**Lansoprazole (lan-soe-pra-zole)**

**Pronunciation:**

**Classification:**

Antacid agents

Pharmacologic: proton-pump inhibitors

**Pregnancy Category:**

B

**Indications**


**Action**

Binds to an enzyme in the presence of acidic gastric pH, preventing the final transport of hydrogen ions into the gastric lumen.

**Therapeutic Effects:**

Diminished accumulation of acid in the gastric lumen, with lessened acid reflux. Healing of duodenal ulcers and esophagitis.

**Pharmacokinetics**

**Absorption:**

80% absorbed after oral administration.

**Distribution:**

Unknown.

**Protein Binding:**

97%.

**Metabolism and Excretion:**

Extensively metabolized by the liver to inactive compounds. Converted intracellularly to at least two other antisecretory compounds.

**Half-life:**

Children: 1.2–1.5 hr; Adults: 1.3–1.7 hr (in geriatric patients and patients with impaired hepatic function).

**TIME/ACTION PROFILE (acid suppression)**

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>Rapid</td>
<td>1.7 hr more than 24 hr</td>
<td></td>
</tr>
</tbody>
</table>

**Contraindications/Precautions**

Contraindicated in: Hypersensitivity.

Use Cautiously in:

- Sulfites: contains sulfites; use caution when used in phenylketonuria; severe hepatic impairment (not to exceed 50 mg/day in these patients).
- Patients with high doses for >1 year (risk of hip, wrist, or spine fractures).

**Adverse Reactions/Side Effects**

**CNS:** Dizziness, headache.

**GI:** Pseudomembranous colitis, diarrhea, abdominal pain, nausea.

**Derm:** Rash.

**F and E:** Hypomagnesemia (especially if treatment duration ≥ 3 mo).

**MS:** Bone fracture.

**Interactions**

**Drug-Drug:** Sucralfate reduces absorption of lansoprazole (take 30 min before sucralfate). May reduce absorption of drugs requiring acid pH, including ketoconazole, itraconazole, atazanavir, and digoxin. May risk of bleeding with warfarin (monitor INR/PT). May risk of digoxin toxicity.

**Route/Dosage**

**PO (Adults and children ≥12 yr):**

- Short-term treatment of duodenal ulcer—15 mg once daily for 4 wk; if prior eradication to reduce the risk of duodenal ulcer recurrence—30 mg once daily with clarithromycin 500 mg twice daily and amoxicillin 1000 mg twice daily for 10–14 days (triple therapy) or 50 mg 3 times daily with 1000 mg amoxicillin 3 times daily for 14 days (dual therapy); maintenance of healed duodenal ulcer—15 mg once daily; short-term treatment of gastric ulcers/healing of NSAID-associated gastric ulcer—30 mg once daily for up to 8 wk; risk reduction of NSAID-associated peptic ulcer—15 mg once daily for up to 12 wk; short-term treatment of symptomatic GERD—30 mg once daily for up to 8 wk; short-term treatment of erosive esophagitis—10 mg once daily for up to 8 wk; short-term treatment of erosive esophagitis—15 mg once daily; pathologic hypersecretory conditions—60 mg once daily initially, up to 90 mg twice daily (daily dose ≥ 120 mg should be given in divided doses).

**PO (Adults):**

- OTC—15 mg once daily for up to 14 days (14 day course may be repeated every 4 mo).
PO (Children 1–11 yr and >30 kg): GERD—30 mg once to twice daily.

PO (Children 1–11 yr and 10–30 kg): GERD—15 mg once or twice daily.

PO (Children 1–11 yr and <10 kg): GERD—7.5 mg once daily.

NURSING IMPLICATIONS

Assessment

● Assess patient routinely for epigastric or abdominal pain and for frank or occult blood in stool, emesis, or gastric aspirate.

● Monitor bowel function. Diarrhea, abdominal cramping, fever, and bloody stools should be reported to health care professional promptly as a sign of pseudomembranous colitis. May begin up to several weeks following cessation of therapy.

● Lab Test Considerations: May cause abnormal liver function tests, including AST, ALT, alkaline phosphatase, LDH, and bilirubin.

● May cause serum creatinine and/or electrolyte levels.

● May alter BUN, WBC, and platelet levels.

● May also cause gastrin levels, abnormal A/G ratio, hyperlipidemia, and/or cholesterol.

● Monitor INR and prothrombin time in patients taking warfarin.

● May cause hypomagnesemia. Monitor serum magnesium prior to and periodically during therapy.

Potential Nursing Diagnoses

Acute Pain (Indications)

Implementation

PO: Delayed-release capsules: Administer before meals. Swallow whole; do not crush or chew capsule contents. Capsules may be opened and sprinkled on 1 tbsp of applesauce, Ensure pudding, cottage cheese, yogurt, or strained pears and swallowed immediately for patients with difficulty swallowing.

For patients with an NG tube, capsules may be opened and intact granules may be mixed in 40 mL of apple juice and injected through the NG tube into stomach. Flush NG tube with additional apple juice to clear tube.

Orally disintegrating tablets may be placed on tongue, allowed to disintegrate and swallowed with or without water. Do not cut or break tablet. For administration via oral syringe or nasogastric tube, Pervact SoluTab can be administered by placing a 15-mg tablet in oral syringe and drawing up 4 mL of water, or a 30-mg tablet in oral syringe and drawing up 10 mL of water. Shake gently to allow for a quick dispersal. After tablet has dispersed, administer the contents within 15 minutes. Refill syringe with 2 mL (5 mL for the 30-mg tablet) of water, shake gently, and administer any remaining contents and flush nasogastric tube.

● Antacids may be used concurrently.

Patient/Family Teaching

● Instruct patient to take medication as directed for the full course of therapy, even if feeling better. Take missed doses as soon as remembered unless almost time for next dose; do not double doses.

● May occasionally cause dizziness. Caution patient to avoid driving and other activities that require alertness until response to medication is known.

● Advise patient to avoid alcohol, products containing aspern or NSAIDs, and foods that may cause an increase in GI irritation.

● Advise patient to report onset of black, tarry stools, diarrhea, or abdominal pain to health care professional promptly. Instruct patients to notify health care professional immediately if rash, diarrea, abdominal cramping, fever, or bloody stools occur and not to treat with antidiarrheal agents without consulting health care professional.

● Advise patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and consult health care professional before taking any new medications.

● Instruct patient to notify health care professional if pregnancy is planned or suspected or if breast feeding.

● Advise female patient to notify health care professional if pregnancy is planned or suspected or if breast feeding.

Evaluation/Desired Outcomes

● Decrease in abdominal pain or prevention of gastric irritation and bleeding. Healing of duodenal ulcers can be seen on x-ray examination or endoscopy. Therapy is continued for at least 2–4 wk. Therapy for pathologic hypersecretory conditions may be longer.

● Healing in patients with erosive esophagitis. Therapy is continued for up to 8 wk, and an additional 8-wk course may be used for patients who do not heal in 8 wk or whose ulcer recurs.

Why was this drug prescribed for your patient?