Gastroesophageal Reflux Disease

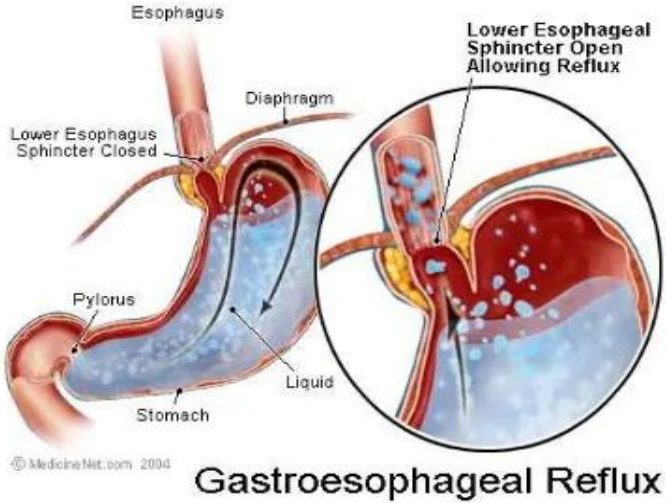
By - Muskan Gahoi
Fourth course
La -2 CO - 171(2)

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

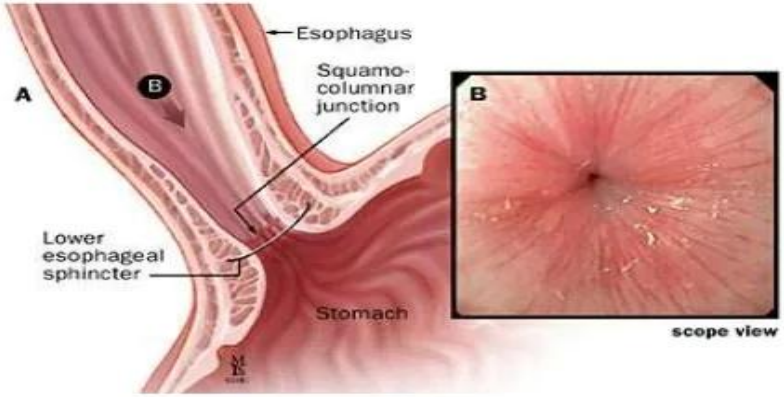


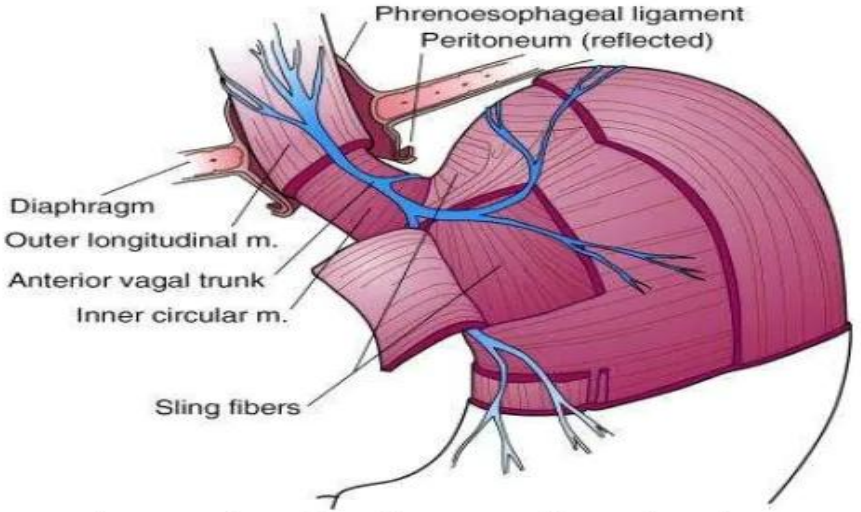
Gastroesophageal Reflux

Physiologic vs Pathologic

- Physiologic GERD
  - Postprandial
  - Short lived
  - Asymptomatic
  - No nocturnal sx
- Pathologic GERD
  - Symptoms
  - Mucosal injury
  - Nocturnal sx

Lower Esophageal Sphincter



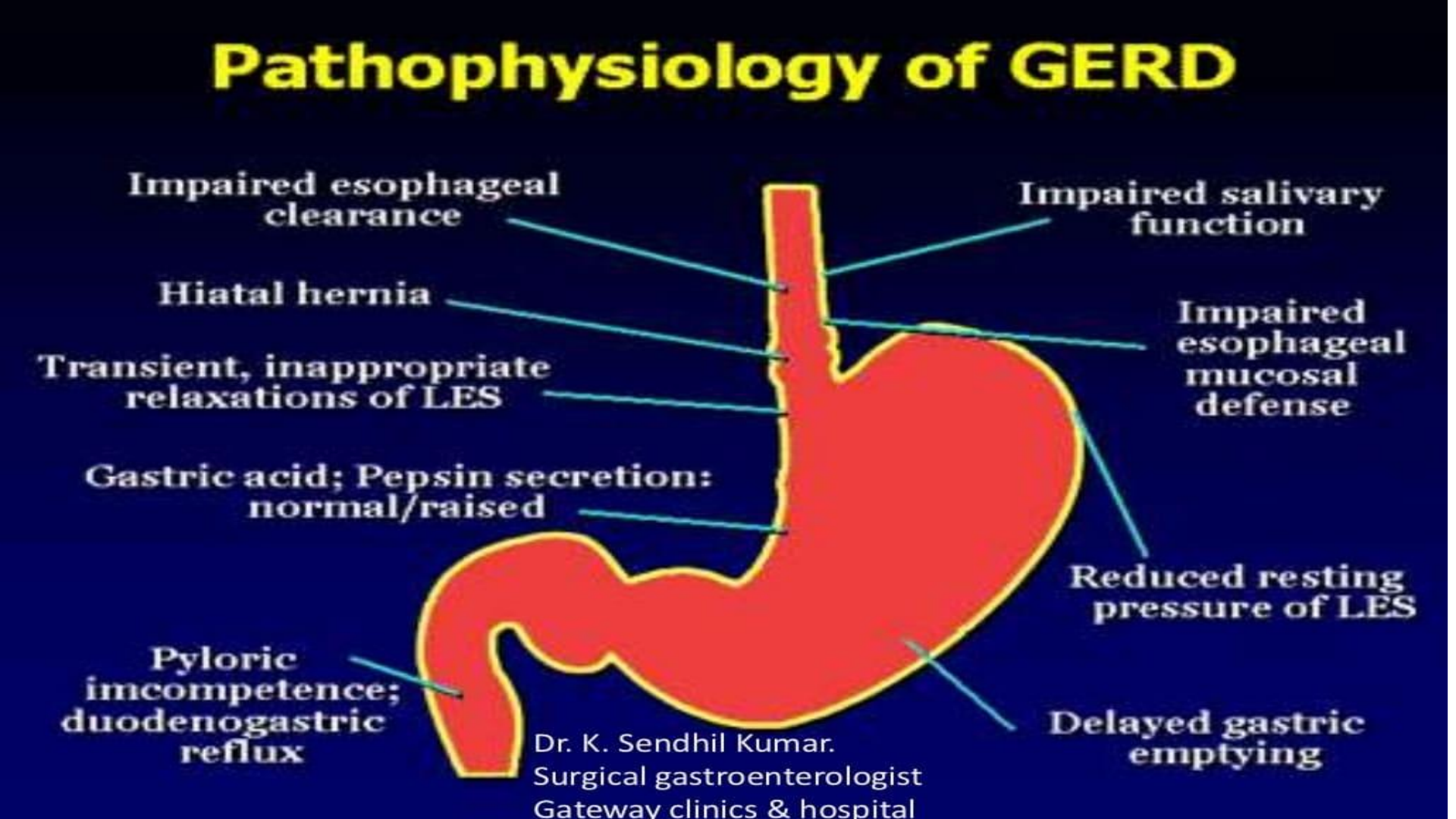


- Intrinsic distal esophageal muscles – tonically contracted
- Muscular Sling fibers of the gastric cardia
- Diaphragmatic crura
- Transmitted pressure of the abdominal cavity

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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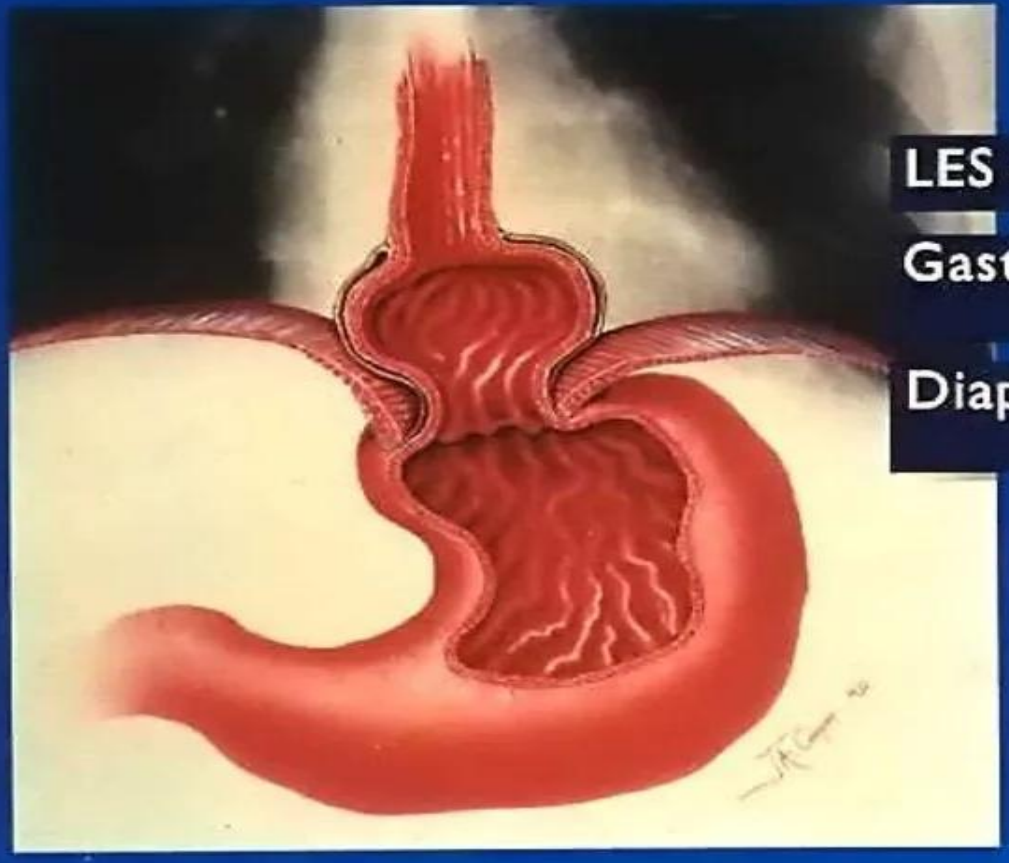
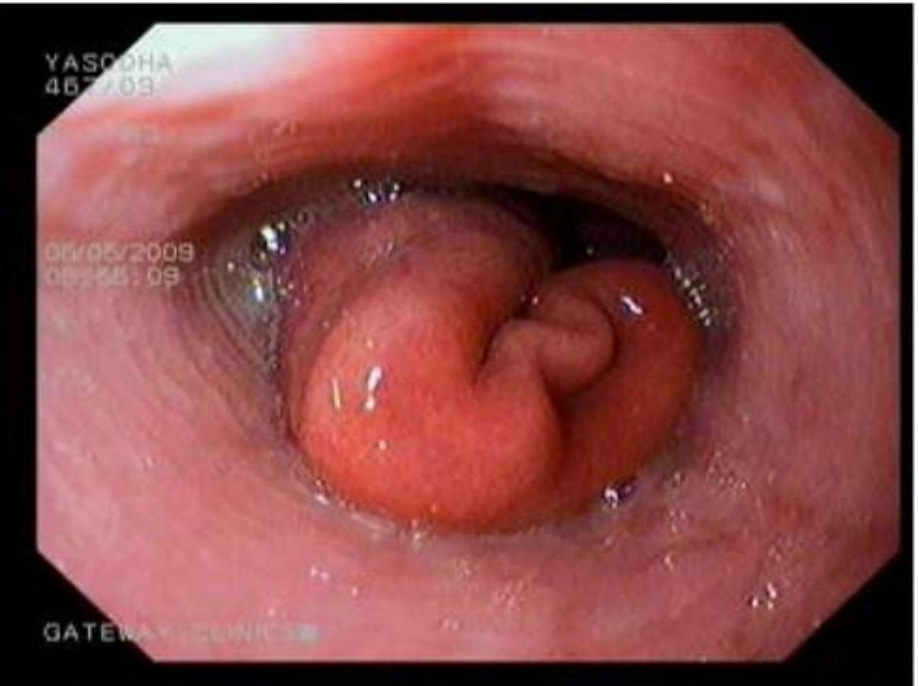
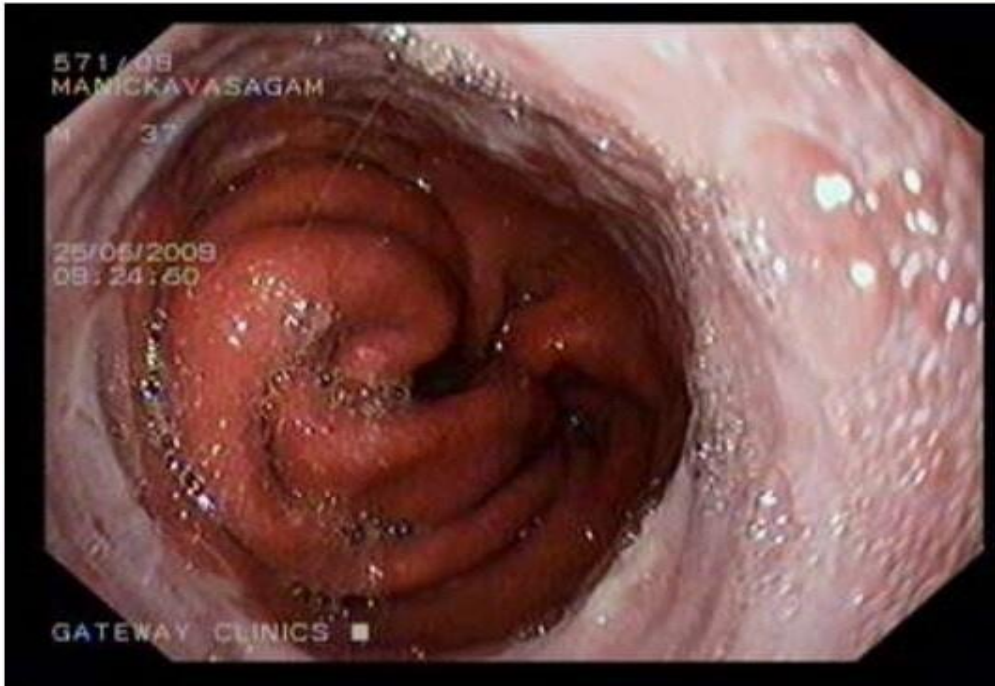
Hiatal Hernia and Reflux



- 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

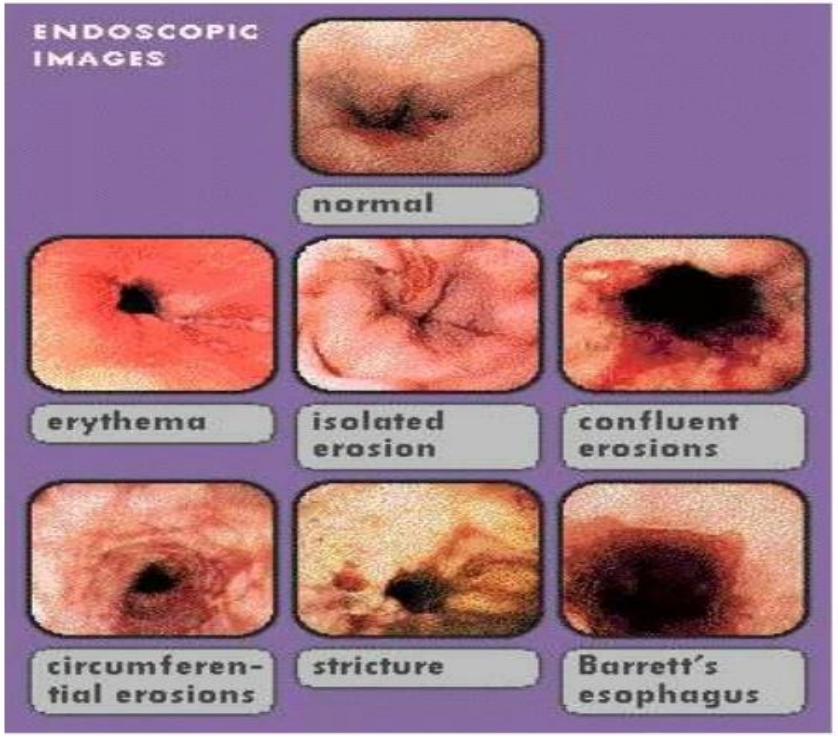
Barium Swallow

- 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

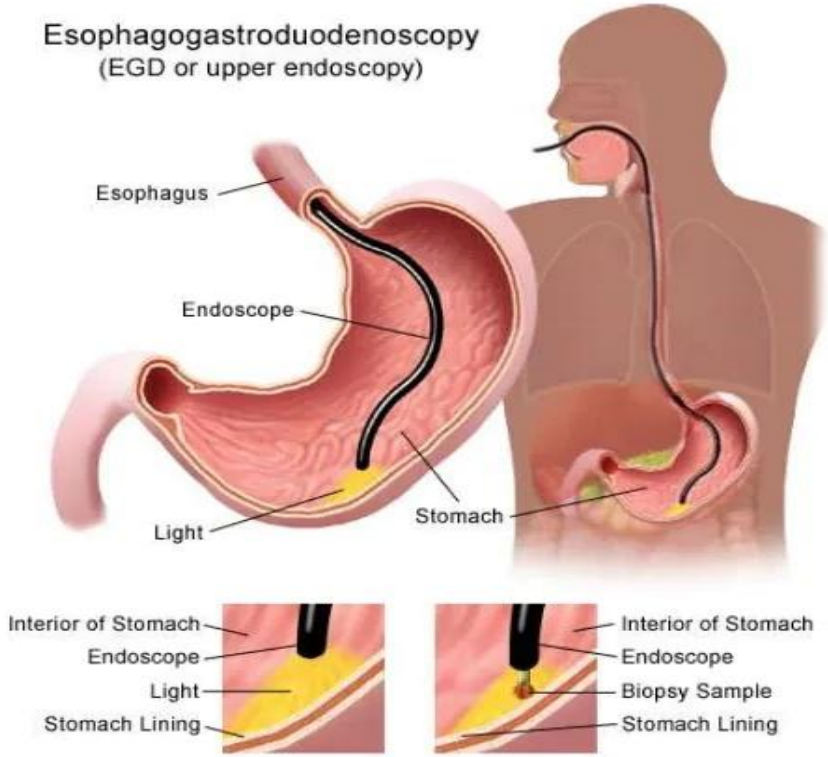
Endoscopy

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



Esophago-gastro-duodenoscopy

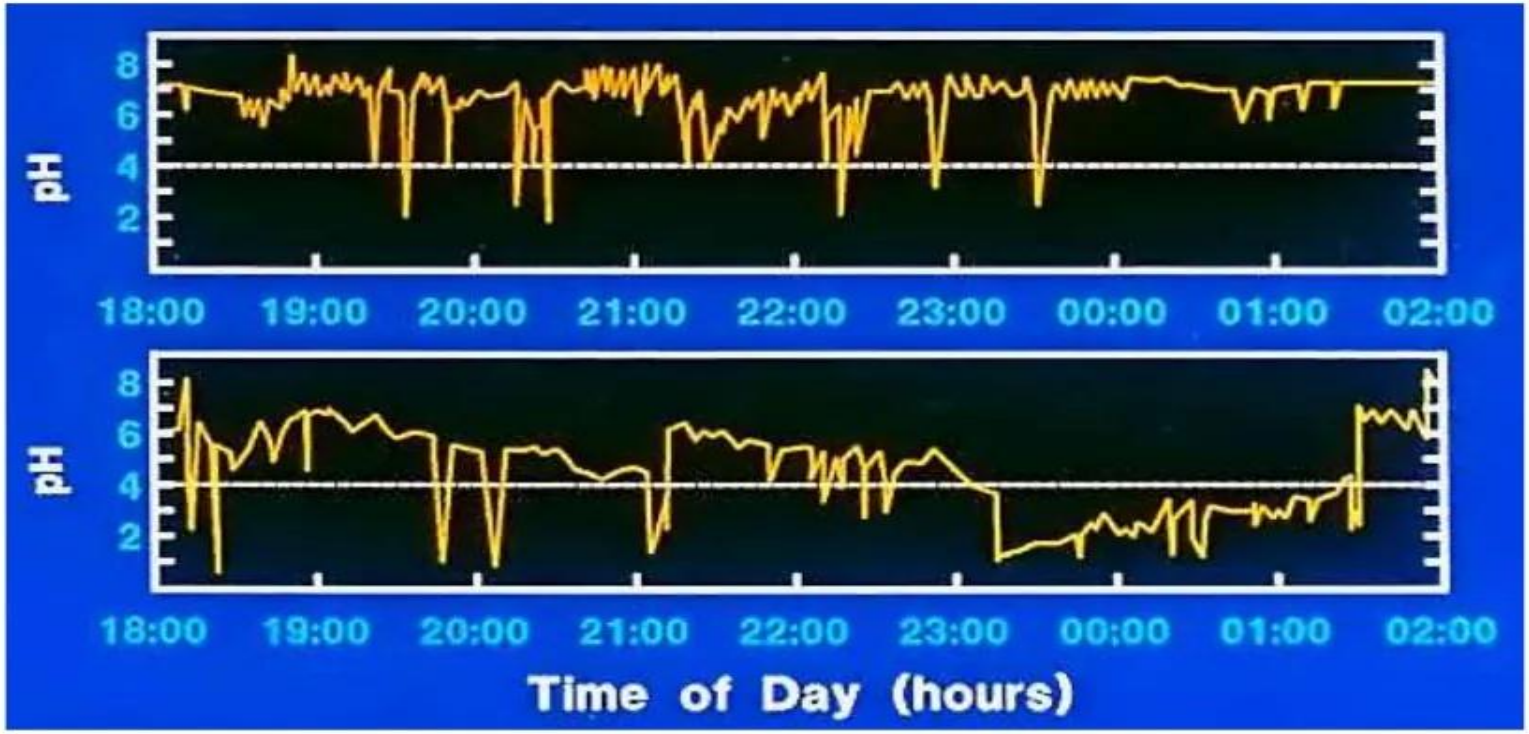
- Endoscopy (with biopsy if needed)
  - In patients with alarm signs/symptoms
  - Those who fail a medication trial
  - Those who require long-term tx
- Absence of endoscopic features does not exclude a GERD diagnosis
- Allows for detection, stratification, and management of esophageal manisfestations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



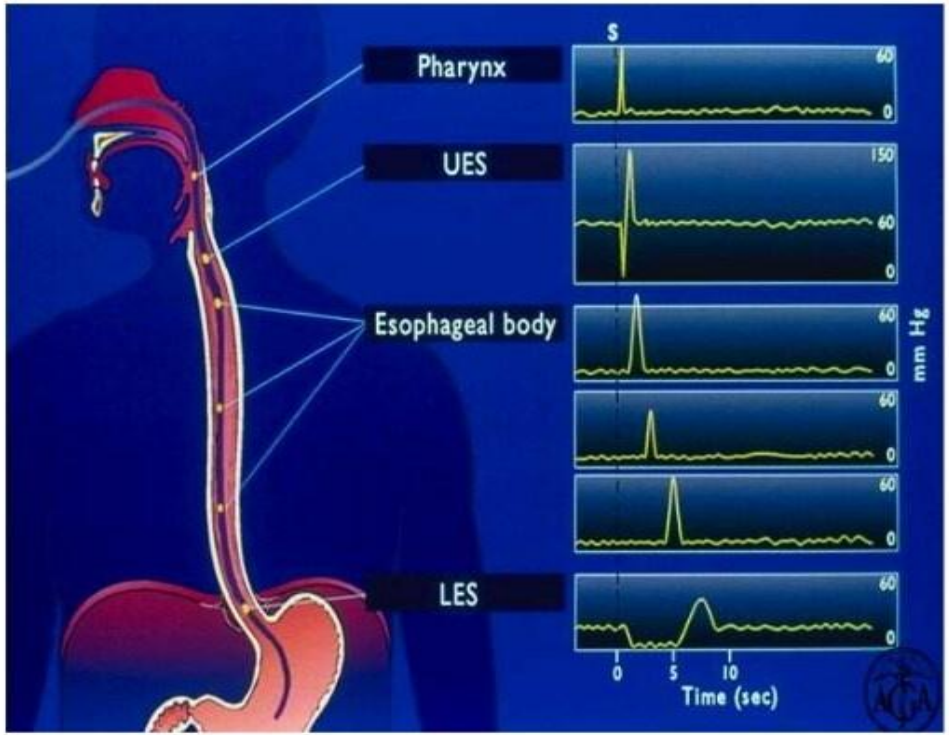
pH

- 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



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

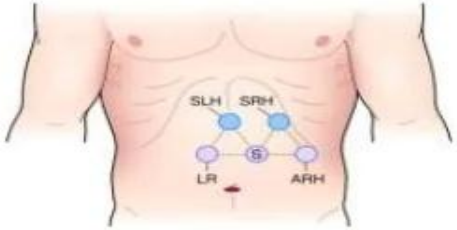
- Drug therapy (cont'd)
  - Prokinetic drugs
    - Promote gastric emptying
    - Reduce risk of gastric acid reflux

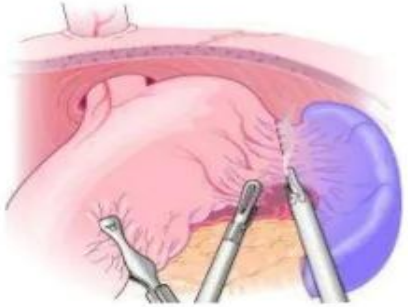
Treatment

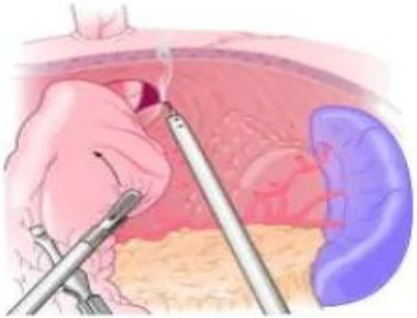
- Proton Pump Inhibitors
  - Better control of symptoms with PPIs vs H2RAs and better remission rates
  - Faster healing of erosive esophagitis with PPIs vs H2RAs

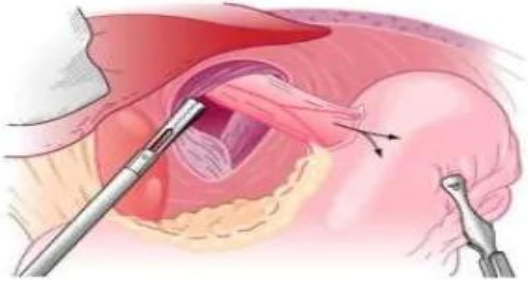
Nissen Fundoplication

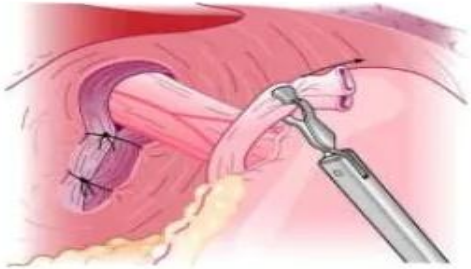
Laparoscopic

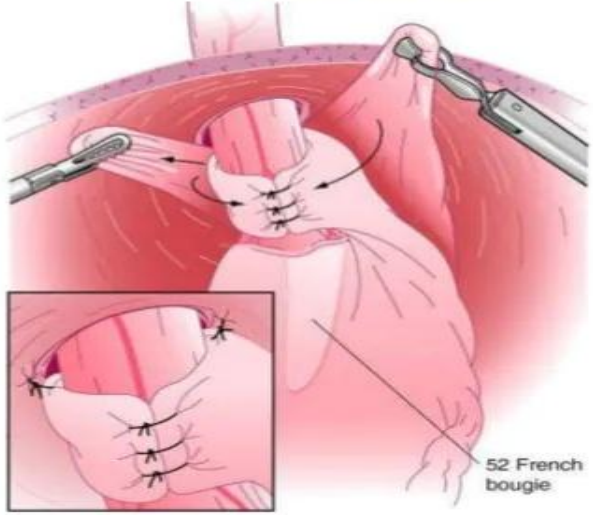








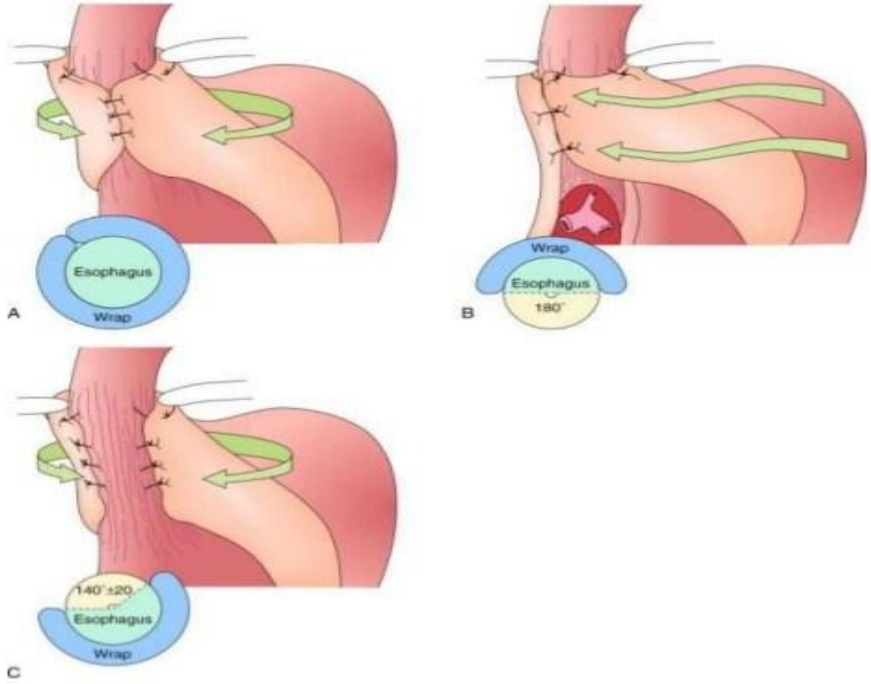




Treatment

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