

# **Understanding Gastroesophageal Reflux Disease**

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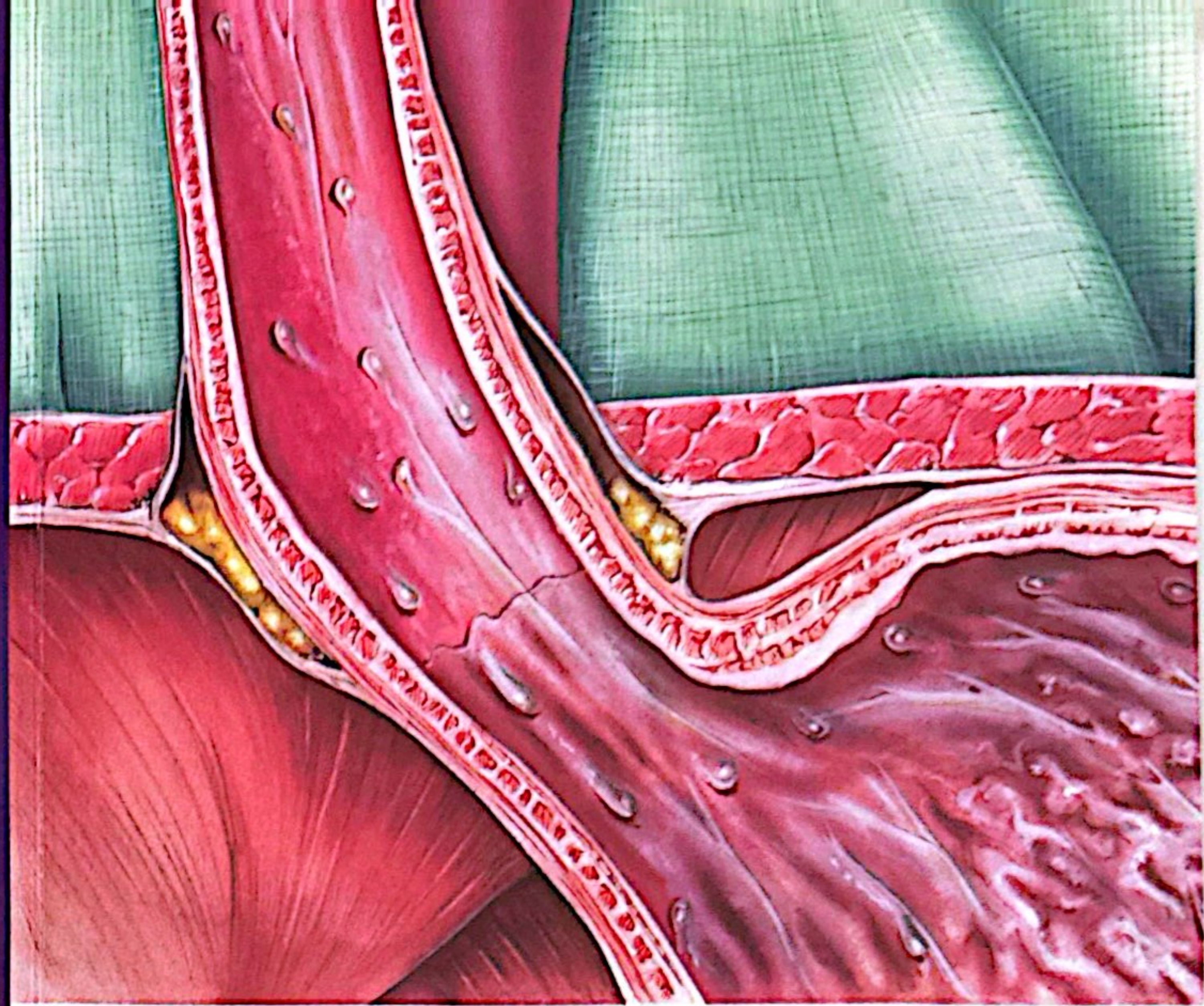


# What is Gastroesophageal Reflux Disease (GERD)?

Gastroesophageal reflux disease (GERD), sometimes simply called "reflux," is a condition where acidic stomach contents flow back from the stomach into the food pipe (esophagus). This can happen when the muscular valve between the stomach and the esophagus does not close properly. Occasional reflux is normal, but if this happens often or for a long time, it can cause troublesome symptoms and injury to the esophagus.

## What are the symptoms of GERD?

Common symptoms of GERD are heartburn and regurgitation. Heartburn is a burning sensation felt in the middle of the chest that occurs when acidic stomach contents irritate the lining of the esophagus. Regurgitation is the sensation of stomach contents coming up into the esophagus which may even reach the mouth. Less common symptoms include chest pain, wheezing, sore throat and cough.



## What causes GERD?

GERD occurs when the barrier between the stomach and the esophagus is affected by weakening or relaxation of the muscular valve. This muscular valve in the lower esophagus normally prevents reflux from the stomach. This can commonly be caused by being overweight or obese because there is increased pressure in the abdomen, causing this muscular valve to relax. Pregnancy, smoking, alcohol use and consuming coffee, citrus drinks, tomato-based products, chocolate, peppermint and fatty foods may also contribute.

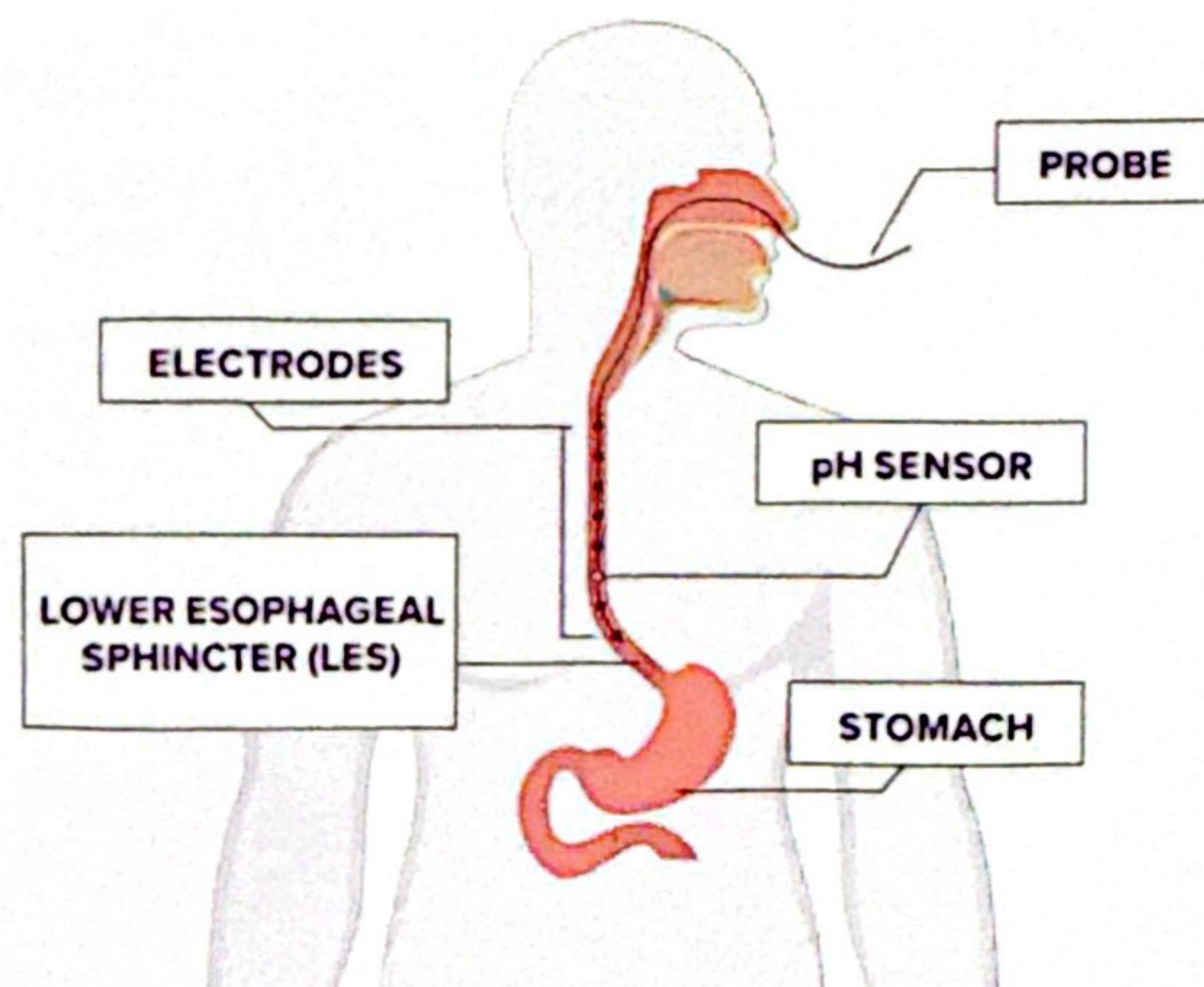
Some people with a hiatal hernia may be more prone to GERD. A hiatal hernia is a condition where part of the stomach is moved up into the chest. However, hiatal hernias are common and the majority of people with a hiatal hernia do not have reflux.



## How is GERD diagnosed?

GERD can often be diagnosed by your doctor based on your symptoms of heartburn and regurgitation, and may start treatment based on your symptoms. If you do not respond to treatment or have other concerning symptoms such as weight loss, trouble swallowing or internal bleeding, further testing may be needed.

Upper endoscopy or "EGD" is a procedure where you may receive sedation medication and your doctor uses a thin, flexible tube with a light and camera to examine the lining of the esophagus, stomach and duodenum (first portion of the small intestine). Another test, known as pH testing, measures acid in the esophagus and can be done by either attaching a small wireless sensor into the esophagus at the time of upper endoscopy, or by placing a thin, flexible probe into the esophagus that will stay there for 24 hours while acid is being measured. This information is transmitted to a small recorder that you take home to wear on your belt, then return to the doctor's office. Other tests that provide more information about your esophagus and symptoms, which might be done at the same time as pH testing, include "impedance" testing and "manometry" which measures the muscle contractions of your esophagus. Specialized X-ray testing called an esophagogram may sometimes show GERD but is not routinely ordered for this reason.



## How is GERD treated?

### Diet changes

Reflux symptoms often improve with dietary changes. Avoiding these may improve GERD:

- coffee
- citrus drinks
- tomato-based products (for e.g., cooked tomatoes, stews and red sauces)
- carbonated beverages
- chocolate
- peppermint
- fatty or spicy foods
- eating within three hours of bedtime
- smoking
- drinking alcohol
- excess weight gain

### Lifestyle changes

- Elevate the head of the bed at night may be helpful. A 4-inch foam wedge can be sufficient to decrease reflux. Bricks or blocks can also be placed under the head of your bed
- Avoid tight fitting clothing over the abdomen as it can worsen reflux symptoms. Should symptoms continue to occur, over-the-counter antacids may decrease discomfort
- Do not eat within 3 hours of bedtime

### Medications

Both H2 blockers and PPIs (also known as "acid blockers") are available over-the-counter at low doses, or at a higher doses when prescribed by your doctor.

### Antacids

These medications work well for treating mild reflux symptoms and are quite safe, with few side effects; however, they only work for a short time or a few hours. Antacids react with acid in the esophagus and stomach to counteract its harmful effects and thus reduce symptoms. Examples of these antacids include TUMS™ and Rolaids.™ More effective acid blockers, like H2 receptor blockers (e.g. famotidine), decrease acid production by the stomach.



## Proton pump inhibitors (PPIs)

These medicines, e.g. omeprazole, are safe and highly effective at blocking the final step of acid production in the stomach. They are typically taken once or twice daily, approximately 30 minutes before meals. For reflux symptoms that are severe and/or occur frequently, PPIs are the most effective medical treatment. However, there may be potential side effects of long-term use. You should talk to your healthcare provider about whether to take a PPI and for how long.

Prokinetics, or medications that stimulate muscle activity in the stomach and esophagus, are sometimes provided for the treatment of reflux disease.

## Procedures and surgery to treat GERD

When GERD symptoms remain uncontrolled after lifestyle changes and medication use, other endoscopic and surgical treatments are considered. These prevent stomach contents from going up into the esophagus and are considered in patients with proven reflux disease who cannot tolerate medications, do not want to take medications or continue to have symptoms even with medical treatment. As part of the pre-procedure evaluation, you may need testing such as manometry, impedance and pH testing to ensure that you are eligible for the procedure.

There are several procedures and surgeries for treating reflux disease. One type of surgery is known as fundoplication where a part of the stomach is wrapped around the lower end of the esophagus to strengthen the barrier between the esophagus and the stomach. More recently, fundoplication can be accomplished by a specialized upper endoscopy procedure called transoral incisionless fundoplication, or TIF. Other endoscopic treatments are also available which help strengthen the muscle valve in the lower end of the esophagus and help prevent acid reflux. It is important to find a skilled provider who has experience in performing procedures for reflux and can discuss the risks and benefits of these procedures.

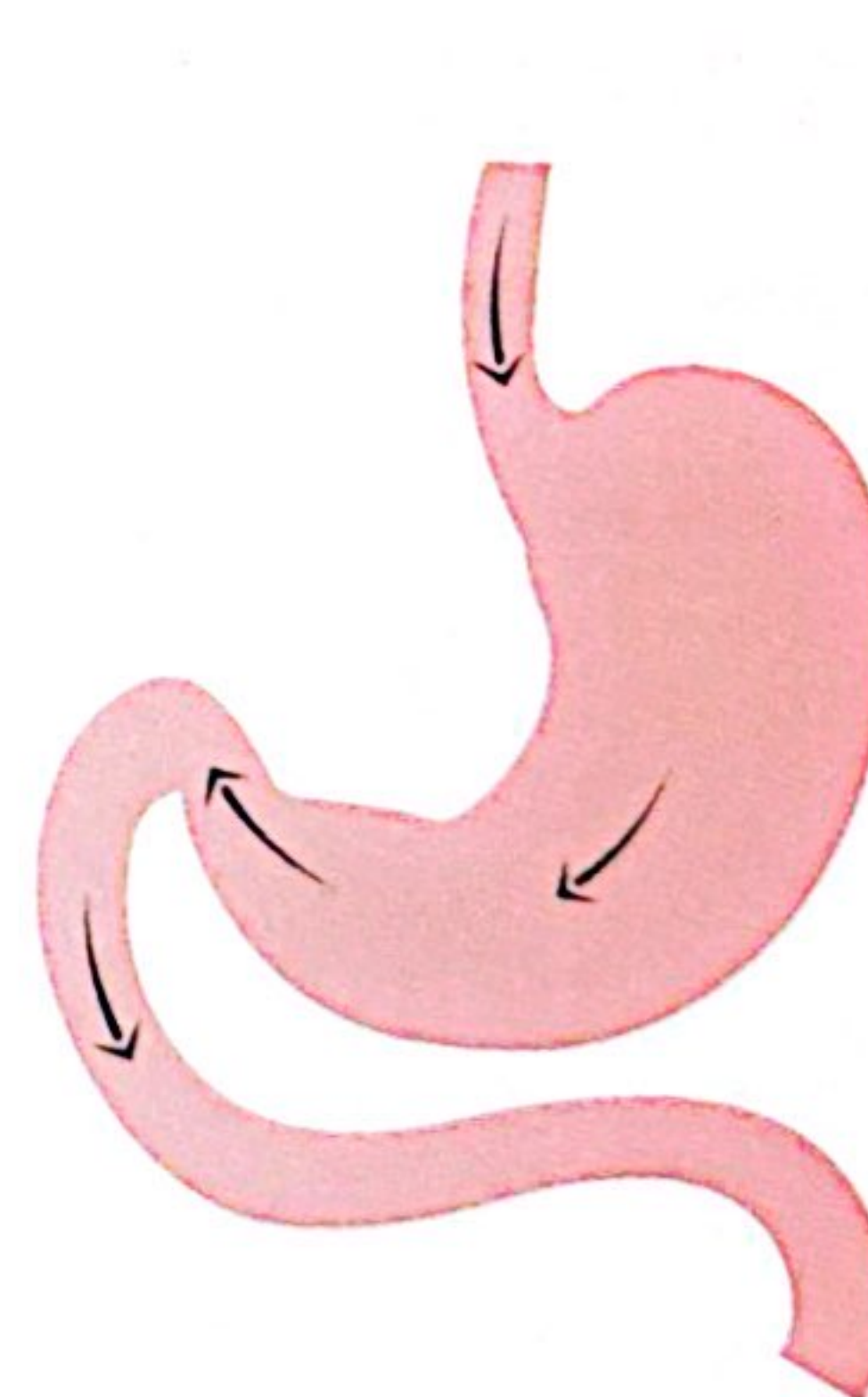
## Why should GERD be treated?

The purpose of GERD treatment is generally to relieve symptoms. Treatment can also prevent future complications. Untreated GERD can cause inflammation of the esophagus called esophagitis. Long-term GERD can also lead to a change in the lining of the esophagus called Barrett's esophagus, which puts patients at increased risk for esophageal cancer. Long-term esophagitis from GERD can lead to narrowing of the esophagus, called an esophageal stricture. This can cause food to get stuck in the esophagus, which sometimes needs urgent medical treatment.

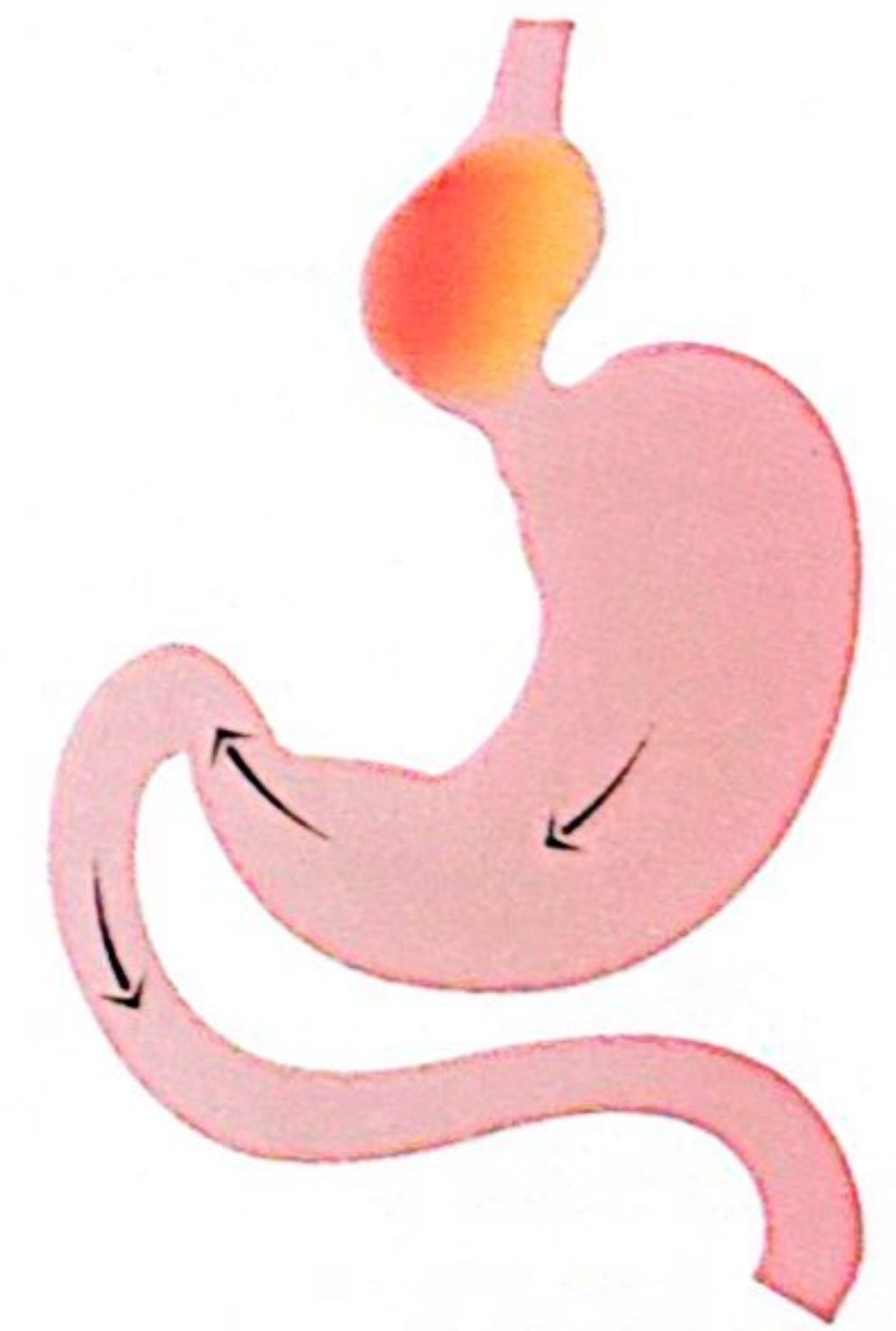
## When should I see my doctor?

You should see your doctor immediately if you have symptoms such as unexplained weight loss, feeling like food or liquids are getting stuck in your esophagus after you swallow them, having a sense of fullness after a small meal, or signs of internal bleeding such as vomiting blood or noticing blood in the toilet. You should also visit your doctor if symptoms persist after you have made simple lifestyle changes. In addition, if you use over-the-counter medications regularly to treat heartburn or regurgitation, you should consult a physician to determine the best course of treatment for you.

**NORMAL  
STOMACH**



**HIATAL  
HERNIA**





## About the American Society of Gastrointestinal Endoscopy (ASGE)

Since its founding in 1941, the ASGE has been dedicated to advancing patient care and digestive health by promoting excellence and innovation in gastrointestinal endoscopy. ASGE physicians have highly specialized training in endoscopic procedures of the digestive tract, including upper gastrointestinal (GI) endoscopy, flexible sigmoidoscopy, colonoscopy, endoscopic retrograde cholangiopancreatography (ERCP) and endoscopic ultrasound (EUS).

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### **Important Reminder:**

*This information is intended only to provide general guidance. It does not provide definitive medical advice. It is very important that you consult your doctor about your specific condition.*



American Society for  
Gastrointestinal Endoscopy

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# HIATAL HERNIA & HEARTBURN: WHAT YOU SHOULD KNOW

**1** This is the **esophagus**, the tube through which food reaches the stomach.

**2** This part of the esophagus is called the **lower esophageal sphincter (LES)**, a kind of muscular valve which opens to let food into the stomach and closes to keep stomach contents from backing up into the esophagus.

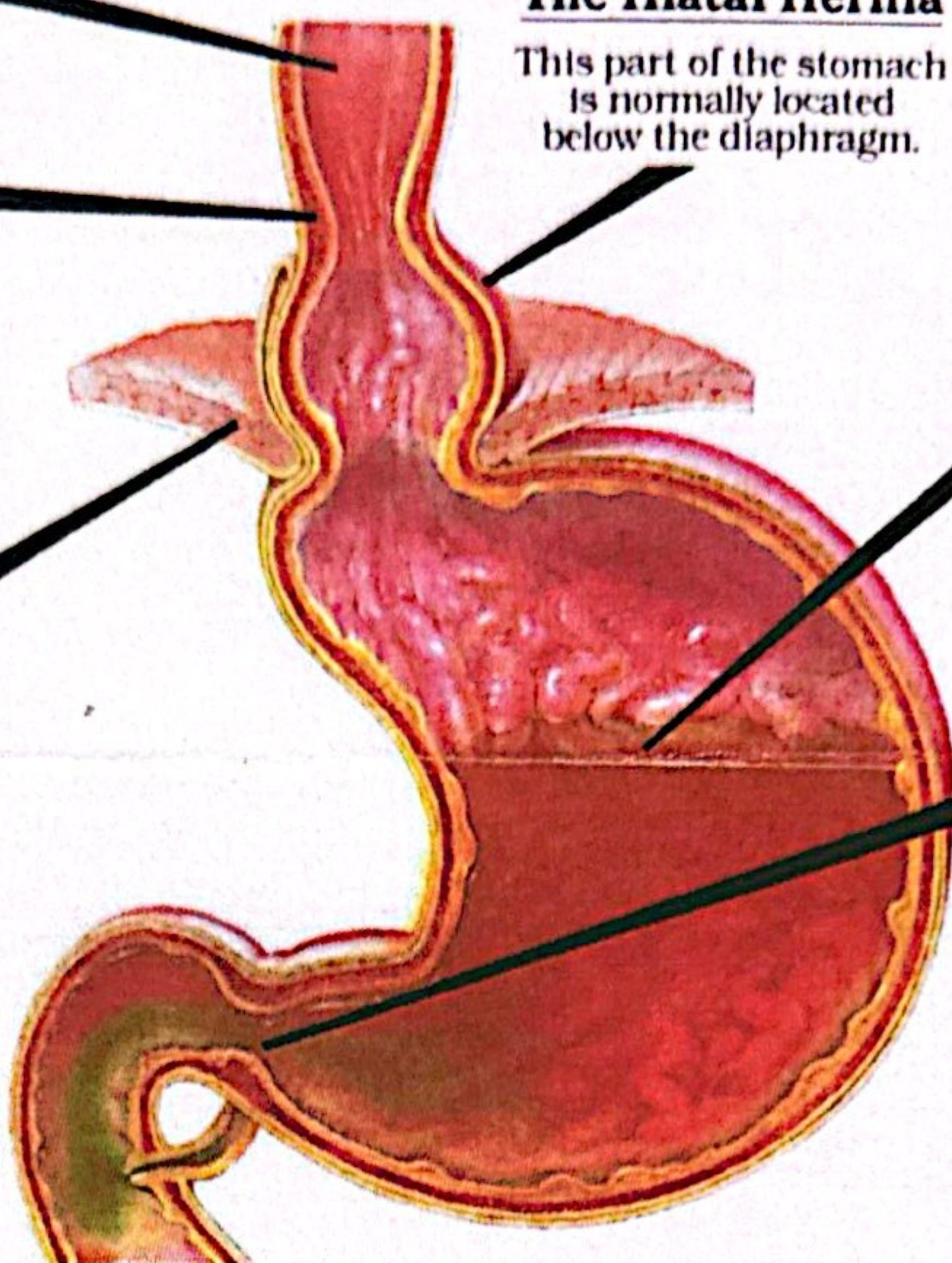
**3** This is the **diaphragm**, a muscular partition between the abdominal cavity and the chest cavity. The opening through which the esophagus passes is called the **esophageal hiatus**.

When the hiatus allows the LES and part of the stomach to protrude upward into the chest cavity, the result is a **hiatal hernia**. This is a condition found in up to 50% of the population over the age of 50; and if no symptoms are associated with it, treatment is usually not required.

Frequently, however, patients with hiatal hernia also suffer from the symptom of heartburn. Heartburn is the result of a failure of the lower esophageal sphincter to close properly—and this same symptom can also occur *without* hiatal hernia.

## The Hiatal Hernia

This part of the stomach is normally located below the diaphragm.



When the sphincter fails to close properly, stomach contents—which usually contain acid—are pushed back up into the esophagus, causing the burning sensation of heartburn. Regurgitation of food particles may also occur.

**4** In addition, **stomach** contractions which move the digested food along may also be weak, and food is not removed from the stomach quickly enough. This can also contribute to heartburn and regurgitation.

**5** Finally, at the exit of the stomach there is another valve-like opening called the **pylorus**, which often does not close properly, allowing bile to enter from the small intestine. Bile may also back up into the esophagus, causing heartburn and discomfort.

On the reverse side of this sheet are some pieces of good advice on how to relieve some of the symptoms associated with hiatal hernia. By following your doctor's instructions, you can do a lot to assist in preventing the occurrence of heartburn and pain.

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## Non medication steps to reduce Acid Reflux:

- Eat smaller, more frequent meals during the day.
- Avoid snacks and meals within 3 hours of going to bed or lying down.
- Lose weight if you are overweight.
- Sleeping with the head of the bed elevated on blocks or books. (Extra pillows/propping are not helpful)
- Sleeping on your left side.
- Consume in moderation: caffeine, alcohol, peppermint, fatty foods, citrus, chocolate, tomato-based foods, onions and garlic.
- Refrain from smoking.
- Chewing gum or using cough drops/sugar free hard candy to increase saliva.

(NOTE: Medications prescribed for Acid Reflux decrease the stomach acidity but they have no effect on the amount of fluid refluxed.)