

Do you have GERD?

Measure Yourself on the Richter Scale/Acid Test

How significant is your heartburn? What are the chances that it is something more serious? If you need a yardstick, here's a simple self-test developed by a panel of experts from the American College of Gastroenterology.

Remember, if you have heartburn two or more times a week, or still have symptoms on your over-the-counter or prescription medicines, see your doctor.

Take this "Richter Scale/Acid Test" to see if you're a GERD sufferer and are taking the right steps to treat it.

- 1 Do you frequently have one or more of the following:
 - a. an uncomfortable feeling behind the breastbone that seems to be moving upward from the stomach?
 - b. a burning sensation in the back of your throat?
 - c. a bitter acid taste in your mouth?
- 2 Do you often experience these problems after meals?
- 3 Do you experience heartburn or acid indigestion two or more times per week?
- 4 Do you find that antacids only provide temporary relief from your symptoms?
- 5 Are you taking prescription medication to treat heartburn, but still having symptoms?

If you said yes to two or more of the above, you may have GERD. To know for sure, see your doctor or gastrointestinal specialist. They can help you live pain free.

For more information about heartburn and GERD, call 1-800-HRT-BURN

Is it just a little **HEARTBURN**

or something more
serious?

understanding gerd

a consumer education brochure about gastroesophageal reflux disease

NEW
study findings
link chronic
heartburn with
serious long-term
health risks.

heartburn and GERD
1-800-HRT-BURN



American College of Gastroenterology
*Digestive Disease Specialists Committed to
Quality in Patient Care*

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How common is heartburn?

More than 60 million Americans experience heartburn at least once a month and some studies have suggested that more than 15 million Americans experience heartburn symptoms each day. Symptoms of heartburn, also known as acid indigestion, are more common among the elderly and pregnant women.

What is heartburn or GERD?

Gastroesophageal reflux is a physical condition in which acid from the stomach flows backward up into the esophagus. People will experience heartburn symptoms when excessive amounts of acid reflux into the esophagus. Many describe heartburn as a feeling of burning discomfort, localized behind the breastbone, that moves up toward the neck and throat. Some even experience the bitter or sour taste of the acid in the back of the throat. The burning and pressure symptoms of heartburn can last for several hours and often worsen after eating food. All of us may have occasional heartburn. However, frequent heartburn (two or more times a week), food sticking, blood or weight loss may be associated with a more severe problem known as gastroesophageal reflux disease or GERD.

What causes heartburn and GERD?

To understand gastroesophageal reflux disease or GERD, it is first necessary to understand what causes heartburn. Most people will experience heartburn if the lining of the esophagus comes in contact with too much stomach juice for too long a period of time. This stomach juice consists of acid, digestive enzymes, and other injurious materials. The prolonged contact of acidic stomach juice with the esophageal lining injures the esophagus and produces a burning discomfort. Normally, a muscular valve at the lower end of the esophagus called the lower esophageal sphincter or “LES” — keeps the acid in the stomach and out of the esophagus. In gastroesophageal reflux disease or GERD, the LES relaxes too frequently, which allows stomach acid to reflux, or flow backward into the esophagus.

What are the treatments for infrequent heartburn?

In many cases, doctors find that infrequent heartburn can be controlled by lifestyle modifications and proper use of over-the-counter medicines.

Lifestyle Modifications

- * Avoid foods and beverages that contribute to heartburn: chocolate, coffee, peppermint, greasy or spicy foods, tomato products and alcoholic beverages.
- * Stop smoking. Tobacco inhibits saliva, which is the body's major buffer. Tobacco may also stimulate stomach acid production and relax the muscle between the esophagus and the stomach, permitting acid reflux to occur.
- * Reduce weight if too heavy.
- * Do not eat 2-3 hours before sleep.
- * For infrequent episodes of heartburn, take an over-the-counter antacid or an H2 blocker, some of which are now available without a prescription.

Over-the-Counter Medications

Large numbers of Americans use over-the-counter antacids and other agents that are available without a prescription to treat minor GI discomforts and infrequent heartburn. In 1995, the U.S. Food and Drug Administration (FDA) approved the non-prescription availability of important acid blockers, also called H2 blockers, for treatment of infrequent heartburn with dosage levels below the prescription strength formulations. It is anticipated that the FDA will approve the non-prescription availability of another distinct class of drugs, known as proton pump inhibitors (PPIs), for the treatment of infrequent heartburn, also at dosage levels below the prescription strength formulations. While these reduced strength formulations have been approved for relief of symptoms/discomfort from occasional heartburn, they are not recognized by FDA as promoting actual healing of esophagitis, whereas FDA does recognize the healing benefits of some prescription strength medications, e.g. proton pump inhibitors, when taken regularly at prescription dosages.

Over-the-counter medications have a significant role in providing relief from heartburn and other occasional GI discomforts. More frequent episodes of heartburn or acid indigestion may be a symptom of a more serious condition that could worsen if not treated. If you are using an over-the-counter product more than twice a week, you should consult a physician who can confirm a specific diagnosis and develop a treatment plan with you, including the use of stronger medicines that are only available with a prescription.

Why are heartburn and GERD not trivial conditions?

When symptoms of heartburn are not controlled with modifications in lifestyle, and over-the-counter medicines are needed two or more times a week, or symptoms remain unresolved on the medication you are taking, you should see your doctor. You may have GERD.

When GERD is not treated, serious complications can occur, such as severe chest pain that can mimic a heart attack, esophageal stricture (a narrowing or obstruction of the esophagus), bleeding, or a pre-malignant change in the lining of the esophagus called Barrett's esophagus. A 1999 study reported in the *New England Journal of Medicine* showed that patients with chronic, untreated heartburn of many years duration were at substantially greater risk of developing esophageal cancer, which is one of the fastest growing, and among the more lethal forms of cancer in this country.

Symptoms suggesting that serious damage may have already occurred include:

- * Dysphagia: difficulty swallowing or a feeling that food is trapped behind the breast bone.
- * Bleeding: vomiting blood, or having tarry, black bowel movements.
- * Choking: sensation of acid refluxed into the windpipe causing shortness of breath, coughing, or hoarseness of the voice.
- * Weight Loss.

What are the treatment goals for GERD?

GERD is a problem that is symptomatic by day but in which much damage is done by night. Treatment should be designed to: 1) eliminate symptoms; 2) heal esophagitis; and 3) prevent the relapse of esophagitis or development of complications in patients with esophagitis. In many patients, GERD is a chronic, relapsing disease. Long-term maintenance is the key to therapy; therefore, continuous long-term therapy, possibly life-long therapy, to control symptoms and prevent complications is appropriate. Maintenance therapy will vary in individuals ranging from mere lifestyle modifications to prescription medication as treatment.

All treatments are based on attempts to a) decrease the amount of acid that refluxes from the stomach back into the esophagus, or b) make the refluxed material less irritating to the lining of the esophagus.

What are the treatments for GERD?

Lifestyle Modification

In order to decrease the amount of gastric contents that reach the lower esophagus, certain simple guidelines should be followed:

- * **Raise the Head of the Bed.** The simplest method is to use a 4" x 4" piece of wood to which two jar caps have been nailed an appropriate distance apart to receive the legs or casters at the upper end of the bed. Failure to use the jar caps inevitably results in the patient being jolted from sleep as the upper end of the bed rolls off the 4" x 4".

Alternatively, one may use an under-mattress foam wedge to elevate the head about 6-10 inches. Pillows are not an effective alternative for elevating the head in preventing reflux.

- * **Change Eating and Sleeping Habits.** Avoid lying down for two hours after eating. Do not eat for at least two hours before bedtime. This decreases the amount of stomach acid available for reflux.
- * **Avoid Tight Clothing.** Reduce your weight if obesity contributes to the problem.
- * **Change Your Diet.** Avoid foods and medications that lower LES tone (fats and chocolate) and foods that may irritate the damaged lining of the esophagus (citrus juice, tomato juice, and probably pepper).
- * **Curtail Habits That Contribute to GERD.** Both smoking and the use of alcoholic beverages lower LES pressure, which contributes to acid reflux.

Medical Treatment of GERD

GERD has a physical cause, and frequently is not curtailed by these lifestyle factors alone. If you are using over-the-counter medications two or more times a week, or are still having symptoms on the prescription or other medicines you are taking, you need to see your doctor. If results are not forthcoming, medications may be used to neutralize acid, increase LES tone, or improve gastric emptying.

What are the medications often prescribed for GERD?

Prescription medications to treat GERD include drugs called H2 receptor antagonists (H2 blockers) and proton pump inhibitors (PPIs), which help to reduce the stomach acid that tends to worsen symptoms, and work to promote healing, as well as promotility agents that aid in the clearance of acid from the esophagus.

H2 Receptor Antagonists

Since the mid 1970's, acid suppression agents, known as H2 receptor antagonists or H2 blockers, have been used to treat GERD. H2 blockers improve the symptoms of heartburn and regurgitation and provide an excellent means of decreasing the flow of stomach acid to aid in the healing process of mild-to-moderate irritation of the esophagus, known as "esophagitis." Symptoms are eliminated in up to 50% of patients with twice a day prescription dosage of the H2 blockers. Healing of esophagitis may require higher dosing. These agents maintain remission in about 25% of patients.

H2 blockers are generally less expensive than proton pump inhibitors and can provide adequate initial treatment or serve as a maintenance agent in GERD patients with mild symptoms. Current treatment guidelines also recognize the appropriateness and in some cases desirability of

using proton pump inhibitors as first-line therapy for some patients, particularly those with more severe symptoms or esophagitis on endoscopy. Proton pump inhibitors will be required to achieve effective long-term maintenance therapy in a significant percentage of heartburn/GERD patients.

Proton Pump Inhibitors

Proton pump inhibitors (PPIs), have been found to heal erosive esophagitis (a serious form of GERD) more rapidly than H2 blockers. Proton pump inhibitors provide not only symptom relief, but also elimination of symptoms in most cases, even in those with esophageal ulcers. Studies have shown proton pump inhibitor therapy can provide complete endoscopic mucosal healing of esophagitis at 6 to 8 weeks in 75% to 100% of cases. Although healing of the esophagus may occur in 6 to 8 weeks, it should not be misunderstood that gastroesophageal reflux can be cured in that amount of time. The goal of therapy for GERD is to keep symptoms comfortably under control and prevent complications. As noted above, current guidelines recognize that heartburn and GERD are typically relapsing, potentially chronic conditions, that symptoms and mucosal injury will often reoccur when medications are withdrawn, and hence that a strategy for long-term maintenance therapy is generally required. Occasionally, a health care plan seeks to limit use of proton pump inhibitors to a fixed duration of perhaps 2-3 months and others have even cited FDA's approval of proton pump inhibitors for up to one year, as if that means that this therapy should be withdrawn after one year. There is no well-established scientific reason that supports withdrawing proton pump inhibitors after one year as these patients will invariably relapse. All gastroenterologists have patients who continue to do very well on proton pump inhibitors after many years' use without adverse side effects. Efforts by payors to limit access to these medications are generally a cost-saving initiative. Daily proton pump inhibitor

treatment provides the best long-term maintenance therapy of esophagitis, particularly in keeping symptoms and the disease in remission for those patients with moderate to severe esophagitis, plus this form of treatment has been shown to retain remission for up to five years.

Promotility Agents

Promotility drugs are effective in the treatment of mild to moderately symptomatic GERD. These drugs increase lower esophageal sphincter pressure, which helps prevent acid reflux, and improves the movement of food from the stomach. They can decrease heartburn symptoms, especially at night, by improving the clearance of acid from the esophagus. Recent developments have greatly limited the availability of one of these agents, i.e. cisapride. Cisapride had been used widely for several years in treating night-time heartburn and was also used by some practitioners in the treatment of GERD symptoms in children. More recently, rare but potentially serious complications have been reported in some patients taking cisapride. These complications seem to be related to usage in patients on contraindicated medications or in patients with contraindicated medical conditions, such as underlying heart disease. In March of 2000, the manufacturer announced that it had reached a decision in consultation with the FDA to discontinue the marketing of the drug. The product will remain available only through a limited-access program. This program has been established for patients who fail other treatment options and who meet clearly defined eligibility criteria.

Can surgery be an option when medical treatments for GERD fail?

Surgical measures to prevent reflux can be considered if other measures fail or complications occur such as bleeding, recurrent stricture, or metaplasia (abnormal transformation of cells lining

Effectiveness of Therapies for GERD

| Class of Drugs | How It Works | Eliminate Symptoms | Heal Esophagitis | Manage or Prevent Complications | Maintain Remission |
|------------------------------|--|--------------------|------------------|---------------------------------|--------------------|
| Antacids | neutralize acid | +1 | 0 | 0 | 0 |
| H2 Blockers Over-the-counter | mildly suppress acid | +1 | 0 | 0 | 0 |
| Promotility | increase LES pressure; move acid from esophagus and stomach | +2 | +1 | 0 | +1 |
| H2 Blockers Prescription | moderately suppress acid | +2 | +2 | +1 | +1 |
| H2 Blockers +Promotility | moderately suppress acid; move acid from esophagus and stomach | +3 | +3 | +1 | +1 |
| High Dose H2 Blockers | moderately suppress acid | +3 | +3 | +2 | +2 |
| Proton Pump Inhibitors | markedly suppress acid | +4 | +4 | +3 | +4 |
| Surgery | improve barrier between stomach and esophagus to prevent acid reflux | +4 | +4 | +3 | +4 |

Rating Scale: 0 (no effect) to +4 (nearly 100%)

From An Update on GERD Educational Slide Lecture program, ©1996 ACG.

the esophagus), which is progressive. The surgical technique improves the natural barrier between the stomach and the esophagus that prevents acid reflux from occurring. Consultation with both a gastroenterologist and a surgeon is recommended prior to such a decision.

There are always new treatments and possibilities looming on the horizon. There are two new endoscopic techniques for treating GERD — suturing and the Stretta radio frequency technique — which have recently been approved by the FDA for use with patients. Because these treatments are so new, we do not have any real information concerning their long-term effectiveness. They were approved by the FDA largely based on data showing that they could help reduce GERD for at least six months after treatment. At least in the foreseeable future, until long-term outcomes can be evaluated, most patients and physicians will likely be sticking with the treatment options about which there is a much greater wealth of experience, e.g. medical treatment with proton pump inhibitors and other acid suppression medications, and surgery.

What is a Gastroenterologist?

A gastroenterologist is a physician who specializes in disorders and conditions of the gastrointestinal tract. Most gastroenterologists are board-certified in this subspecialty. After completing the same training as all other physicians, they first complete at least two years of additional training in order to attain board certification in internal medicine, then gastroenterologists study for an additional 2-3 years to train specifically in conditions of the gastrointestinal tract.

What type of tests are needed to evaluate GERD?

Your doctor or gastroenterologist may wish to evaluate your symptoms with additional tests when it is unclear whether your symptoms are caused by

acid reflux, or if you suffer from complications of GERD such as dysphagia (difficulty in swallowing), bleeding, choking, or if your symptoms fail to improve with prescription medications. Your doctor may decide to conduct one or more of the following tests.

Upper GI Series

For the upper GI series, you will be asked to swallow a liquid barium mixture (sometimes called a “barium meal”). The radiologist uses a fluoroscope to watch the barium as it travels down your esophagus and into the stomach.

You will be asked to move into various positions on the X-ray table while the radiologist watches the GI tract. Permanent pictures (X-ray films) will be made as needed.

Endoscopy

This test involves passing a small lighted flexible tube through the mouth into the esophagus and stomach to examine for abnormalities. The test is usually performed with the aid of sedatives. It is the best test to identify esophagitis and Barrett's esophagus.

Esophageal Manometry or Esophageal pH

This test involves passing a small flexible tube through the nose into the esophagus and stomach in order to measure pressures and function of the esophagus. Also, the degree of acid refluxed into the esophagus can be measured over 24 hours.

**Extra-Esophageal Manifestations (EEM):
Heartburn links to chest pain; asthma;
chronic cough; ear, nose and throat
problems often avoid detection**

GERD can masquerade as other diseases

Increasingly, we are becoming aware that the

irritation and damage to the esophagus from continual presence of acid can prompt an entire array of symptoms other than simple heartburn. Experts recognize that often the role of acid reflux has been overlooked as a potential factor in the diagnosis and treatment of patients with chronic cough, hoarseness and asthma-like symptoms. In some instances, patients have never reported heartburn, and in others the potential causal link between reflux and the onset of these so-called “extra-esophageal manifestations” has not been fully recognized. Physicians are increasingly becoming aware that it is good clinical practice to evaluate the possible presence of reflux in patients with chronic cough and asthma-like symptoms, as well as the importance that acid suppression and treating underlying reflux can have in potentially improving the symptoms in these patients.

- * **Chest Pain:** Patients with GERD may have chest pain similar to angina or heart pain. Usually, they also have other symptoms like heartburn and acid regurgitation. If your doctor says your chest pain is not coming from the heart, don't forget the esophagus. On the other hand, if you have chest pain, you should not assume it is your esophagus until you have been evaluated for a potential heart cause by your physician.
- * **Asthma:** Acid reflux may aggravate asthma. Recent studies suggest that the majority of asthmatics have acid reflux. Clues that GERD may be worsening your asthma include: 1) asthma that appears for the first time during adulthood; 2) asthma that gets worse after meals, lying down or exercise; and 3) asthma that is mainly at night. Treatment of acid reflux may cure asthma in some patients and decrease the need for asthmatic medications in others.
- * **Ear, Nose and Throat Problems:** Acid reflux may be a cause of chronic cough, sore throat, laryngitis with hoarseness, frequent throat clearing, or growths on the vocal cords. If these problems do not get better with standard treatments, think about GERD.

Patients with longstanding GERD can experience severe complications

- * **Peptic Stricture:** This results from chronic acid injury and scarring of the lower esophagus. Patients complain of food sticking in the lower esophagus. Heartburn symptoms may actually lessen as the esophageal opening narrows down preventing acid reflux. Stretching of the esophagus and proton pump inhibitor medication are needed to control and prevent peptic strictures.
- * **Barrett's Esophagus:** A serious complication of chronic GERD is Barrett's esophagus. Here the lining of the esophagus changes to resemble the intestine. Patients may complain of less heartburn with Barrett's esophagus — that's the good news. Unfortunately, this is a pre-cancerous condition: patients with Barrett's esophagus have approximately a 30-fold increased risk of developing esophageal cancer. These patients should be followed by endoscopy by a trained gastroenterologist familiar with this disease.
- * **Esophageal Cancer:** Recent scientific reports have confirmed that if GERD is left untreated for many years, it could lead to this most serious complication — Barrett's esophagus and esophageal cancer. Frequent heartburn symptoms with a duration of several years cannot simply be dismissed — there can be severe consequences of delaying diagnosis and treatment. This increased risk of chronic, longstanding GERD sufferers to develop cancer demonstrates the true severity of heartburn. In patients with chronic heartburn, an endoscopy will often be recommended to visually monitor the condition of the lining of the esophagus and identify or confirm the absence of any suspicious or pre-malignant lesions, such as Barrett's esophagus. So, do not ignore your heartburn. If you are having heartburn two or more times a week, it is time to see your

physician and in all likelihood a gastrointestinal specialist. In most cases an endoscopy should be performed to evaluate the severity of GERD and identify the possible presence of the pre-malignant condition — Barrett's esophagus. The preventative strategy is to treat GERD. If it goes untreated and cancer does develop, the survival rate for esophageal cancer, at this time, is dismal.

Ignoring persistent heartburn symptoms can lead to severe consequences

Study links duration of heartburn to severity of esophageal disease

Esophageal disease may be perceived in many forms, with heartburn being the most common. The severity of heartburn is measured by how long a given episode lasts, how often symptoms occur, and/or their intensity. Since the esophageal lining is sensitive to stomach contents, persistent and prolonged exposure to these contents may cause changes such as inflammation, ulcers, bleeding and scarring with obstruction. A pre-cancerous condition called Barrett's esophagus may also occur. Barrett's esophagus causes severe damage to the lining of the esophagus when the body attempts to protect the esophagus from acid by replacing its normal lining with cells that are similar to the intestinal lining.

Research was conducted to determine whether the duration of heartburn symptoms increases the risk of having esophageal complications. The study found that inflammation in the esophagus not only increased with the duration of reflux symptoms, but that Barrett's esophagus likewise was more frequently diagnosed in these patients. Those patients with reflux symptoms and a history of inflammation in the past were more likely to have Barrett's esophagus than those without a history of esophageal inflammation.

Study links chronic heartburn to esophageal cancer

Over the past 20 years, the incidence of esophageal cancer, a highly fatal form of cancer, has rapidly increased in the United States. A recent research study has linked chronic, longstanding, untreated heartburn with an increased risk of developing esophageal cancer. As reported by Lagergren et al. in the study that was published in the New England Journal of Medicine, patients who experienced chronic, unresolved heartburn markedly increase the risk of esophageal cancer, a rare but often deadly malignancy. According to the study, the incidence of adenocarcinoma of the esophagus was nearly eight times more likely among frequent heartburn sufferers (two times a week or more) compared to individuals without symptoms, while among patients with longstanding, severe and unresolved heartburn (e.g. frequent symptoms 20 years duration), the risk of developing esophageal cancer was 43.5 times as great as for those without chronic heartburn.

Persistent symptoms of heartburn and reflux should not be ignored. By seeing your doctor early, the physical cause of GERD can be treated and more serious problems avoided.

Some key points to remember about GERD

- * Heartburn is a common, but not trivial condition. In fact, if left untreated, longstanding, severe and chronic heartburn has been linked with esophageal cancer. Don't ignore frequent heartburn — instead consult with your physician regarding an endoscopy and treatment to achieve early symptom resolution.
- * If you suffer infrequent heartburn, antacids, or H2 blockers (now available without a prescription) or proton pump inhibitors (pending release at reduced strength over-the-counter dosages) may provide the relief you need.
- * If you are experiencing heartburn two or more times a week, you may have acid reflux disease, also known as GERD, which, if left untreated, is potentially serious.
- * If you are self-medicating for heartburn two or more times a week, or if you still have symptoms on your over-the-counter or prescription medication, you need to see a doctor and perhaps be referred to a gastroenterologist.
- * GERD has a physical cause that's not your fault and can only be treated by a physician.
- * If left untreated, longstanding, severe and chronic heartburn/GERD has been linked with esophageal cancer. Don't ignore frequent heartburn — instead consult with your physician regarding an endoscopy and treatment to achieve early symptom resolution.
- * GERD has a significant role in asthma, chronic cough and ear, nose and throat problems — all referred to as extra-esophageal manifestations (EEM) although this connection may often go unrecognized. GERD should be actively considered in physician evaluations of these conditions, or it could go undetected.
- * With effective treatment, using the range of prescription medications and other treatments available today, you can become symptom free, avoid potential complications and restore the quality of life you deserve.