

Treating Chronic Heartburn

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- Definitions
- Symptoms
- Diagnosis
- Medical management
- Beyond medical management



<https://www.carygastro.com/blog/what-causes-chronic-heartburn>

- **Heartburn (acid indigestion):** Burning sensation in the chest or upper abdomen, usually caused by regurgitation of acid reflux from the stomach into the esophagus.
- **Gastroesophageal reflux disease (GERD):** Persistent regurgitation of stomach contents into the esophagus, leading to chronic symptoms and complications. The main symptom is typically heartburn. Symptoms occur more than two times per week, and are troublesome enough to bother day-to-day life.
- **Non-erosive gastroesophageal reflux disease (NERD):** A phenotype of GERD, there is regurgitation of stomach contents without damage to the lining of the esophagus or stomach. Damage of the lining of the esophagus due to GERD is **Erosive gastroesophageal reflux disease.**

What is Acid Reflux?

Symptoms of acid reflux are one of the most common conditions patients discuss with their physicians.

- Over 60 million Americans have heartburn symptoms each month.
- Approximately 20% of Americans have GERD.
- Some degree of reflux is physiologic (normal), typically occurring after eating. Usually this is short lived, can be asymptomatic.

Reflux is considered pathologic when there is an imbalance between symptoms/injury.

- Frequency of events
- Duration of symptoms
- Less common/atypical symptoms
- Esophageal sensitivity

What Causes GERD?

- Gastroesophageal junction incompetence
 - Transient lower esophageal sphincter relaxations (TLESR)
 - Hypotensive lower esophageal sphincter
 - Anatomic disruption of the gastroesophageal junction
- Characteristics of the reflux content
- Impaired esophageal acid clearance
- Impaired esophageal emptying
- Diminished salivary function
- Impaired defense against epithelial injury
- Esophageal hypersensitivity

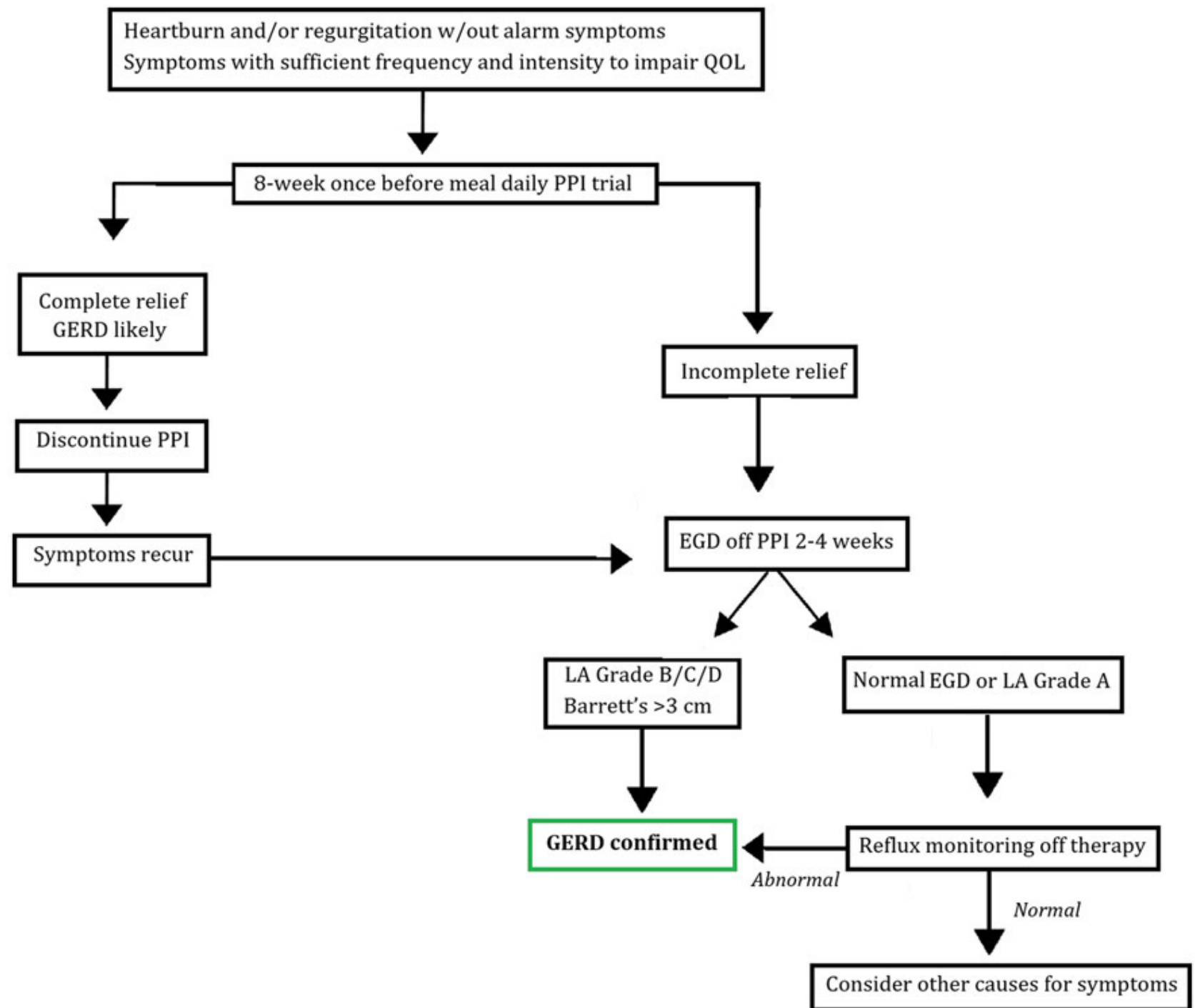
Symptoms of Gerd

- A burning sensation in your chest
- A sour taste in the mouth
- Nausea
- Burping
- Bloating
- Trouble swallowing (dysphagia)
- Dry cough/throat clearing
- Hoarseness/sore throat
- ***You can have all of these symptoms for conditions unrelated to GERD!***

“Red Flag” Symptoms

- Unintentional weight loss
- Progressive difficulty swallowing
- Black stool/ blood in vomit

- For patients with classic symptoms and no alarm features, trial a once daily proton pump inhibitor (PPI) once/day for 8 weeks, 30-60 min before a meal
 - Examples of PPI: Omeprazole (prilosec), pantoprazole (protonix)
- Attempt to discontinue PPI after empiric 8 week trial
- Upper endoscopy (EGD) off PPIs for 2-4 weeks if no response to PPI trial
 - If unrevealing and GERD is suspected still, pH testing
- If chest pain is the main symptoms, after cardiac evaluation, EGD or pH testing advised
- ***GERD is objectively defined by the presence of characteristic mucosal injury seen at endoscopy and/or abnormal esophageal acid exposure demonstrated on a reflux monitoring study***



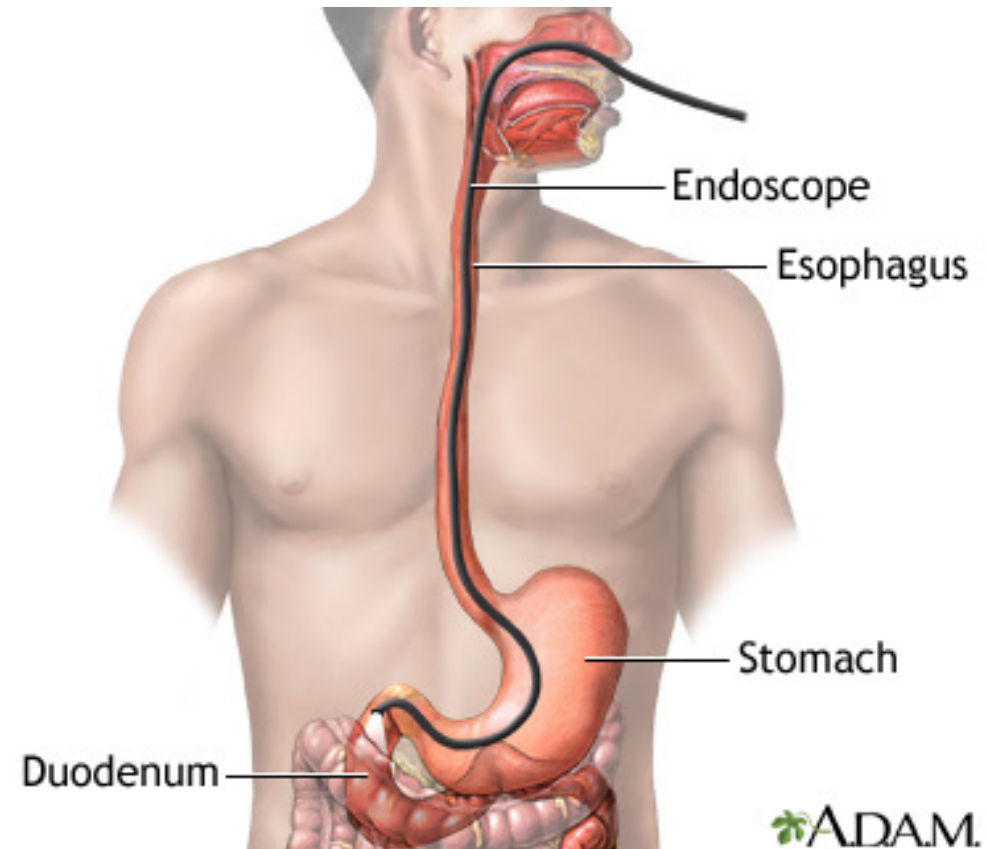
Proton Pump Inhibitors

- PPIs function to decrease acid production of the stomach.
- PPIs block the hydrogen/potassium (proton) pump, reducing acid secretion in the stomach.
- Indicated use for esophagitis, GERD/NERD, ulcers, Zollinger-Ellison syndrome, treating *H. pylori*
- Omeprazole, esomeprazole, lansoprazole, dexlansoprazole, pantoprazole, rabeprazole are currently FDA approved PPIs.

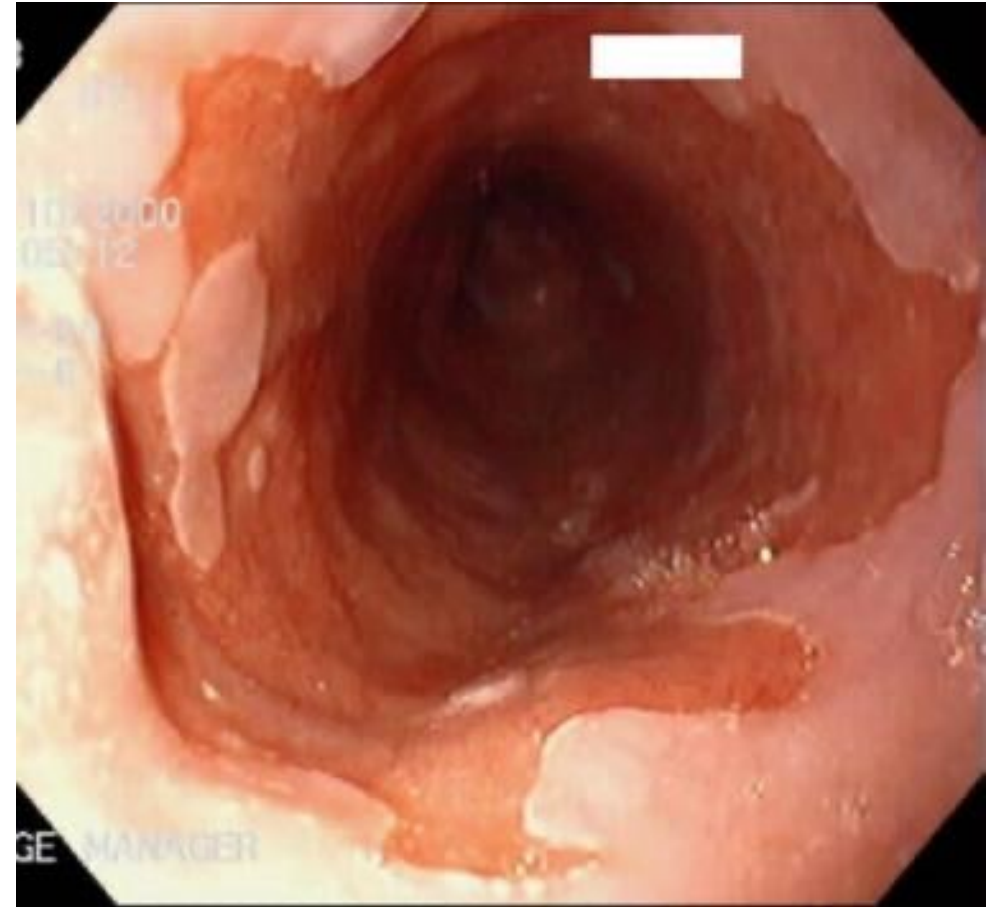


Esophagogastroduodenoscopy (EGD)

- An outpatient procedure where you are sedated while a gastroenterologist places an endoscope in your mouth to assess your upper GI system.
- Requires 8 hours of fasting prior and a ride.
- Risks include: medication/sedation side effects, bleeding, perforation.

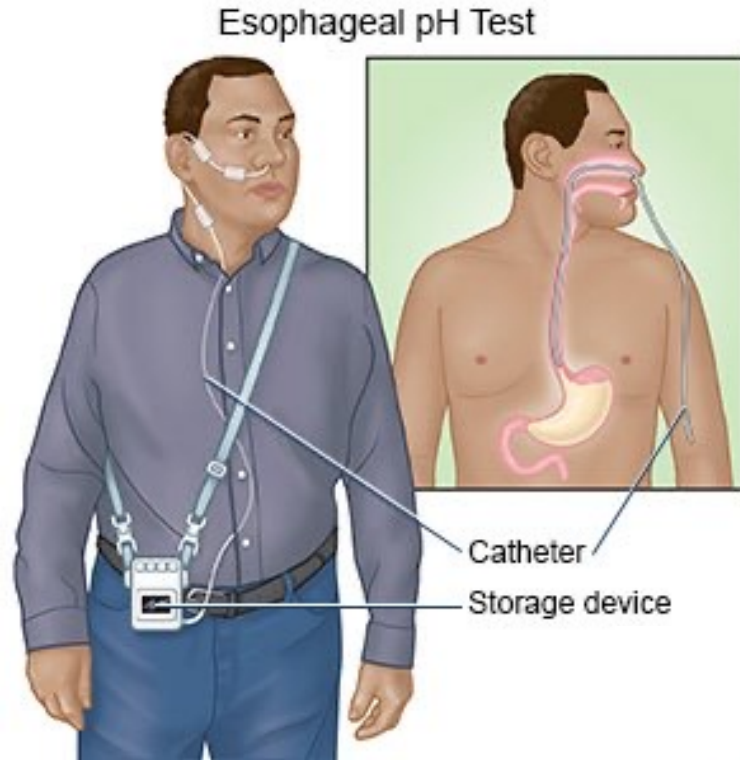


- LA grade C-D esophagitis
Esophagitis is inflammation or injury to the mucosa of the esophagus; it is graded on a scale from A-D, C and D (more severe) are consistent with GERD
- Barrett's esophagus
Barrett's is a pre-malignant condition; it is the conversion of esophageal squamous epithelium into metastatic columnar epithelium (gastric epithelium)



PH Testing

- BRAVO vs esophageal pH testing
- Measures the amount of stomach acid that refluxes from the stomach into the esophagus (checking if it is above physiologic levels)
- Best to be done off of any reflux medications



Management Strategies

- Chronic interstitial lung disease
- Chronic cough
- LPR (laryngopharyngeal reflux)
- Esophageal stricture/ring
- Esophageal cancer (if undiagnosed Barrett's)

- Weight loss
- Timing of meals (no meals 2-3 hours before bedtime)
- Avoid tobacco/smoking/etoh
- Avoid trigger foods
- Elevating HOB, left sided sleeping
- PPIs for erosive esophagitis, H2s otherwise *
- Discontinue or on demand in absence of EE/Barrett's
- Avoid sucralfate other than in pregnancy
- Few natural supplements have significant benefit (banana, papaya, baking soda, acupuncture)

PPIs:

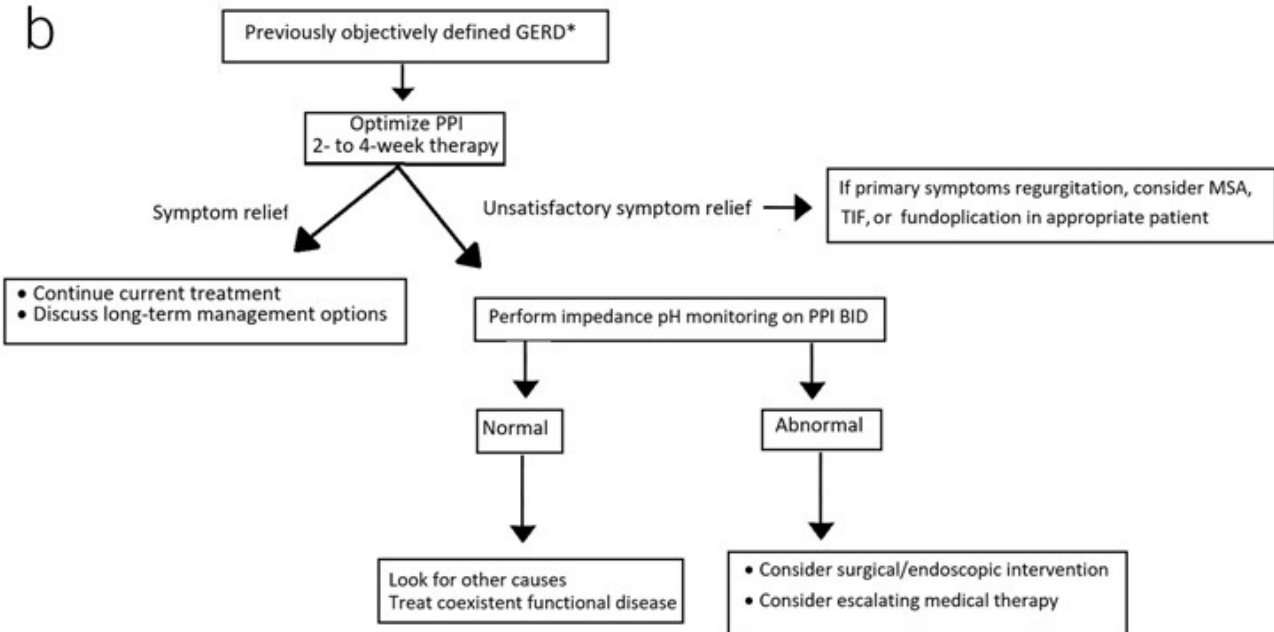
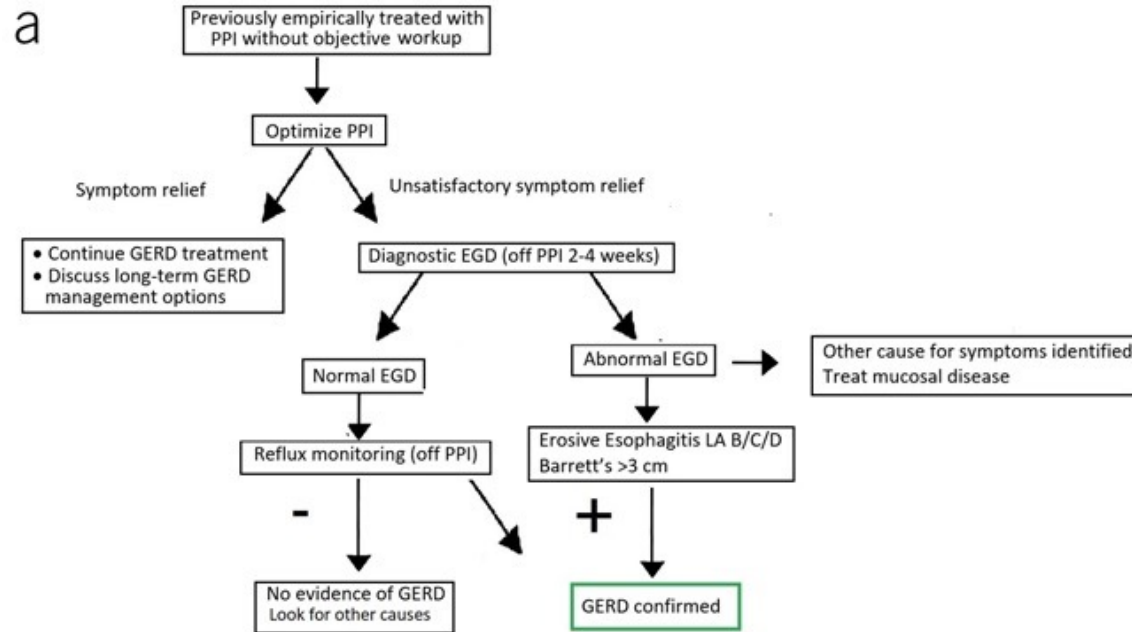
- PPIs are associated with a greater rate of more "complete" relief after 4 weeks
- Multiple PPIs available, little difference overall in which is chosen
- PPIs bind to proton pumps that are actively secreting acid, timing is important (take 30 min before a meal, less effective at night)
- Side effects - media vs proven

H2 blockers/ther:

- Often a step down therapy for NERD, or adjunct for incompletely controlled symptoms. Decrease secretion of acid.
 - Nocturnal reflux benefit
 - B12 deficiency monitoring, tachyphylaxis
- Antacids
- Alginates

- Endoscopic: Stretta, TIF
- Completed by foregut surgeons
 - Fundplication
 - Magnetic sphincter augmentation (cannot be done w/ hiatal hernias, limits MRIs)
 - Roux en Y gastric bypass (w/ comcomitant obesity-reduces gastric pouch)

Refractory Gerd



- Heartburn is common and usually only requires occasional medical therapy.
- Gerd is a chronic condition requiring testing for diagnosis, EGD or pH testing.
- There are many symptoms attributed to reflux that can be caused by other conditions or be functional/hypersensitivity disorders.
- Lifestyle management is first line, followed by medications and finally surgery.

Questions?

- https://www.uptodate.com/contents/medical-management-of-gastroesophageal-reflux-disease-in-adults?search=gerd&source=search_result&selectedTitle=5%7E150&usage_type=default&display_rank=4
- https://www.uptodate.com/contents/clinical-manifestations-and-diagnosis-of-gastroesophageal-reflux-in-adults?search=gerd&source=search_result&selectedTitle=2%7E150&usage_type=default&display_rank=2
- https://journals.lww.com/ajg/fulltext/2022/01000/acg_clinical_guideline_for_the_diagnosis_and.14.aspx
- <https://www.drugs.com/cg/esophageal-ph-test.html>
- <https://www.mountsinai.org/health-library/tests/egd-esophagogastroduodenoscopy>
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