



Effective Health Care Program

Treatment Options for GERD or Acid Reflux Disease

A Review of the Research for Adults



Agency for Healthcare Research and Quality
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Is This Information Right for Me?

Yes, if:

- A doctor said that you have gastroesophageal reflux disease (GERD), a chronic disease that causes ongoing pain and burning in the chest and throat (heartburn). GERD is also called “acid reflux disease.”
- You want to know what research says about your options.

No, if:

- You sometimes have heartburn or acid reflux, but a doctor has not said that it is GERD.
- You are under 18. This information is from research on adults.

Occasional heartburn is common. Just because you have heartburn does not mean you have GERD. GERD is a more serious form of acid reflux with severe symptoms that happen often and over a long time. Your doctor can tell you if you have GERD.

What does this summary cover?

This summary describes GERD and explains research about types of treatment. It also talks about what research has found about the benefits and risks of each treatment. It can help you talk with your doctor about GERD.

Where does the information come from?

Researchers funded by the Agency for Healthcare Research and Quality (AHRQ), a Federal government research agency, reviewed 166 research studies on GERD. The report was reviewed by clinicians, researchers, and the public. You can read the report at www.effectivehealthcare.ahrq.gov/gerdupdate.cfm.



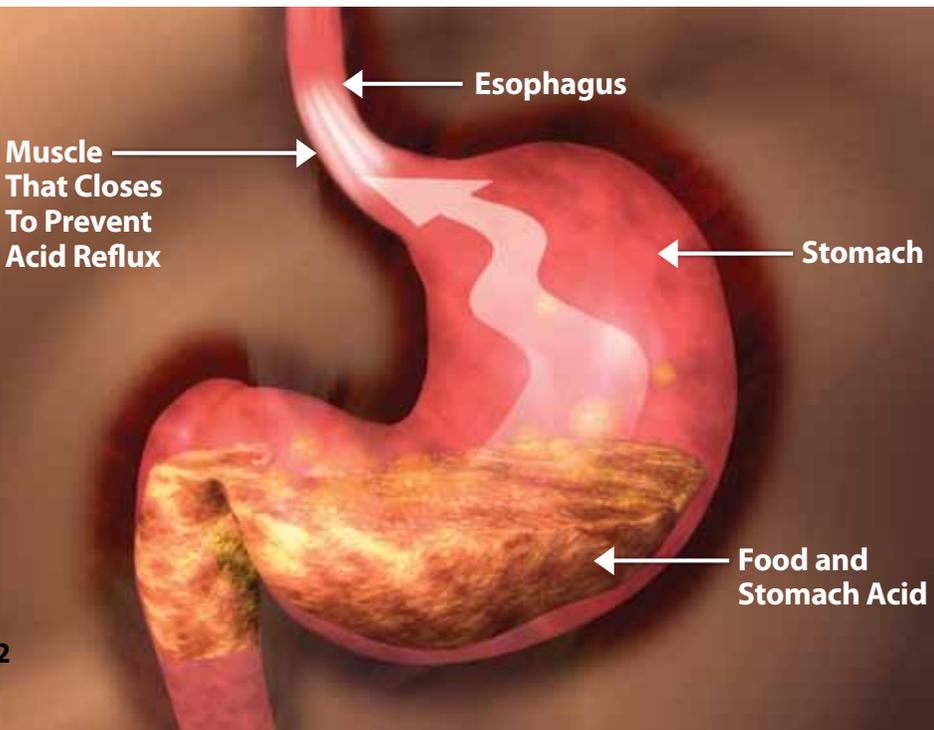
Understanding Your Condition

What is gastroesophageal reflux disease?

GERD is an ongoing condition in which the contents of the stomach come back into the esophagus (the tube that carries food from your mouth to your stomach). Doctors call this “acid reflux.”

There are several reasons why people have GERD. One possible reason has to do with the muscle at the bottom of the esophagus. Normally, this muscle closes to keep food and stomach acid from coming back up the esophagus. In some people with GERD this muscle does not always work right.

- GERD often causes heartburn, a burning feeling in the chest and throat. Heartburn may happen many times a week, especially after eating or at night.
- GERD can also cause you to cough or have asthma symptoms. It can also make your voice sound hoarse and raspy. These symptoms can happen even if you do not have heartburn. The acid may also leave a bitter taste in your mouth.





How common is GERD?

- GERD is one of the most common health problems for adults.

What else should I know about GERD?

- Your heartburn may keep coming back if not treated.
- Untreated GERD can cause serious health problems. The acid can damage your esophagus and make it hard to swallow.
- In some people with GERD, the cells in the esophagus can become abnormal. These abnormal cells could lead to cancer of the esophagus, although this is rare.

Understanding Your Options

How is GERD treated?

You may need to make changes to your lifestyle such as maintaining a healthy weight, quitting smoking, drinking less alcohol, or not eating foods that make GERD worse.

Treatment options for GERD may be different for each person.



Medicine

Taking medicine for GERD is the option most people choose first.



Surgery

For some people, surgery can improve GERD symptoms and lower the amount of medicine they need.



Endoscopic Treatments

Endoscopic treatments for GERD are newer and are still being studied, so less is known about how well they work or how safe they are.

In the next few pages, you can find more information about these types of treatment.

Medicine

Different medicines can help control problems caused by GERD.

- Some relieve heartburn symptoms when they happen, and some help keep heartburn and other problems from happening.
- Some medicines are taken only when needed and some are taken every day for a few weeks or months. Others must be taken every day for years.



- Some medicines can be bought over the counter without a prescription, and others need a prescription. Some are available both over the counter and by prescription.
- The three main types of medicines to treat GERD are antacids, H2RAs (histamine type 2 receptor antagonists), and PPIs (proton pump inhibitors).

Antacids

- Antacids stop heartburn by neutralizing (weakening) the acid in your stomach.
- They work quickly to treat mild GERD symptoms.
- Antacids go by many names, such as Mylanta®, Roloids®, or Tums®, and they are available without a prescription.
- They are taken as pills or liquids.
- You may need to continue taking antacids along with an H2RA or PPI to control symptoms.
- H2RAs and PPIs work for a longer time than fast-acting antacids, but they do not start working as fast.

Histamine type 2 receptor antagonists (H2RAs)

- H2RAs cause your stomach to produce less acid. Less acid in your stomach lowers your chance of getting heartburn.
- All H2RAs are available both by prescription and over the counter.
- They are taken as pills.

Names of H2RAs	
<i>Generic Name</i>	<i>Brand Name</i>
Famotidine	Pepcid AC®; Calmicid®; Fluxid®; Mylanta AR®
Nizatidine	Axid®; Axid AR®
Ranitidine	Zantac®; Tritec®; Wal-Zan®
Cimetidine	Tagamet®

Proton pump inhibitors (PPIs)

- PPIs cause your stomach to make less acid, which helps prevent heartburn.
- Many PPIs are prescription only, but some are available over the counter.
- They are taken as pills.

Names of PPIs	
<i>Generic Name</i>	<i>Brand Name</i>
Omeprazole	Prilosec ^{®*} , Losec ^{®*} , Omesec ^{®*}
Omeprazole with sodium bicarbonate	Zegerid ^{®*}
Lansoprazole	Prevacid ^{®*}
Pantoprazole	Protonix [®]
Rabeprazole	Aciphex [®]
Esomeprazole	Nexium [®]
Dexlansoprazole	Dexilant [®]

*Available over the counter.

What does research say about medicines for GERD?

- PPIs work better than H2RAs to relieve heartburn and let the esophagus heal.
- Most PPIs work equally as well as each other to prevent heartburn.
- PPIs of prescription and over-the-counter strength seem to work equally well to prevent heartburn and let the esophagus heal.
- Taking a small dose (amount) of a PPI may work as well as a larger dose in some cases.
- Taking a PPI every day seems to work better than taking it only when you have symptoms.
- PPIs may help cough but not hoarseness caused by GERD, although there is not enough research to know this for sure.
- There is not enough research to know if PPIs help asthma caused by GERD.
- Patients who are very overweight do not respond as well to medicine.



What are the side effects?

- Antacids can have side effects such as diarrhea or constipation.
- Possible side effects of H2RAs include headache, constipation, diarrhea, nausea, or vomiting.
- PPIs can have side effects such as diarrhea, nausea, vomiting, pain in your abdomen (belly), upset stomach, and headache.
- PPIs may increase your chance of getting an infection in your intestines (diarrhea) or lungs (pneumonia). They may also increase your chance of breaking a bone. These side effects are less common, however.

The U.S. Food and Drug Administration warned in 2009 that taking the PPI omeprazole (brand name Prilosec®) while also taking clopidogrel (brand name Plavix®) makes the clopidogrel less effective. Clopidogrel is a medicine that prevents heart attacks and strokes. It does this by keeping blood from clotting in the arteries of your heart or the blood vessels in your brain. These blood clots can lead to heart attack or stroke.

Surgery

For some people, surgery to strengthen the barrier between the stomach and esophagus may be a treatment option for acid reflux.

This surgery to treat GERD is called a “fundoplication” (pronounced fun-doe-ply-KAY-shun). Your doctor can tell you if surgery might help you.



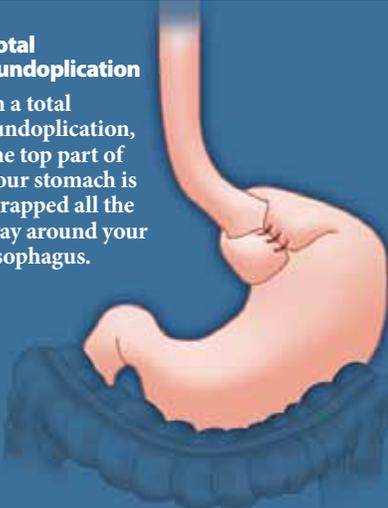
How does surgery for GERD work?

- In a fundoplication, the top part of your stomach is wrapped around the bottom of your esophagus and attached there.
- This helps strengthen the muscle at the bottom of your esophagus that closes to keep food and acid from coming back up.
- The surgeon may be able to do the surgery with a tool called a “laparoscope” (pronounced LAH-pruh-skohp). A laparoscope is a thin tube with a tiny camera that the surgeon puts through small cuts in your belly along with other small tools to do the surgery.
- It usually takes less time to recover from surgery with a laparoscope than if the surgeon has to make a large cut in your belly to do the surgery.

There are two types of surgery: total fundoplication and partial fundoplication.

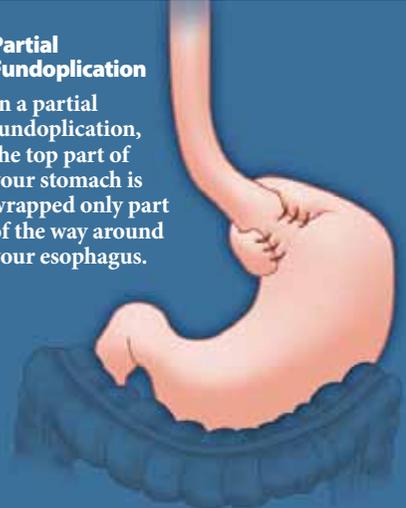
Total Fundoplication

In a total fundoplication, the top part of your stomach is wrapped all the way around your esophagus.



Partial Fundoplication

In a partial fundoplication, the top part of your stomach is wrapped only part of the way around your esophagus.



What does the research say about surgery?

- Fundoplication surgery works as well as only taking medicine to keep you from getting acid reflux and heartburn. However, you may still need medicine after surgery to control your symptoms.
- There are different ways to do the surgery (for example, with a laparoscope or through a large cut in your belly), but they all work about the same.

What are the side effects?

- Fundoplication surgery can cause you to feel bloated and make it hard to swallow. These side effects may last for 30 days or longer, and some side effects may require a second surgery to fix.
- Serious side effects, such as infection and heart attack, may be more common with surgery than with medicine. These side effects are rare.

Endoscopic treatments

Endoscopic (pronounced en-doh-SKAHP-ik) treatments help strengthen the muscle that keeps food and acid from going up into your esophagus. These treatments are not considered surgery because no cuts are made in your belly. Instead, a doctor puts a thin tube called an endoscope through your mouth and down your esophagus to do the treatment.



Three types of endoscopic treatments are EndoCinch™, Stretta®, and EsophyX™. These treatments are very new and are not as common as medicines or surgery to treat GERD. People receiving one of these treatments may be in a study to see how well it works.

What does research say about endoscopic treatments?

- There are not enough studies to say how well endoscopic treatments (EndoCinch™, Stretta®, and EsophyX™) work to control the symptoms of GERD.

What are the side effects of endoscopic treatments?

- Endoscopic treatments can cause pain in your chest or abdomen (belly) and bleeding.
- They can also cause you to feel bloated and make it hard to swallow. These side effects may last for 30 days or longer.
- Because these treatments are new, not enough research has been done to know how safe they are.

Lifestyle changes

Your doctor may suggest some lifestyle changes that can help control your GERD symptoms. These include:

- Maintain a healthy weight.
- Quit smoking.
- Limit alcohol.
- Avoid eating 3 hours before lying down.
- Raise the head of your bed.
- Avoid foods that can make GERD symptoms worse (spicy foods, fatty foods, mint, chocolate, tomato-based foods, coffee, and citrus fruits).





Making a Decision

What should I think about when deciding?

There are several things to consider when choosing a treatment:

- The benefits and risks of each treatment.
- The cost of each treatment.
- Which treatment best fits your likes, dislikes, and values.

What are the costs of treatment?

The cost to you for these medicines depends on:

- The type of health insurance you have.
- The dose (amount) you need to take.
- Whether the medicine is available in generic form or is sold over the counter. Many H2RAs and PPIs are available over the counter, but your insurance may not cover the cost if you buy them this way.

Wholesale Prices of Prescription GERD Medicines

Drug Name	Dose	How Often	Price per Month for Generic*	Brand	Price per Month for Brand*
H2RAs					
Famotidine	20 mg	Twice a day	\$123	N/A	N/A
Nizatidine	150 mg	Twice a day	\$145	Axid®	\$203
Ranitidine	150 mg	Twice a day	\$24	Zantac®	\$273
Cimetidine	400 mg	Four times a day	\$240	Tagamet®	\$260
	800 mg	Twice a day	\$170		\$260
PPIs					
Omeprazole	20 mg	Once a day	\$177	Prilosec®	\$200
	40 mg	Once a day	\$222		\$296
Omeprazole with sodium bicarbonate	20 mg	Once a day	\$194	Zegerid®	\$194
	40 mg	Once a day	\$271		\$271
Lansoprazole	15 mg	Once a day	\$175	Prevacid®	\$212
	30 mg	Once a day	\$177		\$202
Pantoprazole	20 mg	Once a day	\$123	Protonix®	\$176
	40 mg	Once a day	\$171		\$176
Rabeprazole	20 mg	Once a day	N/A	Aciphex®	\$249
Esomeprazole	20 mg	Once a day	N/A	Nexium®	\$207
	30 mg	Once a day	N/A		\$414
	40 mg	Once a day	\$161		\$207
Dexlansoprazole	30 mg	Once a day	N/A	Dexilant®	\$142
	60 mg	Once a day	N/A		\$142

* These are wholesale prices are from the 2011 edition of *Red Book*. Generic prices are the middle value in the range of prices listed from different manufacturers. The actual prices of the medicines may be higher or lower than the prices listed here depending on the manufacturer used by your pharmacy. N/A = not applicable.

Costs of over-the-counter GERD medicines

The cost of over-the-counter medicines are different for every store that sells them. Most cost between \$13 and \$30 per month depending on the brand and how much you take.

Ask your doctor

- What should we consider when deciding which treatment is best for me?
- If medicine is the best treatment, does it matter if I buy these medicines over the counter or if I get a prescription from you?
- How long will it take until I feel better?
- What do I do if I still have heartburn after treatment?
- How will we decide if and when surgery is needed?
- Would losing weight or other lifestyle changes help my GERD symptoms? If so, how do I do that?

Other questions:

Write the answers here:

Source

The information in this summary comes from the report *Management Strategies for Adults With Gastroesophageal Reflux Disease — An Update*. The report was prepared by Tufts Medical Center Evidence-based Practice Center for the Agency for Healthcare Research and Quality (AHRQ). For a copy of the report, or for more information about AHRQ and the Effective Health Care Program, go to www.effectivehealthcare.ahrq.gov/gerdupdate.cfm. Additional information came from the MedlinePlus® Web site, a service of the U.S. National Library of Medicine and the National Institutes of Health. This site is available at www.nlm.nih.gov/medlineplus.

This summary was prepared by the John M. Eisenberg Center for Clinical Decisions and Communications Science at Baylor College of Medicine, Houston, TX.

