

Patients taking frequent doses of aspirin or nonsteroidal antiinflammatory drugs for symptoms such as headache or pain should discuss with the physician alternative treatments for these symptoms. Antacid tablets or liquids (such as Gaviscon®, Maalox®, Mylanta®, Roloids®, or Tums®) may provide immediate and brief relief for reflux symptoms that occur infrequently. Chewing gum stimulates the production of saliva, which can help neutralize refluxed acid.

### What happens if these treatments fail?

Two different classes of medication are available in over-the-counter or prescription strength to reduce acid secretion by the stomach, so that less acid is available for reflux into the esophagus. The **H2 receptor antagonists** (H2RAs) include agents such as cimetidine (Tagamet), famotidine (Pepcid®), nizatidine (Axid®), and ranitidine (Zantac®). The **proton pump inhibitors** (PPIs) include such agents as dexlansoprazole (Dexilant™), esomeprazole (Nexium®), lansoprazole (Prevacid®), omeprazole (Prilosec® or Zegerid®), pantoprazole (Protonix®), and rabeprazole (Aciphex®). Most patients will respond similarly to any given medication in the same class. The PPIs have a more potent and durable effect in blocking acid production than the H2RAs. However, they are typically more expensive and, with prolonged use, can cause rebound secretion of acid and relapse of symptoms if discontinued. Patients who need to take these medications on a regular basis to control reflux symptoms should discuss their condition with their physician.

Patients whose symptoms fail to respond despite having their treatment escalated to twice daily PPI therapy require additional evaluation to find the reason for this failure, including the possibility that the symptoms being treated are not, in fact, due to GERD.



### Does surgery have a role in treatment?

Patients who fail to have adequate control of reflux symptoms with medication, who are intolerant or allergic to reflux medication, or who cannot afford chronic medical therapy may be candidates for an anti-reflux surgery, known as **fundoplication**. This involves repositioning of the upper part of the stomach around the **lower esophageal sphincter** (valve muscle) to create a barrier that prevents excessive reflux of stomach contents into the esophagus. This surgery is usually done by a laparoscopic (keyhole surgery) technique.

Patients with GERD who have bariatric (weight loss) surgery due to complications from morbid obesity often find their GERD symptoms are also improved.

### What are some experimental treatments?

While previously available endoscopic approaches to creating a reflux barrier have not shown lasting or consistent benefit, modifications of these earlier techniques are undergoing evaluation at multiple medical centers. Medications that work to reduce reflex relaxations of the lower esophageal sphincter and block gastroesophageal reflux events are also undergoing clinical trials. For more information, visit the ANMS web site at [www.motilitysociety.org](http://www.motilitysociety.org).

For a list of doctors in your area who specialize in gastrointestinal motility problems, go to our web site:

[www.motilitysociety.org](http://www.motilitysociety.org)



Founded in 1980, the American Neurogastroenterology and Motility Society (ANMS) is a national organization dedicated to the study, training, and practice of gastrointestinal motility and neurogastroenterology. ANMS represents a broad group of academic and practicing physicians, scientists, trainees, technicians, and nurses. ANMS seeks to foster excellence in patient care and research, and to promote a better understanding and cure of disorders that affect gastrointestinal motility and function.

American Neurogastroenterology and Motility Society  
ph 734-699-1130 • fax 734-699-1136 • e-mail [admin@motilitysociety.org](mailto:admin@motilitysociety.org)

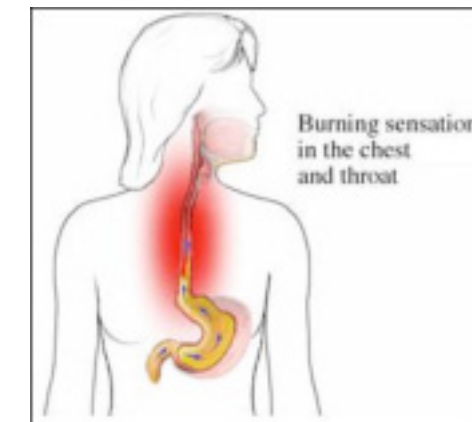
This patient information brochure was prepared for the American Neurogastroenterology and Motility Society (ANMS). The opinions expressed are primarily those of the authors and not ANMS. ANMS does not guarantee or endorse any product or statement in this brochure. This brochure is intended to provide general information only. This brochure is not intended to replace the knowledge or diagnosis or advice of your health care provider.

Written by Benson Massey, MD on behalf of ANMS.

Copyright © 2011 American Neurogastroenterology and Motility Society

# Gastroesophageal Reflux Disease (GERD)

An educational brochure for patients



American Neurogastroenterology and Motility Society

### What is gastroesophageal reflux disease?

Gastroesophageal reflux disease (GERD) is a condition that develops when the reflux (backward flow) of stomach content into or above the esophagus (food pipe) causes troublesome symptoms or complications. Some degree of reflux occurs normally in healthy persons. Only when the degree of reflux adversely affects an individual's well-being or health is it considered a health problem.

### What are the symptoms of GERD?

The classic symptoms of GERD are heartburn (a burning sensation behind the breastbone that often moves upward) and regurgitation (the effortless movement of material, often sour or bitter, up into the throat). These symptoms usually occur a 1/2 hour to 2 hours after a meal.

Less typical symptoms caused by GERD include:

- chest pain or sensation of pressure
- excessive belching, salivation, or hiccups
- upper abdominal pain
- nausea or vomiting
- coughing, choking, or wheezing
- hoarseness, excessive throat clearing, or voice change

These other symptoms can result from a variety of other potentially serious medical conditions, so one should not simply assume they are due to GERD without confirmation by a physician.

Alarm symptoms, such as vomiting blood, dysphagia (difficulty with swallowing food), and poor appetite or unintentional weight loss, raise the possibility that a complication from GERD or another condition is present. Alarm symptoms always require medical evaluation.

### What causes GERD?

Multiple factors may move an individual from having normal levels of asymptomatic reflux to symptomatic GERD. The most common is excessive weight gain, with the development of obesity. GERD becomes more common as people age. Patients who have a hiatal hernia (displacement

of the upper stomach into the chest) are predisposed to develop complications from GERD. Certain medical conditions, such as diabetes and connective tissue disorders, may predispose patients to develop GERD.

The use of aspirin and nonsteroidal antiinflammatory drugs is associated with having more heartburn, and may predispose patients to certain GERD complications. Medications and medical treatments that result in a dry mouth can reduce the ability to make saliva, which normally aids in neutralizing refluxed stomach acid.

Poor sleep habits may increase the amount of reflux at night. Poor sleep and acute or chronic stress can increase the severity of symptoms of reflux without necessarily causing more reflux.

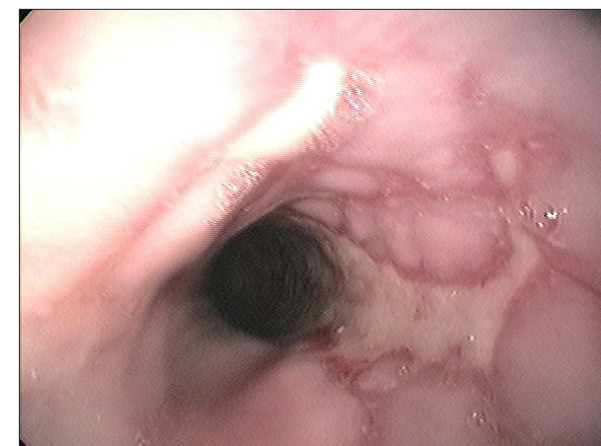
Some foods (onions, chocolate, carbohydrates, coffee, carbonated and alcoholic beverages) and dietary habits (large meals, lying down right after eating) provoke reflux symptoms in many individuals, but it is unknown if the persistent indulgence in these foods and habits leads to the development of chronic GERD (aside from their possible role in weight gain).

### What are the complications of GERD?

GERD can impair the quality of sleep, work performance, and overall quality of life. Severe GERD can cause damage to the tissue lining the esophagus. This can lead to ongoing blood loss; strictures (narrowing of the food passageway), which causes dysphagia; and rarely, the development of esophageal cancer. Regurgitation of material from the stomach can damage tooth enamel and the voice box or cause pneumonia.

### What tests are used to diagnose GERD?

Your doctor may order an **upper endoscopy** (flexible tube camera) to determine if GERD has damaged the lining of your esophagus, or to look for other conditions that have symptoms similar to GERD. However, at least half of patients with GERD will have normal findings on upper endoscopy, especially if they are already taking medication to treat GERD. An **ambulatory esophageal pH monitoring test** can assess for abnormal amounts of acid refluxing into the esophagus and whether symptoms occur at the time of this reflux. This testing requires placement of a small wire probe through the nose into the esophagus or attach-



Endoscopic photograph of severe esophagitis in a patient with GERD.

ment of a probe with a clip to the wall of the esophagus. This testing takes 24–48 hours to complete. **Esophageal manometry** is a test to assess the muscle function of the esophagus. It can be used to locate the position of the lower esophageal sphincter valve muscle, and help position pH monitoring probes. The manometry catheter is also passed through the nose and into the esophagus. A **barium esophagram** is an X-ray test that may be used to help detect the presence of strictures due to GERD, but it is unreliable as a single diagnostic test for GERD.

### What are the first ways to treat GERD?

Lifestyle and dietary changes are the first steps to take in treating GERD. Patients with GERD who are overweight should work with their physician on a program of diet and exercise to promote weight loss, or at least prevent additional weight gain. Patients should avoid overeating or lying down for the next few hours after eating. Efforts should be made to reduce the consumption of foods and beverages that are consistently found to provoke reflux symptoms. Patients with nighttime reflux symptoms should sleep with their head elevated, using a foam wedge or raising the head of the bed securely on blocks. Patients should avoid habits that prevent them from getting a full night's sleep.

