

Gastroesophageal Reflux Disease

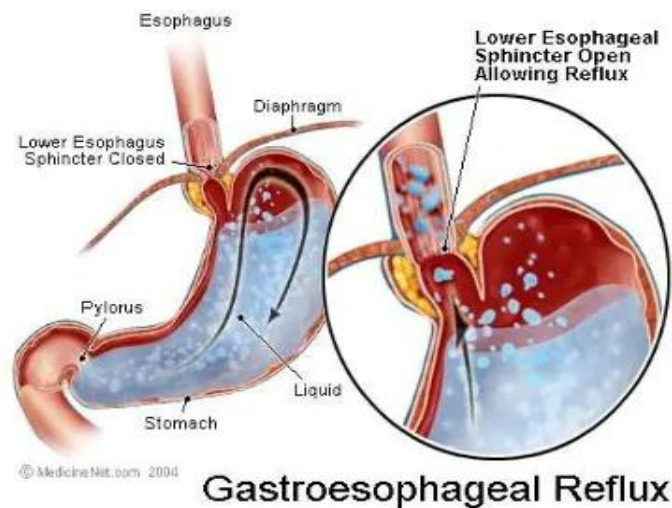
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Fourth course
La -2 CO - 171(2)

Today's Talk

- Definition of GERD
- Pathophysiology of GERD
- Clinical Manifestations
- Diagnostic Evaluation
- Treatment
- Complications

Definition

- **American College of Gastroenterology (ACG)**
 - Symptoms OR mucosal damage produced by the abnormal reflux of gastric contents into the esophagus
 - Often chronic and relapsing
 - May see complications of GERD in patients who lack typical symptoms



Physiologic vs Pathologic

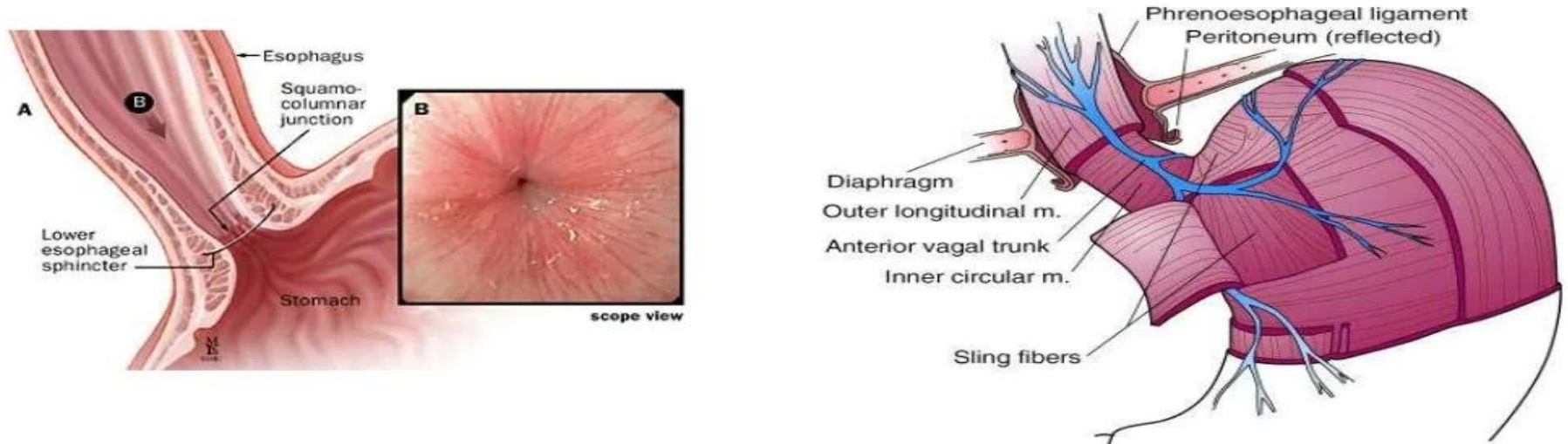
- Physiologic GERD

- Postprandial
- Short lived
- Asymptomatic
- No nocturnal sx

- Pathologic GERD

- Symptoms
- Mucosal injury
- Nocturnal sx

Lower Esophageal Sphincter

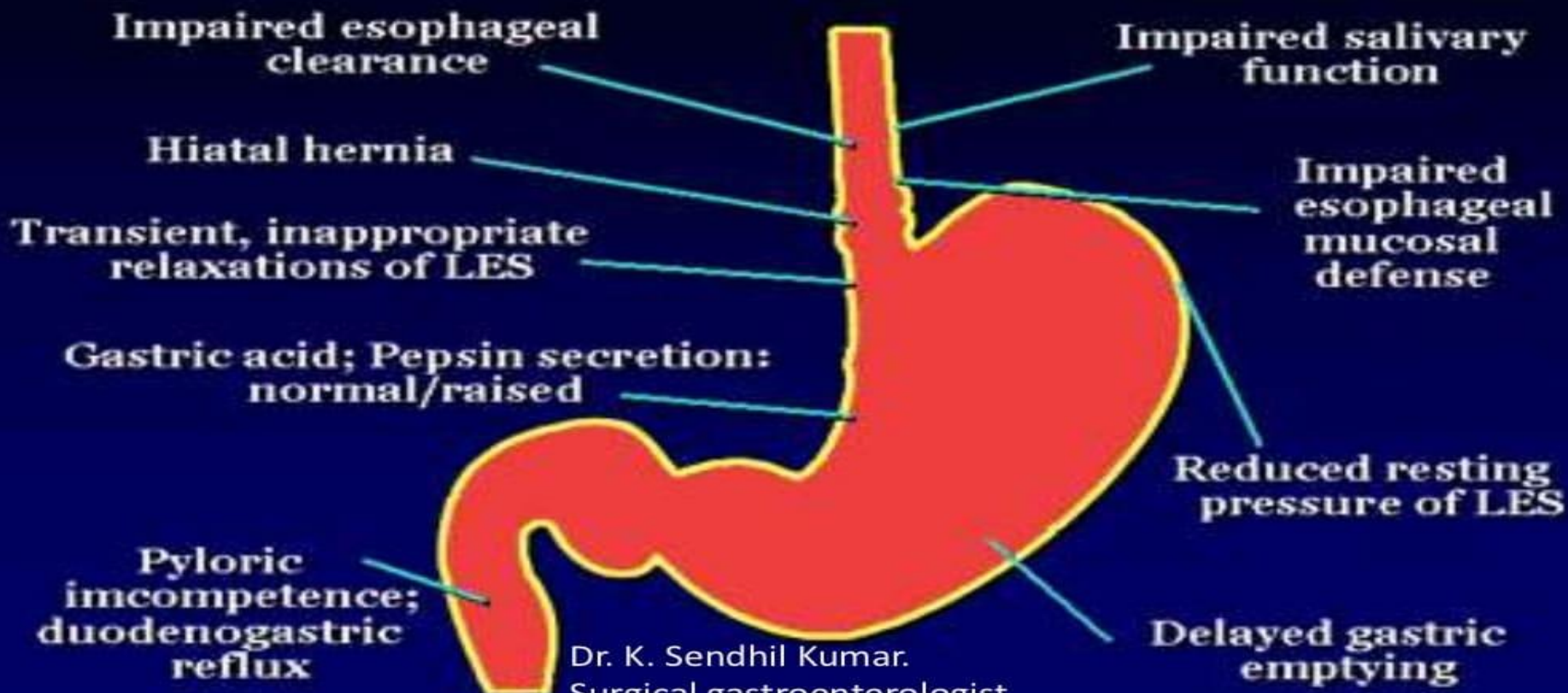


- Intrinsic distal esophageal muscles – tonically contracted
- Muscular Sling fibers of the gastric cardia
- Diaphragmatic crura
- Transmitted pressure of the abdominal cavity

Pathophysiology

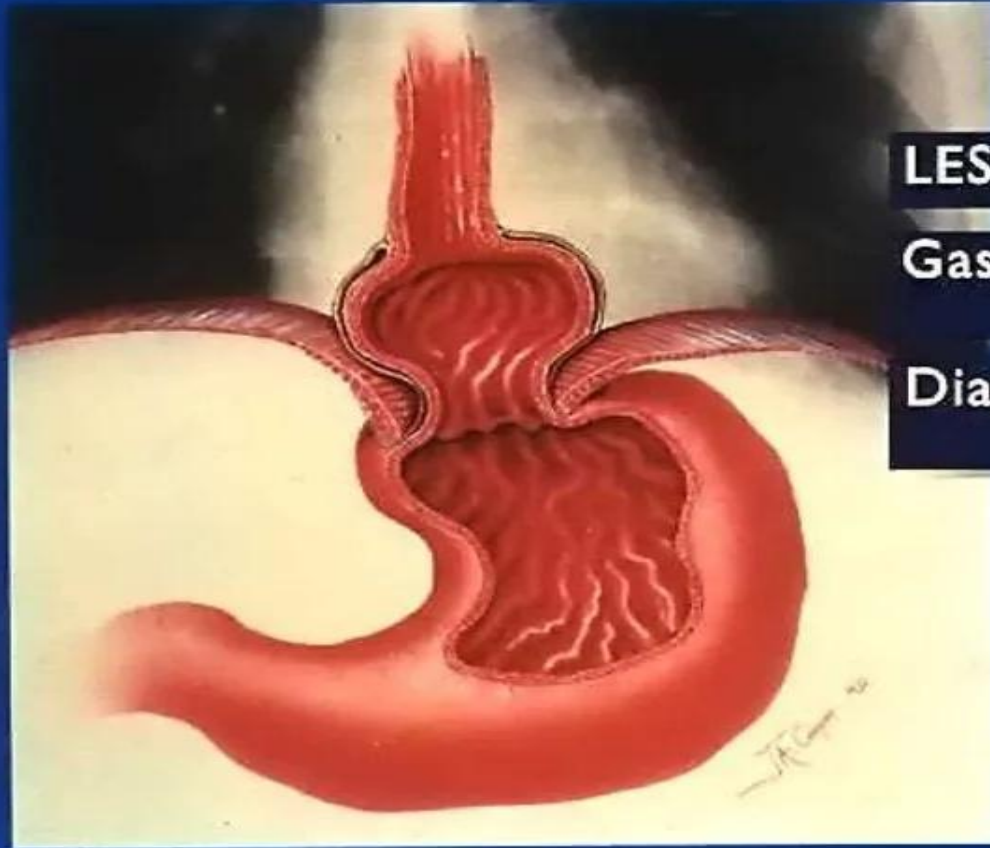
- Primary barrier to gastroesophageal reflux is the lower esophageal sphincter
- LES normally works in conjunction with the diaphragm
- If barrier disrupted, acid goes from stomach to esophagus

Pathophysiology of GERD



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Hiatal Hernia and Reflux

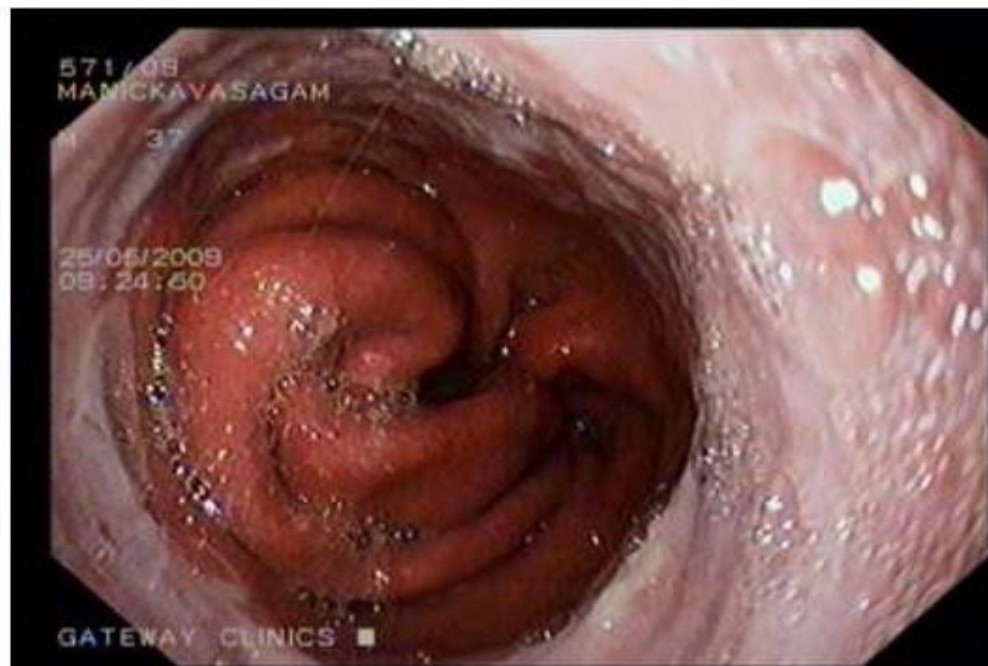
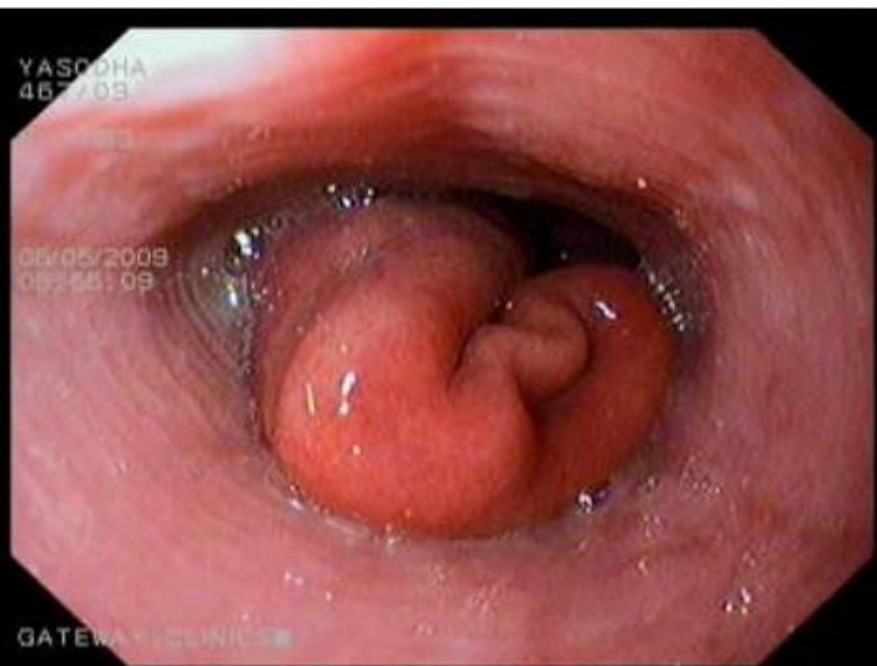


LES - pressure often low

Gastric pouch - intra-thoracic reservoir

Diaphragm - no esophageal pinch

Hiatus Hernia



Symptoms of GERD

- **Esophageal**

- Heartburn
- Dysphagia
- Odynophagia
- Regurgitation
- Belching

- **Extraesophageal**

- Cough
- Wheezing
- Hoarseness
- Sore throat
- Globus sensation
- Epigastric pain
- Non-cardiac chest pain(NCCP)

Factors That Can Aggravate GERD

- *Diet* – Caffeine, fatty/spicy foods, chocolate, coffee, peppermint, citrus, alcohol
- *Position/Activity* – Bending, straining
- *External Pressure* – pregnancy, tight clothing

Diagnostic Evaluation

- If classic symptoms of heartburn and regurgitation exist in the absence of “alarm symptoms” the diagnosis of GERD can be made clinically and treatment can be initiated

Alarming Signs & Symptoms

- Dysphagia
- Early satiety
- GI bleeding
- Odynophagia
- Vomiting
- Weight loss
- Iron deficiency anemia

Diagnostic Tests for GERD

- Barium swallow
- Endoscopy
- Ambulatory pH monitoring
- Impedance-pH monitoring
- Esophageal manometry

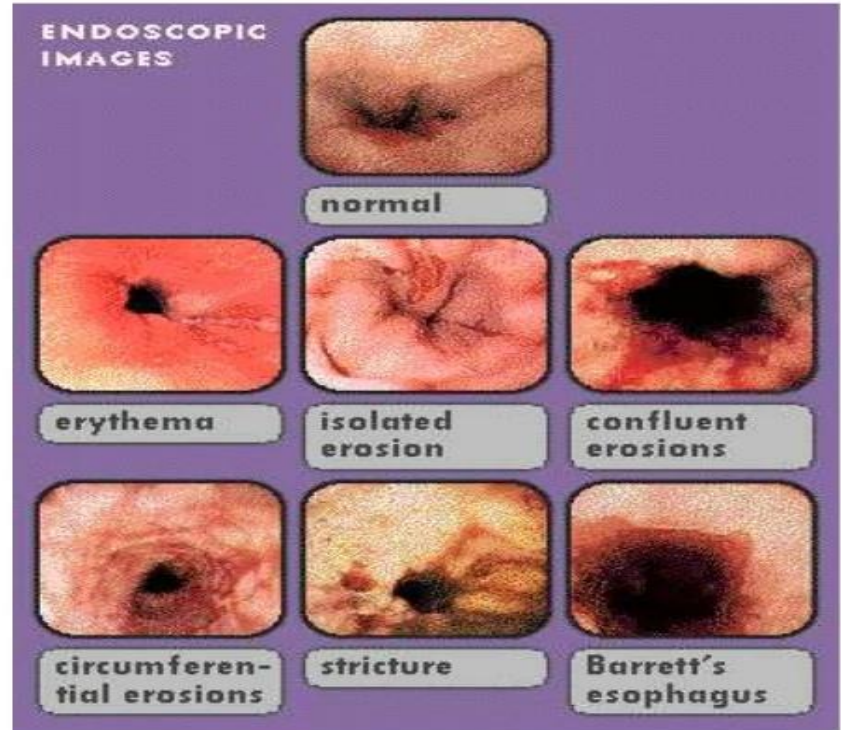
Barium Swallow

- Useful first diagnostic test for patients with dysphagia
 - Stricture (location, length)
 - Mass (location, length)
 - Hiatal hernia (size, type)
- Limitations
 - Detailed mucosal exam for erosive esophagitis, Barrett's esophagus



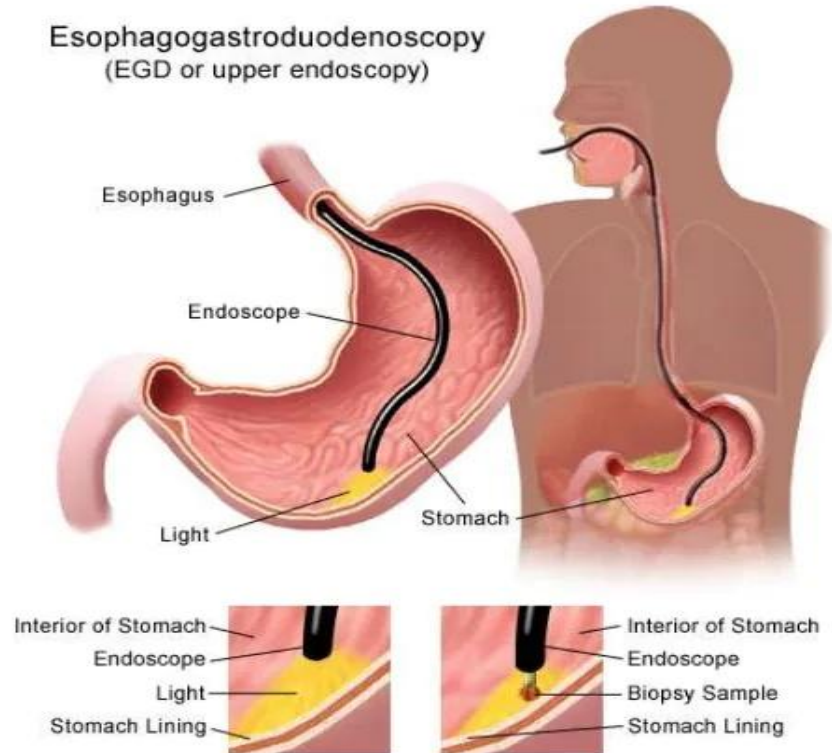
Endoscopy

- Indications
 - Alarm symptoms
 - Empiric therapy failure
 - Preoperative evaluation
 - Detection of Barrett's esophagus



Esophago-gastro-duodenoscopy

- Endoscopy (with biopsy if needed)
 - In patients with alarm signs/symptoms
 - Those who fail a medication trial
 - Those who require long-term tx
- Absence of endoscopic features does not exclude a GERD diagnosis
- Allows for detection, stratification, and management of esophageal manifestations or complications of GERD

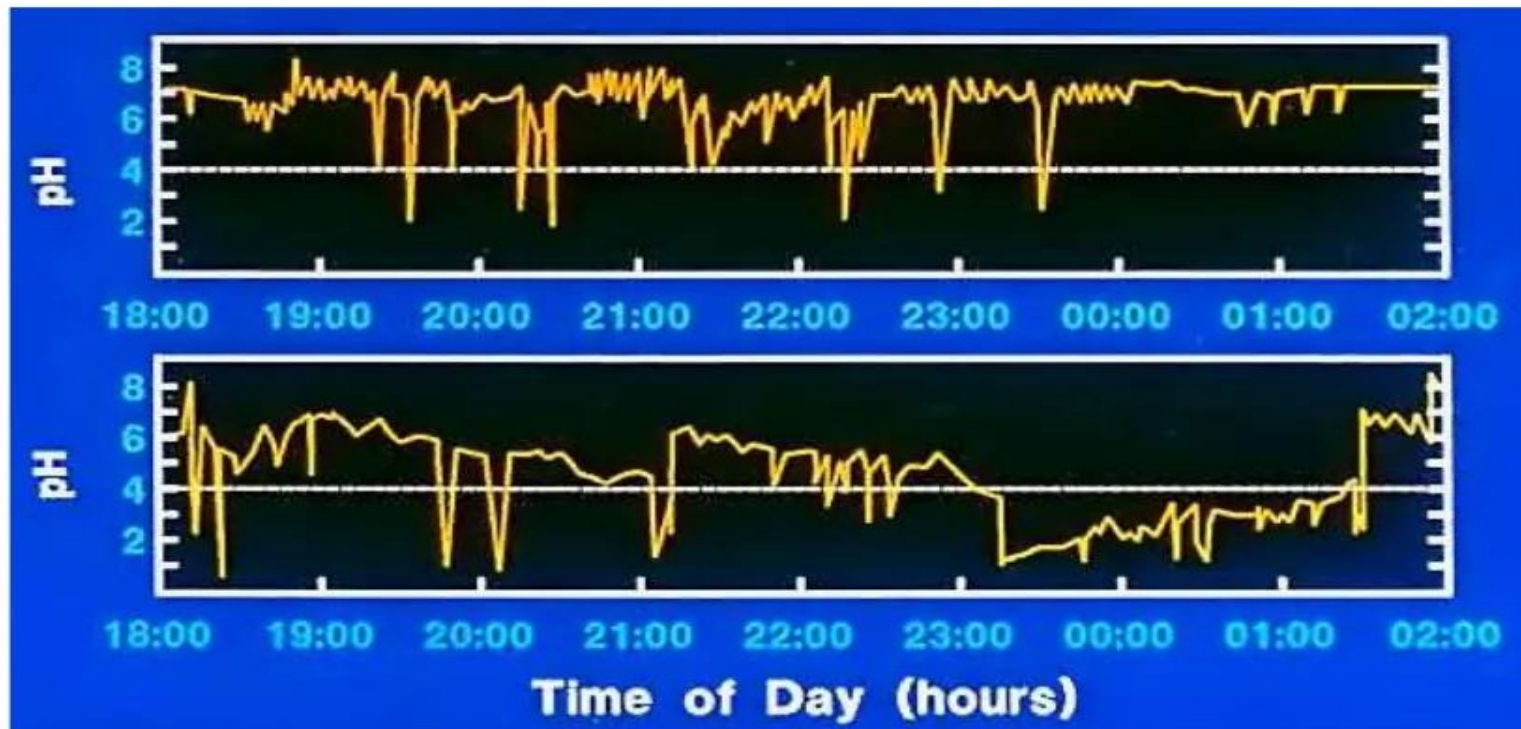


pH

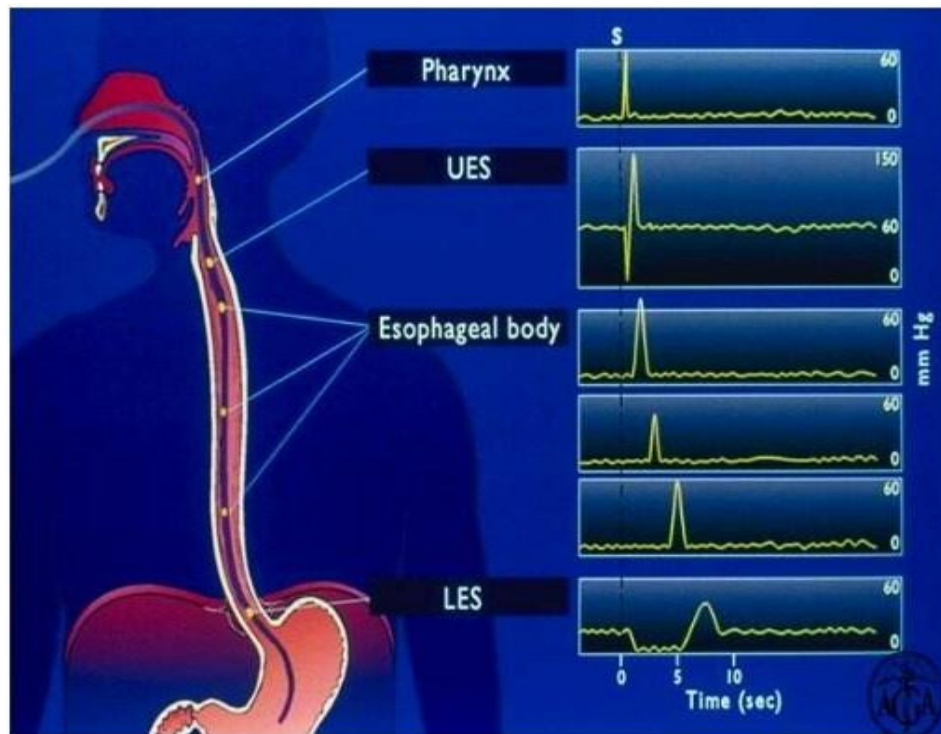
- 24-hour pH monitoring-----Physiologic study
 - Accepted standard for establishing or excluding presence of GERD for those patients who do not have mucosal changes
 - Trans-nasal catheter or a wireless, capsule shaped device

Ambulatory 24 hr. pH Monitoring

Normal



Esophageal Manometry



Limited role in GERD

- Assess LES pressure, location and relaxation
 - Assist placement of 24 hr. pH catheter
- Assess peristalsis
 - Prior to antireflux surgery

Treatment

- *Goals of therapy*
 - Symptomatic relief
 - Heal esophagitis
 - Prevent & Treat complications
 - Maintain remission

Lifestyle Modifications

- Weight reduction if overweight
- Avoid clothing that is tight around the waist
- Modify diet
 - Eat more frequent but smaller meals
 - Avoid fatty/fried food, peppermint, chocolate, alcohol, carbonated beverages, coffee and tea, onions, garlic.
 - Stop smoking
- Elevate head of bed 4-6 inches
- Avoid eating within 2-3 hours of bedtime

Treatment

- Antacids
 - Quick but short-lived relief
 - Neutralize HCl acid
- Approx 1/3 of patients with heartburn-related symptoms use at least twice weekly
- More effective than placebo in relieving GERD symptoms

Treatment

- Histamine H₂-Receptor Antagonists
 - More effective than placebo and antacids for relieving heartburn in patients with GERD
 - Faster healing of erosive esophagitis when compared with placebo
 - Can use regularly or on-demand

Collaborative Care

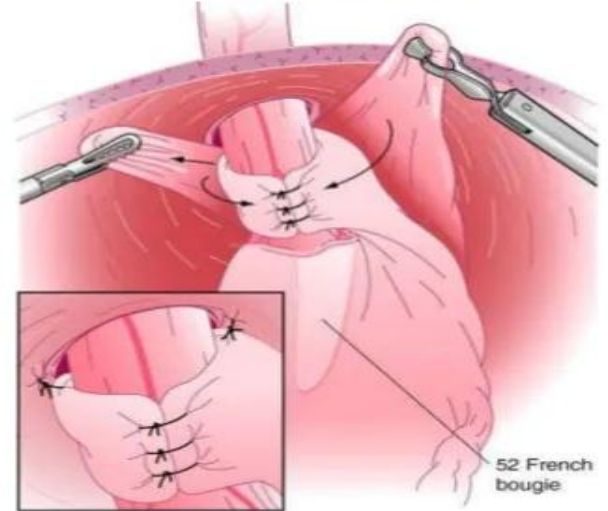
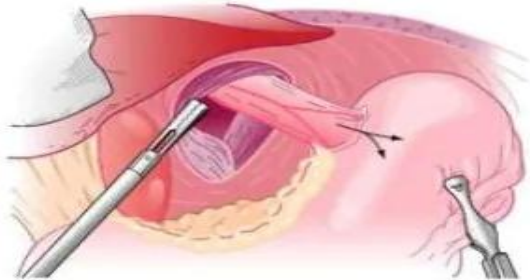
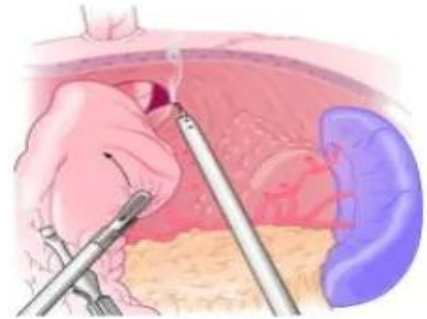
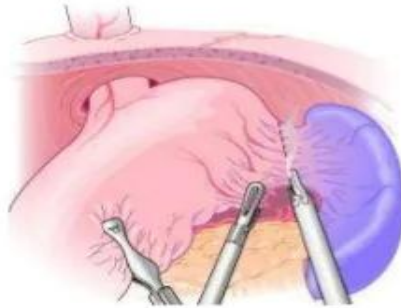
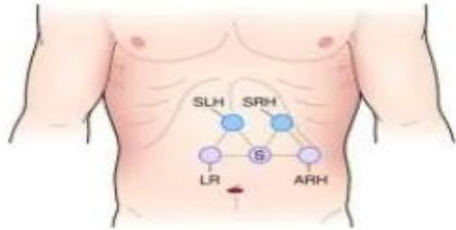
- Drug therapy (cont'd)
 - Prokinetic drugs
 - Promote gastric emptying
 - Reduce risk of gastric acid reflux

Treatment

- Proton Pump Inhibitors
 - Better control of symptoms with PPIs vs H2RAs and better remission rates
 - Faster healing of erosive esophagitis with PPIs vs H2RAs

Nissen Fundoplication

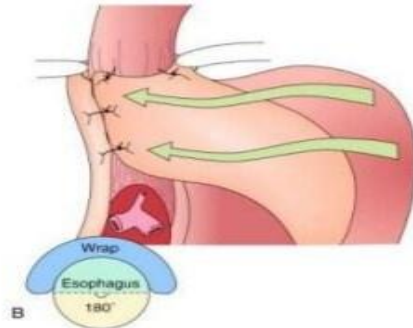
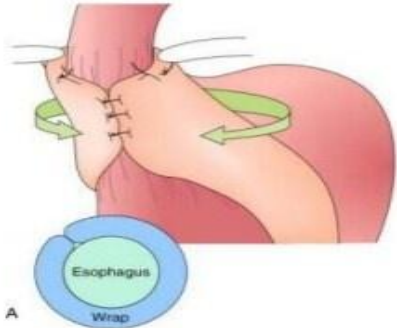
Laparoscopic



Treatment

AGENT	EQUIVALENT DOSAGES	DOSAGE
Esomeprazole	40mg daily	20-40mg daily
Omeprazole	20mg daily	20mg daily
Lansoprazole	30mg daily	15-10mg daily
Pantoprazole	40mg daily	40mg daily
Rabeprazole	20mg daily	20mg daily

Complete vs. partial fundoplication



- Ant. partial fundoplication
→ Thal/Dor procedure
- Post. partial fundoplication
→ Toupet procedure

Complications

- Erosive esophagitis
- Stricture
- Barrett's esophagus
- Adenocarcinoma

Barrett's Esophagus

