



# Gastroenterology

## Associates, PC

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## Gastroesophageal Reflux (GER) and Gastroesophageal Reflux Disease (GERD) in Adults

### What is GER?

Gastroesophageal reflux (GER) happens when your [stomach](#) contents come back up into your [esophagus](#).

Stomach acid that touches the lining of your esophagus can cause [heartburn](#), also called acid indigestion.

Does GER have another name?

Doctors also refer to GER as

- acid indigestion
- acid reflux
- acid regurgitation
- heartburn
- reflux

### How common is GER?

Having GER once in a while is common.

### What is GERD?

Gastroesophageal reflux disease (GERD) is a more serious and long-lasting form of GER.

### What is the difference between GER and GERD?

GER that occurs more than twice a week for a few weeks could be GERD. GERD can lead to more serious health problems over time. If you think you have GERD, you should see your doctor.

### How common is GERD?

GERD affects about 20 percent of the U.S. population.

### Who is more likely to have GERD?

Anyone can develop GERD, some for unknown reasons. You are more likely to have GERD if you are

- [overweight](#) or [obese](#)
- a pregnant woman
- [taking certain medicines](#)
- a smoker or regularly exposed to secondhand smoke

## What are the complications of GERD?

Without treatment, GERD can sometimes cause serious complications over time, such as

### Esophagitis

[Esophagitis](#) is inflammation in the esophagus. Adults who have chronic esophagitis over many years are more likely to develop precancerous changes in the esophagus.

### Esophageal stricture

An esophageal stricture happens when your esophagus becomes too narrow. Esophageal strictures can lead to problems with swallowing.

### Respiratory problems

With GERD you might breathe stomach acid into your lungs. The stomach acid can then irritate your throat and lungs, causing respiratory problems, such as

- [asthma](#) —a long-lasting disease in your lungs that makes you extra sensitive to things that you're allergic to
- chest congestion, or extra fluid in your lungs
- a dry, long-lasting cough or a sore throat
- hoarseness—the partial loss of your voice
- laryngitis—the swelling of your voice box that can lead to a short-term loss of your voice
- pneumonia—an infection in one or both of your lungs—that keeps coming back
- wheezing—a high-pitched whistling sound when you breathe

### Barrett's esophagus

GERD can sometimes cause [Barrett's esophagus](#). A small number of people with Barrett's esophagus develop a rare yet often deadly type of cancer of the esophagus.

If you have GERD, talk with your doctor about how to prevent or treat long-term problems.

<sup>1</sup>El-Serag HB, Petersen NJ, Carter J, et al. Gastroesophageal reflux among different racial groups in the United States. *Gastroenterology*. 2004;126:1692–1699.

## Symptoms and Causes of GER and GERD

### What are the symptoms of GER and GERD?

If you have gastroesophageal reflux (GER), you may taste food or stomach acid in the back of your mouth.

The most common symptom of gastroesophageal reflux disease (GERD) is regular [heartburn](#), a painful, burning feeling in the middle of your chest, behind your breastbone, and in the middle of your [abdomen](#). Not all adults with GERD have heartburn.

Other common GERD symptoms include

- bad breath
- nausea
- pain in your chest or the upper part of your [abdomen](#)
- problems swallowing or painful swallowing
- [respiratory problems](#)
- vomiting
- the wearing away of your teeth

Some symptoms of GERD come from its [complications](#), including those that affect your lungs.

## What causes GER and GERD?

GER and GERD happen when your [lower esophageal sphincter](#) becomes weak or relaxes when it shouldn't, causing [stomach](#) contents to rise up into the esophagus. The lower esophageal sphincter becomes weak or relaxes due to certain things, such as

- increased pressure on your abdomen from being [overweight](#), [obese](#), or pregnant
- certain medicines, including
  - those that doctors use to treat [asthma](#)—a long-lasting disease in your lungs that makes you extra sensitive to things that you're allergic to
  - calcium channel blockers—medicines that treat [high blood pressure](#)
  - antihistamines—medicines that treat allergy symptoms
  - painkillers
  - sedatives—medicines that help put you to sleep
  - [antidepressants](#)—medicines that treat [depression](#)
- smoking, or inhaling secondhand smoke

A [hiatal hernia](#) can also cause GERD. Hiatal hernia is a condition in which the opening in your diaphragm lets the upper part of the stomach move up into your chest, which lowers the pressure in the [esophageal sphincter](#).

## When should I seek a doctor's help?

You should see a doctor if you have persistent GER symptoms that do not get better with over-the-counter medications or change in your diet.

Call a doctor right away if you

- vomit large amounts
- have regular projectile, or forceful, vomiting
- vomit fluid that is
  - green or yellow
  - looks like coffee grounds
  - contains blood
- have problems breathing after vomiting
- have pain in the mouth or throat when you eat
- have problems swallowing or painful swallowing

## Diagnosis of GER and GERD

### How do doctors diagnose GER?

In most cases, your doctor diagnoses gastroesophageal reflux (GER) by reviewing your symptoms and medical history. If your symptoms don't improve with lifestyle changes and medications, you may need testing.

### How do doctors diagnose GERD?

If your GER symptoms don't improve, if they come back frequently, or if you have trouble swallowing, your doctor may recommend testing you for gastroesophageal reflux disease (GERD). Your doctor may refer you to a [gastroenterologist](#) to diagnose and treat GERD.

### What tests do doctors use to diagnose GERD?

Several tests can help a doctor diagnose GERD. Your doctor may order more than one test to make a diagnosis.

## Upper gastrointestinal (GI) endoscopy and biopsy

In an upper GI endoscopy, a gastroenterologist, surgeon, or other trained health care professional uses an [endoscope](#) to see inside your [upper GI tract](#). This procedure takes place at a hospital or an outpatient center.

An intravenous (IV) needle will be placed in your arm to provide a sedative. Sedatives help you stay relaxed and comfortable during the procedure. In some cases, the procedure can be performed without sedation. You will be given a liquid anesthetic to gargle or spray anesthetic on the back of your throat. The doctor carefully feeds the endoscope down your [esophagus](#) and into your [stomach](#) and [duodenum](#). A small camera mounted on the endoscope sends a video image to a monitor, allowing close examination of the lining of your upper GI tract. The endoscope pumps air into your stomach and duodenum, making them easier to see.

The doctor may perform a biopsy with the endoscope by taking a small piece of tissue from the lining of your esophagus. You won't feel the biopsy. A [pathologist](#) examines the tissue in a lab. In most cases, the procedure only diagnoses GERD if you have moderate to severe symptoms. Read more about [upper GI endoscopy](#).

## Upper GI series

An [upper GI series](#) looks at the shape of your upper GI tract.

An [x-ray](#) technician performs this procedure at a hospital or an outpatient center. A [radiologist](#) reads and reports on the x-ray images. You don't need anesthesia. A health care professional will tell you how to prepare for the procedure, including when to stop eating and drinking.

During the procedure, you will stand or sit in front of an x-ray machine and drink barium to coat the inner lining of your upper GI tract. The x-ray technician takes several x-rays as the [barium](#) moves through your GI tract. The upper GI series can't show GERD in your esophagus; rather, the barium shows up on the x-ray and can find problems related to GERD, such as

- [hiatal hernias](#)
- [esophageal strictures](#)
- [ulcers](#)

You may have [bloating](#) and nausea for a short time after the procedure. For several days afterward, you may have white or light-colored stools from the barium. A health care professional will give you instructions about eating, drinking, and taking your medicines after the procedure.

## Esophageal pH and impedance monitoring

The most accurate procedure to detect [acid reflux](#) is esophageal pH and impedance monitoring. Esophageal pH and impedance monitoring measures the amount of acid in your esophagus while you do normal things, such as eating and sleeping.

A gastroenterologist performs this procedure at a hospital or an outpatient center as a part of an upper GI endoscopy. Most often, you can stay awake during the procedure.

A gastroenterologist will pass a thin tube through your nose or mouth into your stomach. The gastroenterologist will then pull the tube back into your esophagus and tape it to your cheek. The end of the tube in your esophagus measures when and how much acid comes up your esophagus. The other end of the tube attaches to a monitor outside your body that records the measurements. You will wear a monitor for the next 24 hours. You will return to the hospital or outpatient center to have the tube removed.

This procedure is most useful to your doctor if you keep a diary of when, what, and how much food you eat and your GERD symptoms are after you eat. The gastroenterologist can see how your symptoms, certain foods, and certain times of day relate to one another. The procedure can also help show whether acid reflux triggers any respiratory symptoms.

## Bravo wireless esophageal pH monitoring

Bravo wireless esophageal pH monitoring also measures and records the pH in your esophagus to determine if you have GERD. A doctor temporarily attaches a small capsule to the wall of your esophagus during an upper endoscopy. The capsule measures pH levels in the esophagus and transmits information to a receiver. The receiver is about the size of a pager, which you wear on your belt or waistband.

You will follow your usual daily routine during monitoring, which usually lasts 48 hours. The receiver has several buttons on it that you will press to record symptoms of GERD such as heartburn. The nurse will tell you what symptoms to record. You will be asked to maintain a diary to record certain events such as when you start and stop eating and drinking, when you lie down, and when you get back up.

To prepare for the test talk to your doctor about medicines you are taking. He or she will tell you whether you can eat or drink before the procedure. After about seven to ten days the capsule will fall off the esophageal lining and pass through your digestive tract.

## Esophageal manometry

Esophageal manometry measures muscle contractions in your esophagus. A gastroenterologist may order this procedure if you're thinking about anti-reflux surgery.

The gastroenterologist can perform this procedure during an office visit. A health care professional will spray a liquid anesthetic on the back of your throat or ask you to gargle a liquid anesthetic. The gastroenterologist passes a soft, thin tube through your nose and into your stomach. You swallow as the gastroenterologist pulls the tube slowly back into your esophagus. A computer measures and records the pressure of muscle contractions in different parts of your esophagus. The procedure can show if your symptoms are due to a weak [sphincter](#) muscle. A doctor can also use the procedure to diagnose other esophagus problems that might have symptoms similar to [heartburn](#). A health care professional will give you instructions about eating, drinking, and taking your medicines after the procedure.

## Treatment for GER and GERD

### How do you control GER and GERD?

You may be able to control gastroesophageal reflux (GER) and gastroesophageal reflux disease (GERD) by

- not eating or drinking items that may cause GER, such as greasy or spicy foods and alcoholic drinks
- not overeating
- not eating 2 to 3 hours before bedtime
- [losing weight](#) if you're [overweight](#) or [obese](#)
- [quitting smoking](#) and avoiding secondhand smoke
- taking over-the-counter medicines, such as [Maalox](#), or [Rolaids](#)

### How do doctors treat GERD?

Depending on the severity of your symptoms, your doctor may recommend lifestyle changes, medicines, surgery, or a combination.

#### Lifestyle changes

Making lifestyle changes can reduce your GER and GERD symptoms. You should

- [lose weight](#), if needed.
- wear loose-fitting clothing around your abdomen. Tight clothing can squeeze your [stomach](#) area and push acid up into your [esophagus](#).

- stay upright for 3 hours after meals. Avoid reclining and slouching when sitting.
- sleep on a slight angle. Raise the head of your bed 6 to 8 inches by safely putting blocks under the bedposts. Just using extra pillows will not help.
- [quit smoking](#) and avoid secondhand smoke.

### **Over-the-counter and prescription medicines**

You can buy many GERD medicines without a prescription. However, if you have symptoms that will not go away, you should see your doctor.

All GERD medicines work in different ways. You may need a combination of GERD medicines to control your symptoms.

### **Antacids**

Doctors often first recommend antacids to relieve heartburn and other mild GER and GERD symptoms. Antacids include over-the-counter medicines such as

- [Maalox](#)
- [Mylanta](#)
- Riopan
- [Rolaids](#)

Antacids can have side effects, including [diarrhea](#) and [constipation](#).

### **H2 blockers**

H2 blockers decrease acid production. They provide short-term or on-demand relief for many people with GER and GERD symptoms. They can also help heal the esophagus, although not as well as other medicines. You can buy H2 blockers over-the-counter or your doctor can prescribe one. Types of H2 blockers include

- [cimetidine](#) ([Tagamet HB](#))
- [famotidine](#) ([Pepcid AC](#))
- [nizatidine](#) ([Axid AR](#))
- [ranitidine](#) ([Zantac 75](#))

If you get heartburn after eating, your doctor may recommend that you take an antacid and an H2 blocker. The antacid neutralizes stomach acid, and the H2 blocker stops your stomach from creating acid. By the time the antacid stops working, the H2 blocker has stopped the acid.

### **Proton pump inhibitors (PPIs)**

PPIs lower the amount of acid your stomach makes. PPIs are better at treating GERD symptoms than H2 blockers.<sup>1</sup> They can heal the esophageal lining in most people with GERD. Doctors often prescribe PPIs for long-term GERD treatment.

However, studies show that people who take PPIs for a long time or in high doses are more likely to have hip, wrist, and spinal fractures. You need to take these medicines on an empty stomach so that your stomach acid can make them work.

Several types of PPIs are available by a doctor's prescription, including

- [esomeprazole](#) ([Nexium](#))
- [lansoprazole](#) ([Prevacid](#))
- [omeprazole](#) ([Prilosec](#), [Zegerid](#))
- [pantoprazole](#) ([Protonix](#))
- [rabeprazole](#) ([AcipHex](#))

Talk with your doctor about taking lower-strength omeprazole or lansoprazole, sold over the counter.

## Prokinetics

Prokinetics help your stomach empty faster. Prescription prokinetics include

- [bethanechol \(Urecholine\)](#)
- [metoclopramide \(Reglan\)](#)

Both of these medicines have side effects, including

- nausea
- diarrhea
- fatigue, or feeling tired
- [depression](#)
- anxiety
- delayed or abnormal physical movement

Prokinetics can cause problems if you mix them with other medicines, so tell your doctor about all the medicines you're taking.

## Antibiotics

Antibiotics, including [erythromycin](#), can help your stomach empty faster. Erythromycin has fewer side effects than prokinetics; however, it can cause diarrhea.

## Surgery

Your doctor may recommend surgery if your GERD symptoms don't improve with lifestyle changes or medicines. You're more likely to develop complications from surgery than from medicines.

## Fundoplication

Is the most common surgery for GERD. In most cases, it leads to long-term reflux control.

A surgeon performs fundoplication using a [laparoscope](#), a thin tube with a tiny video camera. During the operation, a surgeon sews the top of your stomach around your esophagus to add pressure to the lower end of your esophagus and reduce reflux. The surgeon performs the operation at a hospital. You receive general anesthesia and can leave the hospital in 1 to 3 days. Most people return to their usual daily activities in 2 to 3 weeks.

**Endoscopic techniques**, such as endoscopic sewing and radiofrequency, help control GERD in a small number of people. Endoscopic sewing uses small stitches to tighten your [sphincter](#) muscle. Radiofrequency creates heat lesions, or sores, that help tighten your sphincter muscle. A surgeon performs both operations using an [endoscope](#) at a hospital or an outpatient center, and you receive general anesthesia.

The results for endoscopic techniques may not be as good as those for fundoplication. Doctors don't use endoscopic techniques often.

Understanding Heartburn and Reflux Disease. American Gastroenterological Association website. <http://www.gastro.org/patient-center/digestive-conditions/heartburn-gerd>[External Link](#)  
[Disclaimer](#). Assessed October 2014.

## **Eating, Diet, and Nutrition for GER and GERD**

### **How can your diet help prevent or relieve GER or GERD?**

You can prevent or relieve your symptoms from gastroesophageal reflux (GER) or gastroesophageal reflux disease (GERD) by changing your diet. You may need to avoid certain foods and drinks that make your symptoms worse. Other dietary changes that can help reduce your symptoms include

- decreasing fatty foods
- eating small, frequent meals instead of three large meals

### **What should I avoid eating if I have GER or GERD?**

Avoid eating or drinking the following items that may make GER or GERD worse:

- chocolate
- coffee
- peppermint
- greasy or spicy foods
- tomatoes and tomato products
- alcoholic drinks