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WHAT ARE GASTROESOPHAGEAL REFLUX DISEASE AND HEARTBURN?

Gastroesophageal reflux disease (GERD) is a condition in which the acids from the stomach move backward from the stomach into the esophagus (an action called reflux). *Reflux* occurs if the muscular actions in the esophagus or other protective mechanisms fail.

The hallmark symptoms of GERD are:

- *Heartburn*: a burning sensation in the chest and throat.
- *Regurgitation*: a sensation of acid backed up in the esophagus.

Although acid is a primary factor in damage caused by GERD, other products of the digestive tract, including pepsin and bile, can also be harmful.

WHAT CAUSES GASTROESOPHAGEAL REFLUX DISEASE?

Anyone can have mild and temporary heartburn caused by overeating acidic foods. This is especially true when bending over, taking a nap, or engaging in lifting after a large meal high in fatty, acidic foods. Persistent gastroesophageal reflux disease (GERD), however, may be due to various conditions, including abnormal biologic or structural factors.

WHO GETS GASTROESOPHAGEAL REFLUX DISEASE?

GERD occurs monthly in about half of American adults and weekly in about 20%. People of all ages are susceptible to GERD. Elderly people with GERD tend to have a more serious condition than younger people. Patients who are obese are also at risk.

WHAT ARE THE SYMPTOMS OF GASTROESOPHAGEAL REFLUX DISEASE?

Heartburn. Heartburn is the primary symptom of gastroesophageal reflux. It is a burning sensation that radiates up from the stomach to the chest and throat. Heartburn is most likely to occur in connection with the following activities:

- After a heavy meal.
- Bending over.
- Lifting.
- Lying down, particularly on the back.

According to one study, nearly three-quarters of patients with frequent GERD symptoms experience them at night. Patients with nighttime GERD also tend to experience more severe pain than those whose symptoms occur at other times. One study found that patients with night-time pain reported levels of severity that were similar to those reported in angina and congestive heart failure.

The severity of heartburn does not necessarily indicate actual injury in the esophagus. For example, Barrett's esophagus, which causes precancerous changes in the esophagus, may trigger few symptoms, especially in elderly people. On the other hand, people can suffer severe heartburn without the presence of damage to the esophagus.

HOW SERIOUS IS GASTROESOPHAGEAL REFLUX DISEASE?

Nearly everyone has an attack of heartburn at some point in their lives. In the vast majority of cases the condition is temporary and mild causing only transient discomfort. If patients develop persistent gastroesophageal reflux disease with frequent relapses, however, and it remains untreated, serious complications may develop over time. They can include the following:

- Erosive esophagitis (severe inflammation in the esophagus).
- Severe narrowing (*stricture*) of the esophagus.
- Barrett's esophagus [*See Section What Is Barrett's Esophagus?*]
- Problems in other areas, including the teeth, throat, and airways leading to the lungs.

Older people are at higher risk for complications from persistent GERD. The following conditions also put individuals at risk for recurrent and serious GERD:

- The esophagus is very inflamed.
- Initial symptoms are severe.
- Symptoms persist in spite of treatments that successfully heal the esophagus.
- There are severe underlying muscular abnormalities.

HOW IS GASTROESOPHAGEAL REFLUX DISEASE DIAGNOSED?

If a patient suffers from *chronic* heartburn, chances are good the patient also has GERD. (Occasional heartburn does not necessarily indicate the presence of GERD.) The following is the general diagnostic approach:

- A physician can usually make an easy diagnosis of GERD if the patient finds relief from persistent heartburn and acid regurgitation after taking antacids for short periods.
- If the diagnosis is uncertain but the physician still suspects GERD, a drug trial using omeprazole (Prilosec) identifies 80% to 90% of people with the conditions. Omeprazole is a proton-pump inhibitor that blocks stomach acid secretion [*See What Drugs Are Used for Treating GERD?*].

Laboratory or more invasive tests, including endoscopy, may be required if the diagnosis is still uncertain, if atypical symptoms are present, if Barrett's esophagus is suspected, or if complications, such as signs of bleeding or difficulty in swallowing, are present.

WHAT ARE THE GENERAL GUIDELINES FOR TREATING GASTROESOPHAGEAL REFLUX DISEASE?

Acid suppression continues to be the mainstay for treating GERD. The aim of drug therapy is to reduce the amount of acid present and improve any abnormalities in muscle function of the lower esophagus sphincter (LES), the esophagus, or the stomach.

Most cases of gastroesophageal reflux are mild and can be managed with lifestyle changes and over-the-counter medications and antacids. [*See What Lifestyle Measures can Help Prevent and Manage Gastroesophageal Reflux Disease?*]

Surgery

Surgery may be indicated under certain circumstances:

- If lifestyle changes and drug treatments have failed.
- In patients with other medical complications.
- In younger people with chronic GERD, who face a lifetime of expense and inconvenience with maintenance drug treatment.

Some physicians are recommending surgery as treatment of choice for many more patients with chronic GERD, particularly since minimally invasive surgical procedures are becoming more widely available. Also only surgery improves regurgitation. Furthermore, persistent GERD appears to be much more serious than previously believed, and the long-term safety of acid suppression using medication is still uncertain.

WHAT LIFESTYLE MEASURES CAN HELP PREVENT AND MANAGE GASTROESOPHAGEAL REFLUX DISEASE?

People with heartburn should first try lifestyle and dietary changes. In one study, 44% of patients who experienced symptoms of gastroesophageal reflux disease (GERD) reported improvement after changing their diet. Some suggestions are the following:

- People with heartburn should avoid or reduce consumption of foods and beverages that contain caffeine, chocolate, peppermint, spearmint, and alcohol. Both caffeinated and decaffeinated coffee increase acid secretion.
- All carbonated drinks increase the risk for GERD.
- Although physicians often advise patients with GERD to cut down on fatty foods, studies are finding no evidence that a low-fat or high-fat meal make any difference in symptom exacerbation. Better studies are needed to confirm this. In any case, as a rule, it is always wise to avoid saturated fats (which are from animal products), and cut down on all fats if one is overweight.
- Increasing protein may help strengthen muscles in the muscle valve. Patients should choose low-fat or skim dairy products, poultry, or fish, in such cases.
- Whole grain products rich in selenium may have some protective role against dangerous cells changes in Barrett's esophagus.
- Patients should have a diet rich in fruits and vegetables, although avoid acidic vegetables and fruits (e.g., oranges, lemons, grapefruit, pineapple, tomatoes).

Patients who have trouble swallowing should avoid tough meats, vegetables with skins, doughy bread, and pasta.

WHAT ARE THE SURGICAL TREATMENTS FOR GASTROESOPHAGEAL REFLUX?

Fundoplication (General Guidelines)

The standard surgical treatment for GERD is *fundoplication*. The goal of this procedure is twofold:

- To increase LES pressure and, therefore, prevent acid back-up (reflux).
- To repair any present hiatal hernia.

There are two primary approaches:

- Open Nissen fundoplication (the more invasive technique).
- Laparoscopic fundoplication.

In general, the overall long-term benefits of these procedures are similar. Some studies report that more than 90% of patients are free of heartburn after the operation and satisfied with their choice, even after five years. The procedure relieves GERD-induced coughs and some other respiratory symptoms in up to 85% of patients. (Its effect on asthma associated with GERD, however, is unclear.) It may enhance stomach emptying and improve peristalsis in about half of patients. (It may actually *cause* abnormal peristalsis in about 14% of patients, although in such cases the problem does not appear to be very significant.)

