Lanthanum carbonate (lan-tha-num)

Fosrenol

**Classification**
Therapeutic: hypophosphatemics
Pharmacologic: phosphate binders

**Pregnancy Category:** C

### Indications
Reduction of serum phosphate levels associated with end-stage renal disease.

### Action
Dissociates in the upper GI tract forming lanthanate ions, which form an insoluble complex with phosphate. **Therapeutic Effects:** Decreased serum phosphate levels.

### Pharmacokinetics

**Absorption:** Negligible absorption.

**Distribution:** Stays within the GI tract.

**Metabolism and Excretion:** Eliminated almost entirely in feces.

**Half-life:** 53 hr (in plasma).

### TIME/ACTION PROFILE (effect on phosphate levels)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>unknown</td>
<td>2–3 wk</td>
<td>unknown</td>
</tr>
</tbody>
</table>

### Contraindications/Precautions

**Contraindicated in:** Bowel obstruction; Renal failure; OB: Congenital abnormalities noted in animal studies; Pedi: Potential negative effect on developing bone.

**Use Cautiously in:** Patients with risk factors for bowel obstruction, including history of GI surgery, colon cancer, constipation, diabetes, or taking medications that cause constipation; Cautiously: Safety not established.

### Adverse Reactions/Side Effects

**GI:** Nausea, vomiting, diarrhea, fecal impaction, GI obstruction, chewed tablets should be crushed or chewed completely before swallowing; intact tablets should be swallowed.

**F and E:** Hypocalcemia.

### Interactions

**Drug-Drug:** Minimize absorption of fluoroquinolones, tetracyclines, and thyroid hormone; administer at least 1 hr before or 3 hr after lanthanum carbonate.

### Route/Dosage

**PO (Adults):** 1500 mg/day in divided doses; may be titrated upward every 2–3 wk in increments of 750 mg/day up to 4500 mg/day (usual range 1500–3000 mg/day).

### NURSING IMPLICATIONS

**Assessment:**
- Assess patient for nausea and vomiting during therapy.
- Lab Test Considerations: Monitor serum phosphate levels prior to and periodically during therapy.

**Potential Nursing Diagnoses**

- Nausea (Side Effects)

### Implementation

- **Do not confuse lanthanum carbonate with lithium carbonate.**
- **Divide total daily dose and administer with meals.**
- **PO:** Administer with or immediately after meals. Tablets should be crushed or chewed completely before swallowing; intact tablets should be swallowed.

### Patient/Family Teaching

- Instruct patient to take lanthanum as directed.

### Evaluation/Desired Outcomes

- Decrease in serum phosphate to below 6.0 mg/dL in patients with end stage renal disease.

**Why was this drug prescribed for your patient?**