**aluminum hydroxide**

*Classification*

Therapeutic: antiulcer agents, hypophosphatemics

**Pharmacologic: antacids, phosphate binders**

**Pregnancy Category:** U.K.

**Indications**


**Action**


**Pharmacokinetics**

**Absorption:** With chronic use, small amounts of aluminum are systemically absorbed.

**Distribution:** If absorbed, aluminum distributes widely, crosses the placenta, and enters breast milk. Concentrates in the CNS with chronic use.

**Metabolism and Excretion:** Mostly excreted in feces. Small amounts absorbed are excreted by the kidneys.

**Half-life:** Unknown.

**TIME/ACTION PROFILE**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO†</td>
<td>15–30 min</td>
<td>30 min</td>
<td>30–90 min</td>
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<tr>
<td>PO‡</td>
<td>15–30 min</td>
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†Hypophosphatemic effect

‡Antacid effect

**Contraindications/Precautions**

**Contraindicated in:** Severe abdominal pain of unknown cause.

**Use Caution with:**

Hypercalcemia; Hypophosphatemia; OB: Generally considered safe, chronic high-dose therapy should be avoided.

**Adverse Reactions/Side Effects**

**GI:** constipation. F and E: hypophosphatemia.

**Interactions**

**Drug-Drug:**

Absorption of tetracyclines, chlorpromazine, iron salts, opioids, digoxin, or fluoroquinolones may be decreased. Salicylate blood levels may be decreased. Quinidine, mexiletine, and amphetamines levels may be increased if enough antacid is ingested such that urine pH is increased.

**Route/Dosage**

**Hypophosphatemia**

**PO (Adults):** 1.9–4.8 g (30–40 mL of regular suspension or 15–20 mL of concentrated suspension) 3–4 times daily.

**PO (Children):** 50–150 mg/kg/24 hr in 4–6 divided doses; titrate to normal serum phosphate levels.

**Antacid**

**PO (Adults):** 500–1500 mg (5–30 mL) 3–6 times daily.

**NURSING IMPLICATIONS**

**Assessment**

- Assess location, duration, character, and precipitating factors of gastric pain.

**Lab Test Considerations:** Monitor serum phosphate and calcium levels periodically during chronic use of aluminum hydroxide.

**NURSING DIAGNOSES**

- Acute pain (Indications)
- Constipation (Side Effects)

**Potential Nursing Diagnoses**

- Acute pain (Indications)
- Constipation (Side Effects)
Implementation
● Antacids cause premature dissolution and absorption of enteric-coated tablets and may interfere with absorption of other oral medications. Separate administration of aluminum hydroxide and oral medications by at least 1–2 hr.
● Tablets must be chewed thoroughly before swallowing to prevent their entering small intestines in undissolved form. Follow with a glass of water.
● Shake liquid preparations well before pouring. Follow administration with water to ensure passage into stomach.
● Liquid dosage forms are considered more effective than tablets.
● Hypophosphatemic: For phosphate lowering, follow dose with full glass of water or fruit juice.
● Antacid: May be given in conjunction with magnesium-containing antacids to minimize constipation, except in patients with renal failure. Administer 1 and 3 hr after meals and at bedtime for maximum antacid effect.
● For treatment of peptic ulcer, aluminum hydroxide may be administered every 1–2 hr while the patient is awake or diluted with 2–3 parts water and administered intragastrically every 30 min for 12 or more hr per day. Physician may order NG tube clamped after administration.
● For reflux esophagitis, administer 15 mL 20–40 min after meals and at bedtime.

Patient/Family Teaching
● Instruct patient to take aluminum hydroxide exactly as directed. If on a regular dosing schedule and a dose is missed, take as soon as remembered if not almost time for next dose; do not double doses.
● Advise patient not to take aluminum hydroxide within 1–2 hr of other medications without consulting health care professional.
● Advise patients to check label for sodium content. Patients with HF or hypertension, or those on sodium restriction, should use low-sodium preparations.
● Inform patients of potential for constipation from aluminum hydroxide.
● Hypophosphatemia: Patients taking aluminum hydroxide for hypophosphatemia should be taught the importance of a low-phosphate diet.
● Antacid: Caution patient to consult health care professional before taking antacids for more than 2 wk if problem is recurring, if taking other medications, if relief is not obtained, or if symptoms of gastric bleeding (black tarry stools, coffee-ground emesis) occur.

Evaluation/Desired Outcomes
● Decrease in serum phosphate levels.
● Decrease in GI pain and irritation.
● Increase in the pH of gastric secretions. In treatment of peptic ulcer, antacid therapy should be continued for at least 4–6 wk after symptoms have disappeared because there is no correlation between disappearance of symptoms and healing of ulcers.

Why was this drug prescribed for your patient?