in severity of pain.

Why was this drug prescribed for your patient?

- Canadian drug name
- Genetic Implication. CAPI TALS indicate life-threatening, underline indicates most frequent. Strikethrough indicates discontinued.