

A man in a light blue shirt and green patterned tie, looking slightly to the side with a serious expression. The background is a plain, light-colored wall.

# Etiology and Pathogenesis of Gastroesophageal Reflux Disease

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# What Is GERD?

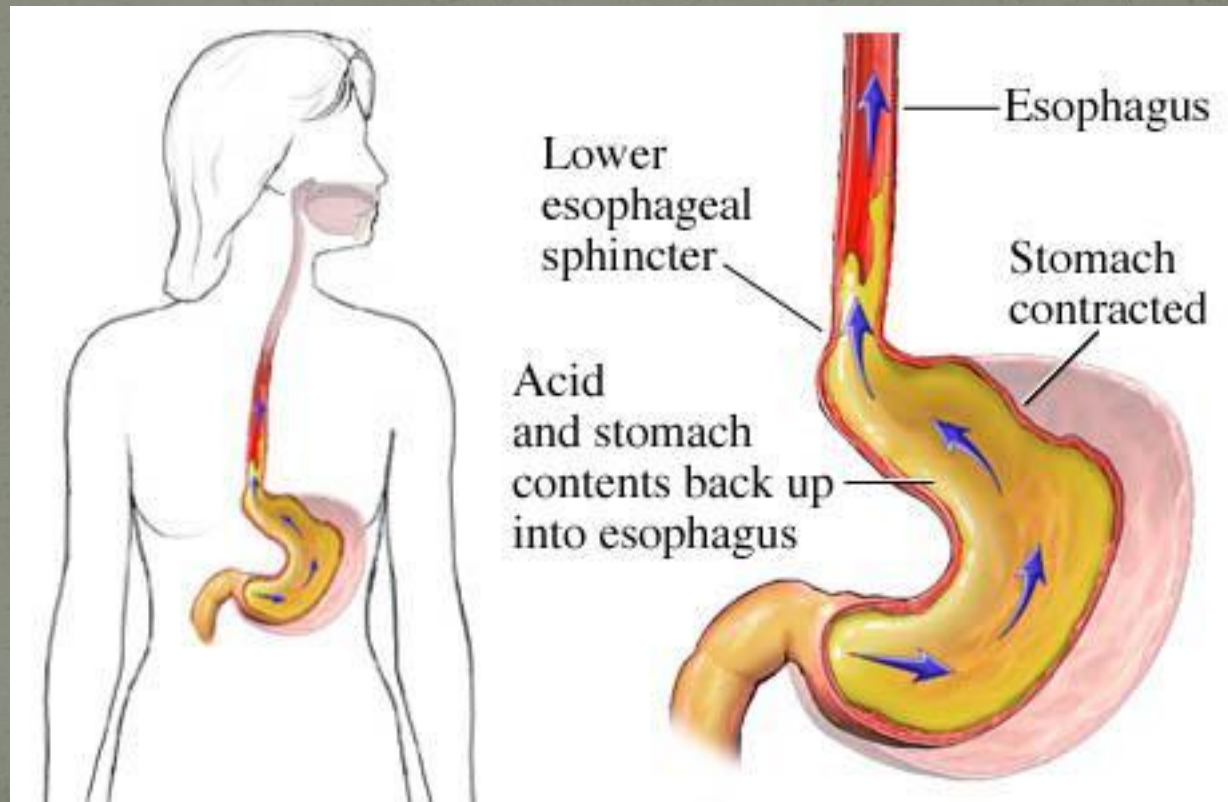
## *Gastroesophageal reflux disease (GERD)*

can be defined as troublesome symptoms sufficient to impair an individual's quality of life, or injury or complications that result from the retrograde flow of gastric contents into the esophagus, oropharynx, and/or respiratory tract.

- World Gastroenterology Organisation Global Guidelines (Update October 2015)

# What Is reflux?

- Gastroesophageal reflux is the involuntary movement of gastric contents to the esophagus.



# What Is physiological reflux?

- Gastroesophageal reflux is a **normal physiological process** that occurs several times a day **without symptoms or damage** of the esophageal mucosa in most otherwise healthy individuals.
- Physiologic reflux is generally **brief in duration, relatively infrequent**, and occurs almost **exclusively after meals** and is caused by a sudden relaxation of the LES that is not induced by swallowing.

# What mechanisms protect the esophagus from reflux?

- Anatomical structure
- Chemical mechanisms
- Physical mechanisms

# Нормальный переход пищевода в желудок



# What Causes GERD



# What causes GERD???

- GERD is a sensorimotor disorder associated with impairment of the normal antireflux mechanisms, with changes in normal physiology (e.g., impaired esophageal peristalsis, increased intragastric pressure, increased abdominothoracic pressure gradient) or, very rarely, excess gastric acid secretion (Zollinger–Ellison syndrome).



# Risk Factors: *Eating and lifestyle*

- Chronic stress
- A high body mass index (BMI) is associated with an increased risk of GERD
- High dietary fat intake is linked to a higher risk of GERD and erosive esophagitis.
- Lack of exercise
- Pregnancy
- Smoking

# Risk Factors: *Eating and lifestyle*

- Foods such as:
- Semi-finished products
- GMO
- Seafood
- Chocolate
- Pork and other

# Risk Factors: *Medication*

- The treatment of comorbidities (e.g., with calcium channel blockers, anticholinergics, and nonsteroidal anti-inflammatory drugs (NSAIDs)) may negatively affect GERD and its treatment [23]. Some medications (e.g., bisphosphonates, antibiotics, potassium supplements) may cause upper gastrointestinal tract injury and exacerbate reflux-like symptoms or reflux-induced injury.

# Risk Factors: *Other pathobiological factors*

- The higher incidence of GERD is likely to be related to lifestyle rather than genetic factors.
- Comorbidities are frequent in patients with GERD: diabetes, metabolic syndrome, cardiovascular disease, and sleep apnea are all common.
- Overweight and obesity are common risk factors both for GERD and for these other comorbidities.
- GERD frequently coexists with other gastrointestinal syndromes such as irritable bowel syndrome.

Thank you for your  
attention!