

# What You Need to Know About GERD, Dyspepsia, Dysphagia and Barrett's

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## Disclosure

I have no financial interests or relationships to disclose.

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Peter Buch, MD  
GERD, Dyspepsia, Dysphagia and Barrett's

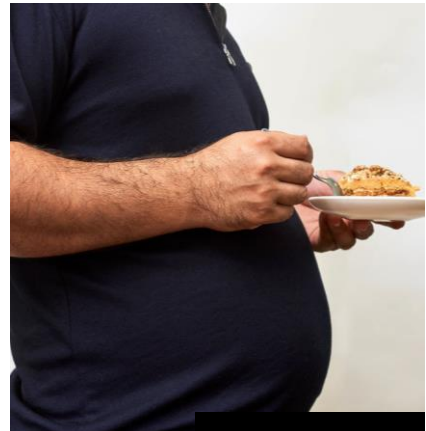
## Objectives

- To recognize and treat the varied sources of dysphagia
- To identify why proton pump inhibitors may fail to treat GERD
- To define the SIGNIFICANT side effects of PPIs
- To cite the cancer risk for Barrett's esophagus

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## Harry

- Is a 205 lb, 5'6", 52 yr old male with daily severe reflux.
- He does not smoke or drink
- His endoscopy/biopsy 1 year ago was negative for Barrett's
- Harry was started on Omeprazole then moved to Dexlansoprazole then Dexlansoprazole and a H2 blocker over the past 4 weeks
- All with NO EFFECT



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# Harry

Name some lifestyle changes that might help.

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# Harry

lifestyle changes

- Weight loss
- Medication compliance
- Elevation of the head of the bed
- Do not eat before sleeping
- Avoid caffeine, sodas, spicy and fatty foods

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# Is Endoscopy Necessary to Make the Diagnosis of GERD?

Katz, PO et al  
Guidelines for the Diagnosis and Management of Gastroesophageal Reflux Disease  
Am J Gastro 2022;117;27

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## Establishing a Diagnosis of GERD

01

A presumptive diagnosis of GERD can be made on symptomatology alone

02

Empiric PPIs may be prescribed

03

A reliable diagnosis is occasionally difficult

04

Endoscopy not recommended except for "Alarm Features" or those who fail empiric therapy

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## Alarm Features

- Vomiting
- Obstruction
- Bleeding
- Weight loss

- Young A et al
- GERD: A practical approach
- Cleveland Clinic Journal of Medicine 2020;87:223



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## Other Potential Manifestations of GERD

- Hoarseness
- Sore throat
- Chronic cough\*
- Asthma
- Pharyngitis

\*Cochrane Database Syst Rev 2011 Jan 19;(1):CD004823

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## Always Consider Non GI Sources First When Evaluating:

Hoarseness

Sore throat

Chronic cough

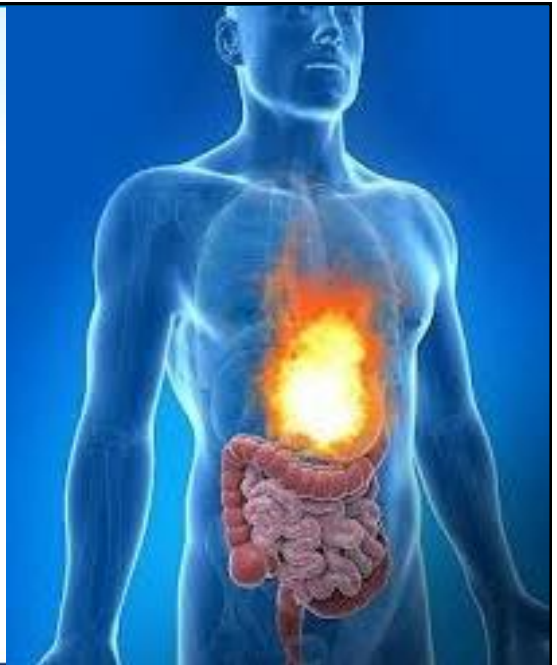
Asthma

Pharyngitis

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## Reflux Is Only Caused by Acid

- A. True
- B. False



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## Which Foods Can Decrease Lower Esophageal Pressure?

- A. Alcohol
- B. Caffeine
- C. Peppermint
- D. All the above

## Which of the Following Does NOT Cause Reflux?

- A. Gastroparesis
- B. Narcotic use
- C. Erythromycin
- D. Pregnancy

## GERD Facts

- Prevalence of GERD in North America 10 – 12 %\*
- Persistent symptoms in 54% of respondents taking PPIs\*\*

\*GBD Gastro-oesophageal Reflux Disease Collaborators

The global, regional, and national burden of gastro-oesophageal reflux disease in 195 countries and territories, 1990-2017: a systematic analysis for Global Burden of Disease Study 2017  
Lancet Gastroenterol Hepatol 2020;5:561

\*\*Delshad SD et al

Prevalence of gastroesophageal reflux disease and proton pump inhibitor-refractory symptoms  
Gastroenterology 2020;158:1250

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### Why Do We Have Medication Failures When Treating GERD?

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## Why Can We Have Medication Failures When Treating GERD?

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Dosing/Compliance

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Non Acid Related

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Dyspepsia (Functional Disease)

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Other diseases that mimic reflux like Gastroparesis, Achalasia

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## Which of the Following Are Complications of GERD?

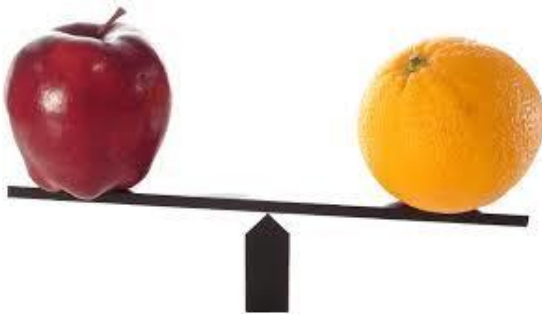
- A. Stricture formation
- B. Asthma
- C. Tooth decay
- D. All the above

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## Are There Any Significant Clinical Differences Among the PPIs?



Katz PO et al  
Guidelines for the Diagnosis and management of  
Gastroesophageal Reflux Disease  
Am J Gastroenterol 2013;108;308

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## No, But

- Switching PPIs is useful for tachyphylaxis

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## PPI Use/Overuse

7 – 15% of ALL patients use PPIs

40% of those over 70

25% of patients use PPIs a year or more

Targownik L et al  
AGA Clinical Practice Update on De-Prescribing of Proton Pump Inhibitors: Expert Review  
Gastroenterology 2022;162:1334

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## PPI Overuse

- PPI prophylaxis without indications in 60% of patients transferred out of the ICU
- PPI prophylaxis without indication for 35% of patients discharged home

Farrell CP et al  
Overuse of stress ulcer prophylaxis in the critical care setting and beyond  
J Crit Care 2010;25:214

Farley KJ et al  
Inappropriate continuation of stress ulcer prophylaxis beyond the intensive care setting  
Crit Care Resusc 2013;15:147

Clarke K et al  
Indications for the Use of Proton Pump  
Inhibitors for Stress Ulcer Prophylaxis and peptic  
Ulcer Bleeding in Hospitalized Patients  
Am J Med 2022;135:313

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## PPI Issues

- Some pts take PPIs prn; why won't this work?
- What is the best time to take PPIs?



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## What Are the Side Effects of Using Long-Term PPIs?

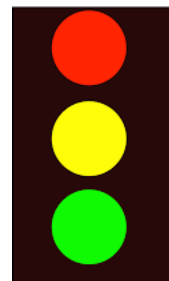


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## What Are the Side Effects of PPIs?

- **C difficile infection (Clostridioides)**
- **Myocardial infarction???**
- **Alzheimer's???**
- **Renal failure???**
- **Stroke???**
- **Interaction With clopidogrel bisulfate**
- **Osteopenia**



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## PPI Use and C difficile

- Twice as High in PPI Use

Scholl S et al  
Treatment of GERD and proton pump inhibitor use in the elderly: practical approaches and frequently asked questions  
Am J Gastroenterol 2011;106;386

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## Clopidogrel

- Concerns date to 2009
- Large meta analysis (16 studies, 10 abstracts)
- MI, stroke, stent occlusion, death (primary outcomes)
- Repeat hospitalization, revascularization procedures (secondary outcome)
- **ZERO** RISK OF ADVERSE OUTCOME

Gerson CB et al  
Lack of significant interactions between clopidogrel and proton pump inhibitor therapy: meta analysis of existing literature  
Dig Dis Sci 2012;57;1304

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## Take Home Message About PPI Side Effects

- Many studies are **observational**, not randomized
- We need to reassure those patients who really need PPIs
- Many patients are taking PPIs for no clear reason

Moayyedi P et al  
Safety of proton pump inhibitors based on a large, multi-year randomized trial of patients receiving rivaroxaban or aspirin  
Gastroenterology 2019;157:682

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## Before De Prescribing PPIs Find Out Why the Patient is Taking PPIs

Farrell B et al  
Deprescribing Proton Pump Inhibitors  
Canadian Family Physician 2017;63:354



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## Reasons to Continue PPIs

- Treatment of erosive esophagitis and prevention of relapse
- Prevention of peptic ulcer disease and its complications
- Prevention of progression of Barrett's esophagus
- Zollinger Ellison Syndrome
- **Treatment of PPI responsive eosinophilic esophagitis**

Targonwic L et al  
Discontinuing Long-Term PPI Therapy: Why, With Whom and How?  
Am J Gastroenterol 2018;113;519

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## Optimal Approach to Deprescribing PPIs

- Has not yet been established



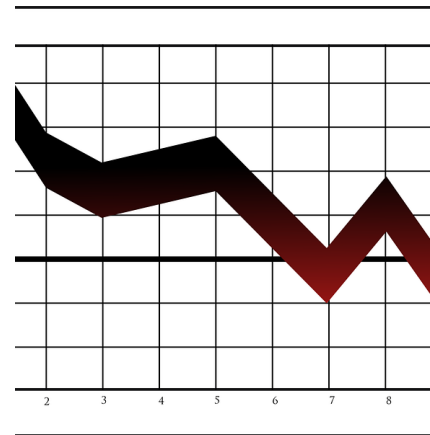
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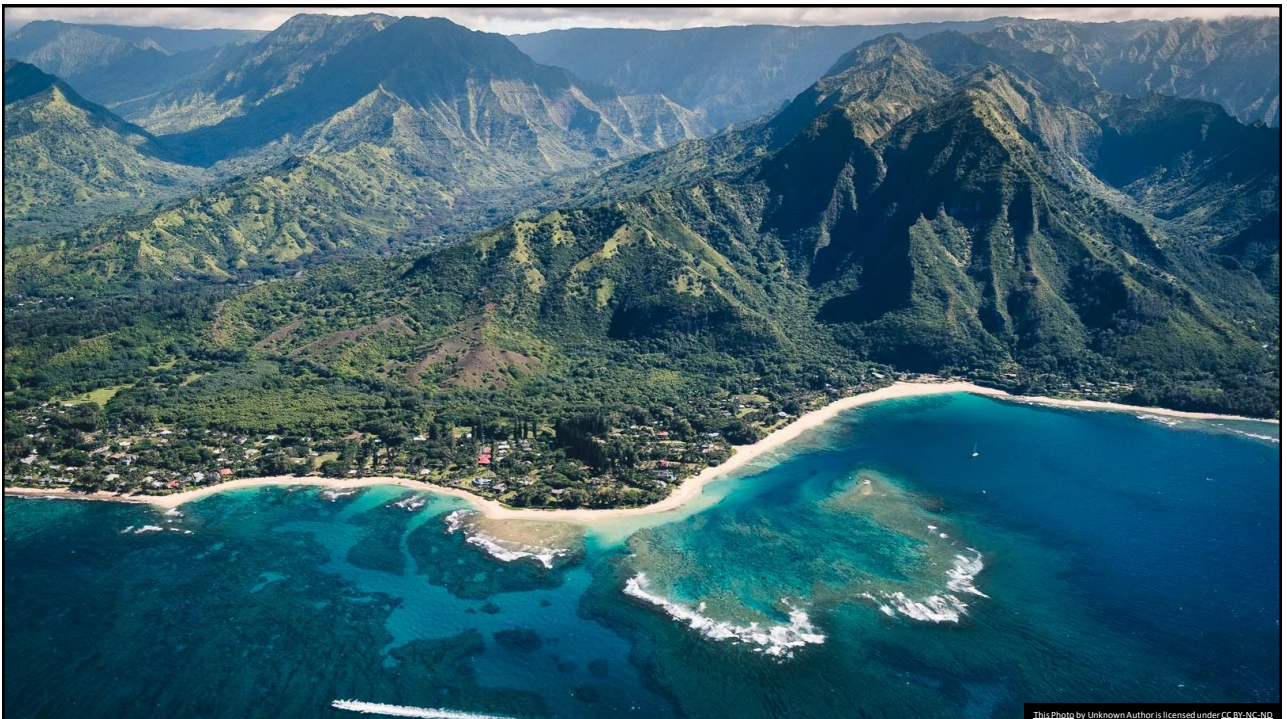
## Deprescribing PPIs

- Discontinuation of PPIs may be complicated by acid rebound
- Acid rebound may be mistaken for recurrence of symptoms
- Slow taper and prn H2 blockers often solves this problem

Wiens E et al  
The Clinician's Guide to proton-Pump Inhibitor Discontinuation  
J Clin Gastroenterol 2019;53:553



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## Chuck

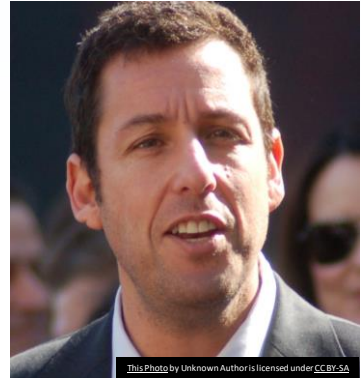
Is a 50 y o with dry cough and mild hoarseness for a year. He does not smoke or drink. There is no regurgitation, dysphagia or heartburn. Evaluations include:

CXR

Pulmonary function tests ALL NORMAL

Indirect laryngoscopy

Exam: normal



## What Do You Now Recommend?

- A. PPI trial for 8 weeks
- B. Endoscopy
- C. pH study
- D. pH and manometry studies

More



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What Is the Difference?

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Dyspepsia

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Functional Dyspepsia

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GERD

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## Definitions

- Dyspepsia    Epigastric discomfort  
                  Early satiety  
                  Postprandial fullness  
                  Huge differential
- 75% of dyspepsia is functional
- Only a small percentage is GERD

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## Dyspepsia/No Alarm Symptoms/Over Age 60



- Do an endoscopy

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## Dyspepsia Under Age 60

- Endoscopy not usually necessary unless “alarm signs”



Nasseri-Moghaddam S et al  
What is the Prevalence of Clinically Significant Endoscopic Findings in Subjects With Dyspepsia?  
Updated Systematic Review and Meta-analysis  
Clin Gastroenterol and Hepatol 2023;21;1739

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### Alarm Signs



- Hematemesis
- Anemia
- Odynophagia
- Dysphagia
- Weight loss

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## Workup of a Dyspepsia Patient < 60, No Alarm Signs \*

- H pylori test and treat
- If H pylori negative, 8 weeks of empiric PPI therapy
- Then consider low dose tricyclic antidepressants
- Gastric emptying study
- Etc

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## Mary



- Is a 92 y.o. with progressive dysphagia
- After cancer has been ruled out, what other conditions should we consider?

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## Causes of Dysphagia

Narrowing    Stricture  
                  Web  
                  Ring

Motility Disorder    Cricopharyngeal dysphagia  
                              Diffuse esophageal spasms  
                              Nutcracker esophagus

Achalasia

Zenker's

Hiatal Hernias

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## Causes of Dysphagia

### Stricture



Web

### Ring



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## Definitions

**STRICTURE:** A complication of acid reflux

**WEB:** Thin squamous tissue, most often in upper esophagus

**RING:** Located at gastroesophageal junction, rarely muscular

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## Motility Disorders of Esophagus

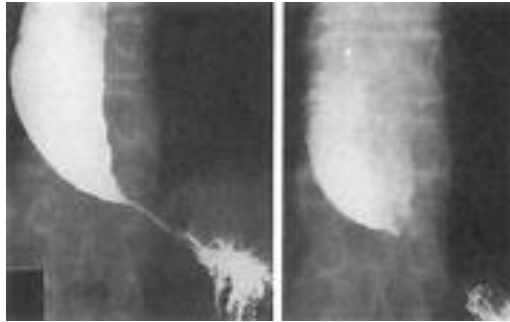


- Distal esophageal spasm
- Hypercontractile esophagus
- Treatment: PPI  
Tricyclics  
Calcium channel blocker (diltiazem)  
Nitrates  
Sildenafil (Viagra)

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## Achalasia



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## Achalasia

Failure of lower esophagus to relax

Loss of peristalsis

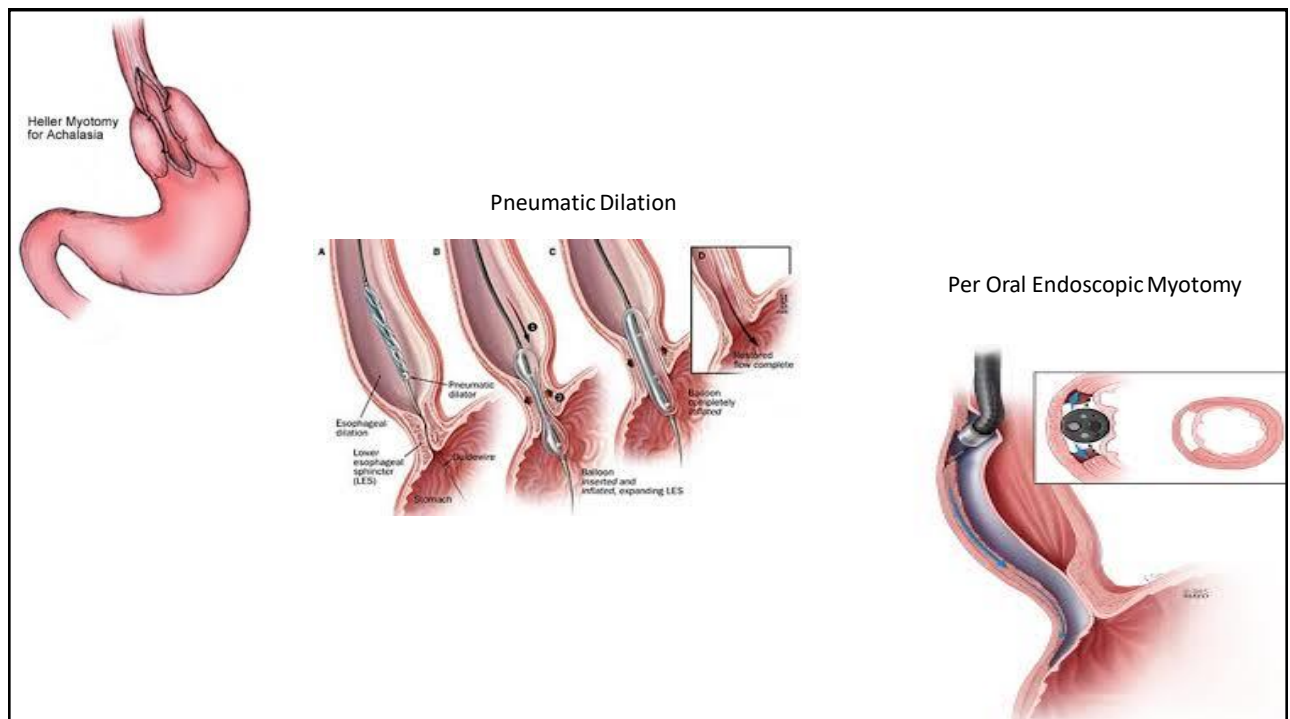
From degeneration of ganglion cells

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## The Safest Way to Treat Achalasia in 2024 is with:

- A. Surgery
- B. Mechanical dilation
- C. Botulinum toxin injection
- D. Per oral endoscopic myotomy

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## Zenker's Diverticulum



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**BONUS (True/False):  
Zenker's Diverticuli Can Readily  
Be Treated Non-Surgically:**

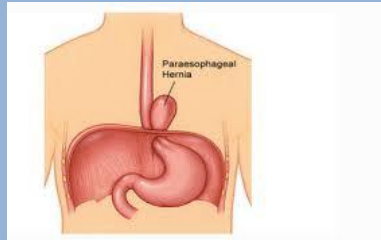
- A. True
- B. False

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## Types of Hiatal Hernias



Sliding



Para esophageal



Para esophageal

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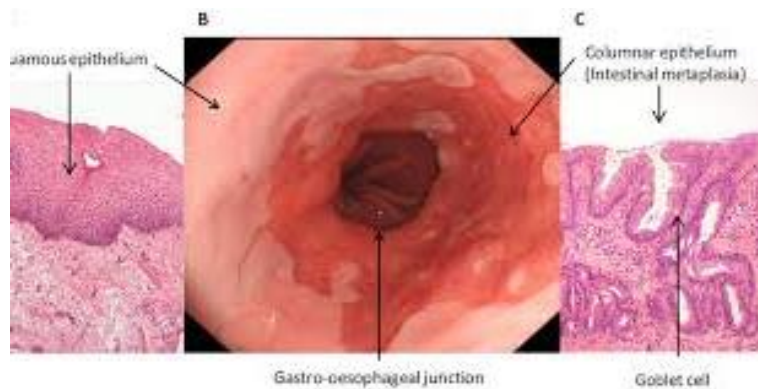
### **What Is the Recommended Treatment for SYMPTOMATIC Para Esophageal Hiatal Hernias?**

- A. Double dose PPIs
- B. Cauterization of pouch
- C. Surgery
- D. Botulinum toxin injections

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## What Is Barrett's Esophagus?

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# Barrett's

- Is a Condition Where Specialized Metaplastic Columnar Epithelium Replaces the Usual Squamous Epithelium

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## Limitations of Endoscopic Screening for Barrett's

- May miss cases without GERD
- False positives
- False negatives



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## The Statistics

- Barrett's is present in 1 – 2% of the US population
- Runs in families
- And 6 – 18% of GERD patients have Barrett's
- 20-50% of esophageal adeno Ca patients have **no GERD** symptoms
- Our current practices FAIL to identify the majority of high risk patients

Eusebi LH et al  
Systemic Review With Meta Analysis: Risk Factors for Barrett's Oesophagus in Individuals With Gastro-Oesophageal Reflux Symptoms  
Aliment Pharmacol ther 2021;53:968

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## Barrett's Question

Do PPIs prevent progression of Barrett's to Ca?

Nguyen DM et al  
Medication Usage and Risk of Neoplasia in Patients With Barrett's Esophagus  
Clinical Gastroenterology and Hepatology 2009;7:1299



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## Most Patients with Barrett's Esophagus Die from:

- A. Esophageal cancer
- B. Cardiovascular issues

Sikkema M et al  
Risk of esophageal adenocarcinoma and mortality in patients with Barrett's Esophagus: a systematic review and meta analysis  
Clin Gastro Hepatol 2010;8:235



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## What Is the Cancer Risk Associated with Barrett's Esophagus?

- A. 12% a year
- B. 5% a year
- C. 10% a year
- D. 15% a year



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## Barrett's Risk Factors



- Men > 50
- Obese
- White
- Smokers
- Longstanding GERD
- Long segment
- Dysplasia
- Family history

ASGE 2019, ACG 2022, AGA Clinical Practice Update 2022

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## Which Women Should Be Screened for Barrett's?\*

- A. Uncontrolled reflux
- B. White
- C. Obese
- D. Over 50
- E. First degree relative with Barrett's or esophageal adeno Ca

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## How Accurate Are Current Guidelines Relying on Reflux to Detect Barrett's Esophagus?

- **Less than 10% of newly diagnosed cases of esophageal adenocarcinoma carry a diagnosis of known Barrett's esophagus**
- We rely on presence of chronic reflux plus
- Obesity
- Smoking
- Family history of Barrett's

Wenker T et al  
Prior diagnosis of Barrett's esophagus and performance of societal screening guidelines in an unreferral primary care population of US veterans  
Gastrointest Endosc 2021;93:409  
Dhalliwai L et al  
Prevalence and Predictors of Barrett's Esophagus After Negative Initial Endoscopy: Analysis From Two National databases  
Clin Gastro and Hepatol 2024;22:523

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## What Is Esophageal Dysplasia?

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The diagram illustrates the progression of esophageal cancer. It shows five stages from left to right: Squamous Epithelium, Barrett's Esophagus, Low Grade Dysplasia, High Grade Dysplasia, and Adenocarcinoma. Below the stages, arrows indicate the prevalence of each stage: GERD is 10-15%, Barrett's Esophagus is 7%, and Adenocarcinoma is 0.9%. A large blue box at the bottom contains the text 'What Is Esophageal Dysplasia?' and 'Abnormal Cells, But Not Enough to Diagnose Cancer'.

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## Management of Low Grade Dysplasia

- The AGA recommends endoscopic eradication therapy over surveillance\*

Rubenstein JH et al  
AGA Clinical Practice Guideline on Endoscopic Eradication Therapy of Barrett's Esophagus and related Neoplasia  
Gastroenterology 2024;166;1020

Figure 4: Radiofrequency Ablation of Barrett's Esophagus—(A) After appropriate sizing, the radiofrequency ablation (RFA) catheter is advanced into appropriate position over a guidewire. (B) The balloon is expanded and radiofrequency energy is applied. (C) Preoperative appearance of Barrett's esophagus prior to RFA. (D) Circumferential mucosal ablation pattern achieved with the BARFIA RFA probe.

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# Barrett's Questions

Are NSAIDs and ASA Useful in Preventing the Progression of Barrett's to Ca?

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**For Barrett's (under 3 cm) & without Dysplasia How Often Should Endoscopy Occur?**

- A. Every 1 – 2 years
- B. Every 3 -5 years

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## Surveillance of Barrett's

- Guidelines are not being followed in the majority of Barrett's surveillance patients
- **Many patients undergo EARLY surveillance**
- **Guidelines do NOT specify when surveillance should be discontinued**

Rubenstein JH et al  
Utilization of surveillance endoscopy for Barrett's Esophagus in Medicare enrollees  
Gastroenterology 2020;158;773

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## When Should We Stop Endoscopic Surveillance for Barrett's Esophagus?

- A. Age 75
- B. Age 80
- C. Age 85
- D. Other

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## When Should We Stop Endoscopic Surveillance for Barrett's Esophagus?

- Current guidelines do not specify when to stop surveillance
- Depends upon comorbidities

Omidvari AH et al  
The optimal age to stop endoscopic surveillance of patients with Barrett's esophagus based on sex and comorbidity: a comparative cost-effective analysis  
Gastroenterology 2021;161:487

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Should an Asymptomatic Patient Be Screened for Barrett's?

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## Barrett's Questions

- Should Young People Ever Be Evaluated for Barrett's?



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## Tina

- Is a 48 y o with longstanding reflux (no Barrett's)
- Symptoms controlled with PPI bid
- Her HMO will no longer cover prescription PPIs
- She asks about surgery
- What do you tell her?



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## Barrett's Question

Does Barrett's  
Esophagus Ever  
Disappear?

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## Summary

- Endoscopy is NOT necessary to make a diagnosis of GERD
- Medication failure in reflux can be related to compliance issues or functional disease
- Other than Clostridium difficile, most risks of PPI use are not substantiated
- The yearly risk of developing esophageal cancer in Barrett's esophagus is only .12% a year

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