scopolamine (see-pol-a-meen)
Scopolamine Transderm
Scopace, Transderm-V

**Classification**

**Therapeutic:** antiemetics

**Pharmacologic:** anticholinergics

**Pregnancy Category C**

**Indications**

**Transdermal:** Prevention of motion sickness. Management of nausea and vomiting associated with opioid analgesia or general anesthesia/recovery from anesthesia. IM, IV, Subcut: Preoperatively to produce amnesia and to decrease salivation and excessive respiratory secretions. PO: Symptomatic treatment of prostatic hypertrophy, Parkinson's disease, and paralytic ileus. Treatment of spasticity. Inhibits excessive motility and hypertonus of GI tract in irritable colon syndrome, mild dysentery, and diverticulitis. Prevention of motion sickness.

**Action**

Inhibits the muscarinic activity of acetylcholine. Corrects the imbalance of acetylcholine and norepinephrine in the CNS, which may be responsible for motion sickness.

**Therapeutic Effects:** Reduction of nausea and vomiting. Preoperative amnesia and decreased secretions. Reduction of spasms.

**Pharmacokinetics**

**Absorption:** Well absorbed following IM, subcut, and transdermal administration.

**Distribution:** Crosses the placenta and blood-brain barrier.

**Metabolism and Excretion:** Mostly metabolized by the liver.

**Half-life:** 8 hr.

**TIME/ACTION PROFILE (antiemetic, sedative properties)**

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV, IM, subcut</td>
<td>30 min</td>
<td>1 hr</td>
<td>4–6 hr</td>
</tr>
<tr>
<td>PO</td>
<td>30 min</td>
<td>1 hr</td>
<td>4–6 hr</td>
</tr>
<tr>
<td>Transdermal</td>
<td>4 hr</td>
<td>unknown</td>
<td>72 hr</td>
</tr>
</tbody>
</table>

**Contraindications/Precautions**

**Contraindicated in:** Hypersensitivity, hypermotility in ileus (transient only); Angle-closure glaucoma; Prostatic hypertrophy; Paralytic ileus; Paralysis agitans. **Use Cautiously in:** Possible intestinal obstruction; Prostatic hypertrophy; Chronic renal, hepatic, pulmonary, or cardiac disease. **Use Only with Caution in:** Narrow-angle glaucoma; Patients with a history of closed-angle glaucoma; Elderly patients; Patients with a history of closed-angle glaucoma; Patients with a history of diminished renal function; Patients with a history of reduced GI motility; Patients with a history of respiratory depression; Patients with a history of liver disease; Patients with a history of reduced GI motility; Patients with a history of respiratory depression; Patients with a history of liver disease; Patients with a history of reduced GI motility; Patients with a history of respiratory depression; Patients with a history of liver disease; Patients with a history of reduced GI motility; Patients with a history of respiratory depression; Patients with a history of liver disease; Patients with a history of reduced GI motility; Patients with a history of respiratory depression; Patients with a history of liver disease; Patients with a history of reduced GI motility; Patients with a history of respiratory depression; Patients with a history of liver disease.

**Adverse Reactions/Side Effects**

**CNS:** Drowsiness, confusion, panic attacks, hallucinations, agitation, decreased consciousness.

**EENT:** Blurred vision, mydriasis, photophobia, dry mouth.

**CV:** Tachycardia, palpitations.

**GI:** Constipation, dry mouth, nausea.

**GU:** Urinary retention.

**Derm:** Dryness, sweating.

**Interactions**

**Drug-Drug:** May potentiate anticholinergic effects of other anticholinergic agents (e.g., antihistamines, antidepressants). May also potentiate anticholinergic effects of other antiholicholinergic agents (e.g., antihistamines, antidepressants).

**Drug-Natural Products:** May potentiate anticholinergic effects of jimson weed and scopolia.

**Route/Dosage**

**Transdermal (Adults):**

- Motion sickness—Apply 1 patch 4 hr prior to travel and then every 3 days (as needed);
- Preoperative—Apply 1 patch the evening before surgery or 1 hr prior to cesarean section (remove 24 hr after surgery).

**PO (Adults):** 0.4–0.8 mg; may repeat every 8–12 hr as needed (dose may be increased in parkinsonism and spastic states); for motion sickness, give at least 1 hr before exposure to motion.

**IM, IV, Subcut (Adults):**

- Antiemetic/anticholinergic—0.3–0.6 mg;
- Antisecretory effect—0.2–0.6 mg;
- Amnestic effect—0.32–0.65 mg;
- Sedation—0.6 mg 3–4 times daily.

**IM (Children):**

- Antiemetic/anticholinergic—6 mcg/kg or 0.2 mg/m².
- Antisecretory—1 mg/m².

**IM (Children 8–12 yr):**

- Antisecretory—0.3 mg.

**IM (Children 3–8 yr):**

- Antisecretory—0.2 mg.

**IM (Children 7 mo–3 yr):**

- Antisecretory—0.15 mg.

**IM (Children 4–7 mo):**

- Antisecretory—0.1 mg.

**Use Cautiously with Other Drugs/Antiemetics/anticholinergics.** May alter the absorption of other orally administered drugs by slowing motility of the GI tract. May potentiate anticholinergic effects with oral wax-matrix potassium chloride preparations.

**Drug-Natural Products:** May potentiate anticholinergic effects of jimson weed and scopolia.
NURSING IMPLICATIONS

Assessment

- Assess patient for signs of urinary retention periodically during therapy.
- Monitor heart rate periodically during parenteral therapy.
- Assess patient for pain prior to administration. Scopolamine may act as a stimulant in the presence of pain, producing delirium if used without opioid analgesics.
- Anticholinergic: Assess for nausea and vomiting periodically during therapy.

Potential Nursing Diagnoses

Impaired renal function (Indications) (Side Effects)

Implementation

- PO: Administration at least 1 hr prior to exposure to travel for motion sickness. Tablets may be crushed or dissolved in water to decrease onset.

IV Administration

- pH: 5.0-6.5
- Direct IV: Scopolamine should be diluted with sterile water for injection prior to IV administration. Concentration: Dilute dose with an equal volume of diluent.
- Rate: Inject slowly over 2-5 min.
- Syringe Compatibility: ampicillin, benzylpenicillin, chloramphenicol, clindamycin, doxycycline, erythromycin, flucloxacillin, gentamicin, imipenem, insulin, isoniazid, kanamycin, methadone, metronidazole, nalidixic acid, neomycin, nitrofurantoin, penicillin, penicillin G, penicillin V, piperacillin, tobramycin, vancomycin, vinblastine, vincristine, zidovudine, zosyn.
- Type: Compatibility: lidocaine, lidocaine hydrochloride, meperidine, meptazinol, midazolam, morphine, naltrexone, ondansetron, promethazine, promazine, quetiapine, propofol, ranitidine, sufentanil, thiotepa, thiopental, nalbuphine.
- Y-Site Compatibility: acetaminophen, dopamine, lidocaine, meperidine, midazolam, nalbuphine, morphine, oxycodone, promethazine, promazine, ranitidine, sufentanil, thiopental.

Patient/Family Teaching

- Advise patient to avoid concurrent use of alcohol and other CNS depressants with this medication.
- Inform patient that frequent mouth rinses, good oral hygiene, and sugarless gum or candy may minimize dry mouth.
- Transdermal: Instruct patient on application of transdermal patches. Apply at least 4 hr (US product) before exposure to travel to prevent motion sickness. Wash hands and dry thoroughly before and after application. Apply to hairless, clean, dry area behind ear; avoid areas with cuts or irritation. Apply pressure over system to ensure contact with skin. System is ineffective for 9 days. If system becomes dislodged, replace with same system on another site behind the ear. System is waterproof and not affected by bathing or showering.
- Inform patient to remove patch and notify health care professional immediately if symptoms of acute angle-closure glaucoma (pain or reddening of the eye with pupillary dilation) occur.
- Instruct patient engaging in underwater sports of potentially distorting effects of scopolamine.
- For perioperative nausea and vomiting, apply patch the night before surgery, or 1 hr prior to General anaesthesia to minimize exposure to infant. Keep patch in place for 24 hr; then remove and discard.
- Advise patient referred for MRI test to discuss patch with referring health care professional and MRI facility to determine if removal of patch is necessary prior to test and for directions for replacing patch.

Evaluation/Desired Outcomes

- Decrease in salivary and respiratory secretion preoperatively.
- Postoperative amnesia.
- Prevention of motion sickness.
- Prevention and treatment of opioid- or anesthesia-induced nausea and vomiting.
- Sedation in squares.
- Sedation in increases GI motility.

Why was this drug prescribed for your patient?