

GERD and Peptic Ulcer Disease

A plain-English guide for you and your family

WHAT IS HAPPENING

Normally, the lower esophageal sphincter (LES) — a ring of muscle at the bottom of your food tube — squeezes shut to keep stomach acid where it belongs. At the same time, the stomach and duodenum have a thick layer of protective mucus that shields them from their own acid. When the LES becomes weak or a hiatal hernia (part of the stomach slides up through the diaphragm muscle) pulls it open, acid splashes back up into the esophagus — that is GERD. When *H. pylori* bacteria drill into the stomach lining or NSAIDs (pain medicines like ibuprofen) strip away the mucus shield, acid digs a crater — that is a peptic ulcer. You feel GERD as heartburn (burning behind the breastbone), a sour taste in your mouth, and sometimes a dry cough or wheezing because the acid tickles the throat and airways. You feel a peptic ulcer as a gnawing ache in the pit of your stomach, and if the ulcer breaks into a blood vessel, you may vomit blood or pass black, tarry stools. None of this is random. Every symptom traces back to one upstream break: either a weak gate letting acid escape upward, or a broken shield letting acid dig downward. Fix that one break — tighten acid control with a PPI and eradicate *H. pylori* if present — and the whole cascade stops.

What you might feel

- Burning feeling behind the breastbone (heartburn) that often comes after eating or when lying down
- Sour or bitter taste in the mouth (acid regurgitation)
- Pain in the upper middle belly (epigastric pain), often a gnawing or burning feeling that comes and goes with meals
- Feeling uncomfortably full or bloated after eating even a small amount of food
- Nausea or throwing up
- Chronic cough or hoarse voice that won't go away
- Trouble swallowing or food feeling stuck in the chest (dysphagia)
- Unintended weight loss (losing pounds without trying to diet or exercise more)

- Vomiting blood (bright red or looking like coffee grounds) or passing black, tarry, sticky stools
- Anemia (low red blood cell count) found on blood work, often with feeling tired, pale, or weak

Call the doctor right away if...

- New heartburn or belly pain starting after age 60 (higher risk of cancer)
- Trouble swallowing or feeling like food is sticking in the chest
- Vomiting blood (red or coffee-ground color) or black, tarry stools
- Unintended weight loss (losing 10 pounds or more without trying)
- Anemia (low red blood cell count) or signs of bleeding on blood tests

What the care team will do

- Assess for signs of active bleeding: check vital signs for a fast heart rate (tachycardia) (fast heart rate over 100) and low blood pressure (hypotension) (low blood pressure under 90 systolic), examine stool color, and ask about vomiting blood.
- Administer PPI medication on empty stomach 30 to 60 minutes before breakfast as ordered.
- Teach patient to elevate head of bed 6 to 8 inches using blocks under bed legs, not just pillows.
- Review all medications and hold NSAIDs, then notify provider about alternatives for pain management.
- Educate patient to avoid eating within 3 hours of bedtime and identify personal trigger foods to eliminate.
- Teach proper PPI adherence and explain that symptom relief takes 3 to 5 days, with full healing requiring 8 weeks.
- If *H. pylori* (a stomach bacteria) testing is ordered, ensure patient stops PPI for 2 weeks before breath or stool test.
- Monitor for alarm symptoms daily and teach patient to report new trouble swallowing (dysphagia), persistent vomiting, severe pain, or any bleeding immediately.

Medicines you may be given — and why

Pantoprazole (Protonix), Omeprazole (Prilosec), Esomeprazole (Nexium)

Shuts off the tiny pumps inside stomach cells that squirt acid into the stomach, so the stomach makes much less acid overall. That gives a sore or raw spot (ulcer or inflamed esophagus) time to heal without being bathed in acid.

Famotidine (Pepcid), Nizatidine (Axid)

Blocks one of the main 'on' switches for acid-making cells in the stomach—the histamine₂ receptor—so those cells get fewer signals to pump out acid. Not as powerful as a PPI, but works faster (within an hour) and is good for mild symptoms or nighttime heartburn.

Amoxicillin + Clarithromycin (or Metronidazole) + PPI (triple therapy), OR Bismuth + Metronidazole + Tetracycline + PPI (quadruple therapy)

Kills the *Helicobacter pylori* bacteria living in the stomach lining. *H. pylori* burrows into the mucus layer and damages the protective barrier, which lets acid cause ulcers. Wiping out the bacteria lets the ulcer heal and sharply lowers the chance it comes back.

Sucralfate (Carafate)

Forms a sticky gel that glues itself to raw or ulcerated spots in the stomach or duodenum, creating a physical bandage that shields the sore from acid and pepsin while it heals underneath.

Antacids (calcium carbonate [Tums], aluminum/magnesium hydroxide [Maalox, Mylanta])

Chemically neutralizes stomach acid that is already sitting in the stomach, raising the pH instantly and giving quick (but short-lived) relief of heartburn or ulcer pain.

Misoprostol (Cytotec)

Replaces protective prostaglandins in the stomach lining that NSAIDs (like ibuprofen, aspirin, naproxen) knock out. Prostaglandins tell the stomach to make thick mucus, pump out bicarbonate (a natural acid buffer), and keep good blood flow to the lining—all of which shield it from acid damage.

Where this information comes from

- American College of Gastroenterology (ACG) GERD Guideline 2022
- American College of Gastroenterology (ACG) Peptic Ulcer Disease Guideline 2017
- American Gastroenterological Association (AGA)
- Cochrane Reviews on *Helicobacter pylori* and peptic ulcer

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