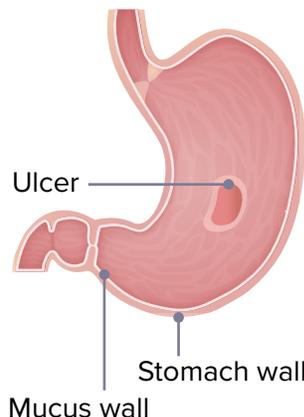
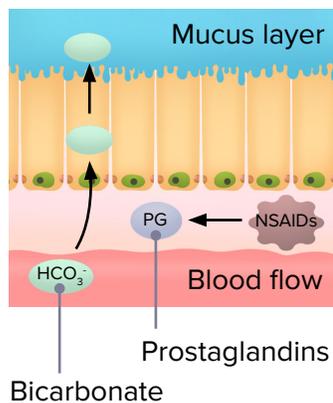


PEPTIC ULCER DISEASE & TREATMENT



Normal GI tract

- **Mucus:** secreted by mucosal cells, coats the lining
- **Bicarbonate:** secreted by epithelial cells, neutralizes gastric acid
- **Blood flow:** adequate, nourishes mucosa
- **Prostaglandins:** stimulate mucus and bicarbonate secretion



Peptic ulcer disease (PUD)

- Imbalance between mucus, bicarbonate, blood flow, or prostaglandins that leads to damage
- Open sores (ulcers) develop in the lining of stomach and small intestine.
- PUD can lead to perforation/GI bleed.

Causes

H. pylori:
bacteria that hides between mucus and epithelial cells; most common cause of PUD
Treatment: antibiotics

NSAIDs:
inhibit prostaglandins, decrease mucus and bicarbonate secretion
Treatment: Decrease use.

Gastric acid:
injures the mucosal cells, activates pepsin (stomach enzyme)
Treatment: histamine (H₂) receptor antagonists, proton pump inhibitors (PPI), mucosal protectants, antacids

Smoking & alcohol:
increase gastric acid, reduce bicarbonate production, delay healing
Treatment: Decrease use.

Treatment

Suppress gastric acid		Neutralize gastric acid	Protect stomach lining	
H₂ antagonists:	Proton pump inhibitors:	Antacids:	Anti-ulcer:	Prostaglandin analogue:
<ul style="list-style-type: none"> • Block histamine 2 receptors in the stomach, suppress gastric acid secretion • OTC medications • E.g.: cimetidine, famotidine, nizatidine 	<ul style="list-style-type: none"> • Block H⁺/K⁺ ATPase proton pump, inhibiting gastric acid secretion • OTC and Rx; most effective in suppressing acid • E.g.: omeprazole, lansoprazole 	<ul style="list-style-type: none"> • Neutralize stomach acid • OTC medications • E.g.: magnesium hydroxide, calcium carbonate 	<ul style="list-style-type: none"> • Form protective barrier over ulcer, protects against pepsin and gastric acid • Rx only • E.g.: sucralfate 	<ul style="list-style-type: none"> • Stimulate mucus and bicarbonate • Rx only • E.g.: misoprostol

NOTES

