**OXYBUTYNIN**

(ox-i-byoo-ti-nin)

**oxybutynin (oral)**

Ditropan, Ditropan XL

**oxybutynin (gel)**

Gelnique

**oxybutynin (transdermal system)**

Oxytrol, Oxytrol for Women

**Classification**

Therapeutic: urinary tract antispasmodics

Pharmacologic: anticholinergics

**Pregnancy Category B**

**Indications**

Urinary symptoms that may be associated with neurogenic bladder including: Frequent urination, Urgency, Nocturia, Urge incontinence. Overactive bladder with symptoms of urge incontinence, urgency, and frequency.

**Action**

Inhibits the action of acetylcholine at postganglionic receptors. Has direct spasmolytic action on smooth muscle, including smooth muscle lining the GU tract, without affecting vascular smooth muscle. **Therapeutic Effects:** Increased bladder capacity. Delayed desire to void. Decreased urge incontinence, urinary urgency, and frequency and decreased number of urinary accidents associated with overactive bladder.

**Pharmacokinetics**

**Absorption:** Rapidly absorbed following oral administration, but undergoes extensive first-pass metabolism; XL tablets provide extended release. Transdermal absorption occurs by passive diffusion through intact skin and bypasses the first-pass effect.

**Distribution:** Highly bound (99%) to plasma proteins. Widely distributed.

**Metabolism and Excretion:** Extensively metabolized by the liver (CYP3A4 enzyme system); one metabolite is pharmacologically active; metabolites are renally excreted with negligible (0.1%) excretion of unchanged drug.

**Half-life:** 7–8 hr (oral and patch), 30–64 hr (gel).

**TIME/ACTION PROFILE (urinary spasmolytic effect)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
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</thead>
<tbody>
<tr>
<td>PO</td>
<td>30–60 min</td>
<td>3–6 hr</td>
<td>6–10 hr (conventional)</td>
</tr>
<tr>
<td>ID patch</td>
<td>within 3 hr</td>
<td>36 hr</td>
<td>3–4 days</td>
</tr>
<tr>
<td>ID gel</td>
<td>unknown</td>
<td>unknown</td>
<td>24 hr</td>
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</tbody>
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**Contraindications/Precautions**

**Contraindicated in:** Hypersensitivity; Uncontrolled angle-closure glaucoma; Intestinal obstruction or atony; Urinary retention.

**Use Cautiously in:** Hepatic/renal impairment; Bladder outflow obstruction; Ulcerative colitis; Benign prostatic hyperplasia; Cardiovascular disease; Reflux esophagitis or gastrointestinal obstructive disorders; Patients with dementia receiving acetylcholinesterase inhibitors; Myasthenia gravis; OB, Lactation: Pregnancy or lactation; Pediatric: Oral: Safety not established in children age <5 yr; Patch and gel: Safety not established in children age <18 yr; Geri: Appears on Beers list. Poorly tolerated due to anticholinergic effects. Initiate treatment at lower doses.

**Adverse Reactions/Side Effects**


**Drug Interactions**

**Drug-Drug:** Additive CNS depression with other CNS depressants, including alcohol, antidepressants, phenothiazines, disopyramide, and haloperidol. Additives CNS depressants with other CNS depressants, including alcohol, antihistamines, antihypertensives, sedatives/hypnotics, tricyclics, antidepressants, and barbiturates. **Cross-Tolerance:** None.

**Canadian drug name:**

**Genetic Implication:** CAPI TALS indicate life-threatening, underlines indicate most frequent. Strikethrough indicates discontinued.
Route/Dosage

PO (Adults): Immediate-release tablets — 5 mg 2–3 times daily (not to exceed 5 mg 4 times daily) (may start with 2.5 mg 2–3 times daily in elderly). Extended-release tablets — 5–10 mg once daily, as needed, (in 5-mg increments) up to maximum dose of 30 mg/day.

PO (Children < 6 yr): Immediate-release tablets — 5 mg 2–3 times daily (not to exceed 15 mg/day).

PO (Children 6 yr): Immediate-release tablets — 5 mg 2–3 times daily (not to exceed 15 mg/day). Extended-release tablets (children > 6 yr) — 5 mg once daily; may q2–q3, as needed, (in 5-mg increments) up to maximum dose of 20 mg/day.

PO (Children 1–5 yr): 0.2 mg/kg/dose 2–3 times daily.

Transdermal (Adults): Patch — Apply one 3.9 mg system twice weekly (every 3–4 days); Gel (Gelnique 3%) — Apply contents of 3 pumps (84 mg) once daily; Gel (Gelnique 10%) — Apply contents of one sachet (100 mg/g) once daily.

NURSING IMPLICATIONS

Assessment

- Monitor voiding pattern and intake and output ratios, and assess abdomen for bladder distention prior to and periodically during therapy. Catheterization may be used to assess postvoid residual.
- Geri: Assess geriatric patients for anticholinergic effects (sedation and weakness).

Potential Nursing Diagnoses

- Impaired urinary elimination (Indications)
- Acute pain (Indications)

Implementation

- Do not confuse Ditropan XL (oxybutynin) with Diprivan (propofol).
- PO: Immediate release tabs should be administered on an empty stomach, XL tablets may be given with or without food. XL tablets should be swallowed whole; do not break, crush, or chew.
- Transdermal patch: Apply patch on same two days each week (Monday/Wednesday, Monday/Thursday). In prop, abdomen, or buttocks in an area that is clean, dry, and without irritation. Patch should be worn continuously.
- Transdermal gel: Apply clear, colorless gel once daily to intact skin on abdomen (avoid areas around navel), upper arms/shoulders, or thighs until dry. Rotate sites; do not use same site on consecutive days.

Patient/Family Teaching

- Instruct patient to take oxybutynin as directed. Take missed doses as soon as remembered unless almost time for next dose. Advise patient to read Information for the Patient prior to beginning therapy and with each Rx refill in case of new information.
- May cause drowsiness or blurred vision. Advise patient to avoid driving and other activities requiring alertness until response to medication is known.
- Advise patient to avoid concurrent use of alcohol and other CNS depressants while taking this medication.
- Inform patient that frequent rinsing of mouth, good oral hygiene, and regular use of or preferably chewing sugarless gum may decrease dry mouth.
- Advise patient to notify health care professional immediately if signs of angioedema and/or anaphylaxis (swelling of face, tongue, or throat; rash; dyspnea).
- Advise patient to notify health care professional if urinary retention occurs or if constipation persists. Discuss methods of preventing constipation, such as increasing dietary bulk, increasing fluid intake, and increasing mobility.
- Advise patient to notify health care professional if pregnancy is planned or suspected or if breast feeding.
- Discuss need for continued medical follow-up. Periodic cystometry may be used to evaluate effectiveness. Ophthalmic exams should be performed periodically to detect glaucoma, especially in patients over 40 yr of age.
- Transdermal patch: Instruct patient on correct application and disposal of patch. Open pouch by tearing along arrows, apply immediately. Apply water to remove patch from skin by removing 1/2 protective cover and applying firmly to skin. Apply second half by bending at half and rolling patch onto skin while removing protective liner. Press patch firmly in place.
- Remove slowly; fold in half, sticky sides together, and discard. Wash site with cool water and soap or a small amount of mild soap.
- Advise patient referred for MRI to remove patch prior to test and give directions for replacing patch.

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CONTINUED
OXYBUTYNIN

Transdermal gel: Instruct patient on correct application of oxybutynin gel. Do not apply to recently shaved skin, skin with rashes, or areas treated with lotions, oils, or powders; may be used with sunscreen. Wash area with mild soap and water and dry completely before applying. Tear packet open just before use and expose entire contents into hand or directly onto application site of abdomen, arms/shoulders, or thighs. Amount of gel will be size of a nickel on the skin. Gently rub into skin until dry. Wash hands immediately following application. Avoid application near open fire or when smoking; medication is flammable. Do not shower, bathe, exercise, or immerse the application site in water within 1 hr after application. Cover application site with clothing if close skin-to-skin contact at application site is anticipated.

Evaluation/Desired Outcomes

Relief of bladder spasms and associated symptoms (frequency, urgency, nocturia, and incontinence) in patients with a neurogenic or overactive bladder.

Why was this drug prescribed for your patient?