PATIENT INFORMATION

GASTROESOPHAGEAL REFLUX DISEASE (Hiatal Hernia and Heartburn)

Gastroesophageal reflux disease (GERD) is a digestive disorder that affects the lower esophageal sphincter (LES)--the muscle connecting the esophagus with the stomach. Many people, including pregnant women, suffer from heartburn or acid indigestion caused by the GERD. Doctors believe that some people suffer from GERD due to a condition called hiatal hernia. In most cases, heartburn can be relieved through diet and lifestyle changes; however, some people may require medication or surgery. This fact sheet provides information on GERD-its causes, symptoms, treatment, and long-term complications.

WHAT IS GASTROESOPHAGEAL REFLUX?

Gastroesophageal refers to the stomach and esophagus. Reflux means to flow back or return. Therefore, gastroesophageal reflux is the return of the stomach's contents back up into the esophagus.

In normal digestion, the LES opens to allow food to pass into the stomach and closes to prevent food and acidic stomach juices from flowing back into the esophagus. Gastroesophageal reflux occurs when the LES is weak or relaxes inappropriately allowing the stomach's contents to flow up into the esophagus.

The severity of GERD depends on LES dysfunction as well as the tube and amount of fluid brought up from the stomach and the neutralizing effect of saliva.

WHAT IS THE ROLE OF HIATAL HERNIA?

Some doctors believe hiatal hernia may weaken the LES and causes reflux. Hiatal hernia occurs when the upper part of the stomach moves up into the chest through a small opening in the diaphragm. The diaphragm is the muscle separating the stomach from the chest. Recent studies show that the opening in the diaphragm acts as an additional sphincter around the lower end of the esophagus. Studies also show that hiatal hernia results in retention of acid and other contents above this opening. These substances can reflux easily into the esophagus.

Coughing, vomiting, straining, or sudden physical exertion can cause increased pressure in the abdomen resulting in hiatal hernia. Obesity and pregnancy also can contribute to this condition.

Many otherwise healthy people age 50 and over have a small hiatal hernia. Although considered a condition of middle age, hiatal hernias affect people of all ages.

Hiatal hernias usually do not require treatment; however, it may be present in patients with severe GERD or esophagitis (inflammation of the esophagus).

Esophageal manometric studies - pressure measurements of the esophagus-occasionally help identify critically low pressure in the LES or abnormalities in esophageal muscle contraction.

For patients in whom diagnosis is difficult, doctors may measure the acid levels inside the esophagus through pH testing. Testing pH monitors the acidity level of the esophagus and symptoms during meals, activity and sleep. Newer techniques of long-term pH monitoring are improving diagnostic capability in this area.

DOES GERD REQUIRE SURGERY?

A small number of people with GERD may need surgery because of severe reflux and poor response to medical treatment. Fundoplication is a surgical procedure that increases pressure in the lower esophagus. However, surgery should not be considered until all other measures have been tried and have failed.

WHAT ARE THE COMPLICATIONS OF LONG-TERM GERD?

Sometimes GERD results in serious complications. Esophagitis can occur as a result of too much stomach acid in the esophagus. Esophagitis may cause esophageal bleeding or ulcers. In addition, a narrowing or stricture of the esophagus may occur from chronic scarring. Some people develop a condition known as Barrett's esophagitis which is severe damage to the skin-like lining of the esophagus. Doctors believe this condition may be a precursor to esophageal cancer.

WHAT OTHER FACTORS CONTRIBUTE TO GERD?

Dietary and lifestyle choices may contribute to GERD. Certain foods and beverages, including chocolate, peppermint, fried or fatty foods, coffee, tomato sauce, citrus juices (like orange juice) or alcoholic beverages, may weaken the LES causing reflux and heartburn. Studies show that cigarette smoking relaxes the LES. Obesity and pregnancy can also cause GERD. Also, certain medication can weaken the LES pressure.

WHAT DOES HEARTBURN/GERD FEEL LIKE?

Heartburn, also called acid indigestion, is the most common symptom of GERD and usually feels like a burning chest pain beginning behind the breastbone and moving upward to the neck and throat. Many people say it feels like food is coming back into the mouth leaving an acid or bitter taste.

The burning, pressure, or pain of heartburn can last as long as 2 hours and is often worse after eating. Lying down or bending over can also result in heartburn. Many people obtain relief by standing upright or by taking an antacid that clears acid out of the esophagus.

Heartburn pain can be mistaken for the pain associated with heart disease or a heart attack, but there are differences. Exercise may aggravate pain resulting from heart disease, and rest may relieve the pain. Heartburn pain is less likely to be associated with physical activity.

Occasionally, GERD may present only with nausea or frequent belching with the classic burning pain.

HOW COMMON IS HEARTBURN?

More than 60 million American adults experience GERD and heartburn at least once a month, and about 25 million adults suffer daily from heartburn. Twenty-five percent of pregnant women experience daily heartburn and more than 50 percent have occasional distress. Recent studies show that GERD in infants and children is more common than previously recognized and may produce recurrent vomiting, coughing and other respiratory problems, or failure to thrive.

WHAT IS THE TREATMENT FOR GERD?

Doctors recommend lifestyle and dietary changes for most people with GERD. Treatment aims at decreasing the amount of reflux or reducing damage to the lining of the esophagus from refluxed materials.

1. Avoiding certain foods and beverages: These foods include **chocolate, peppermint, fatty foods, coffee, soda (and all carbonated drinks) and alcoholic beverages**. Foods and beverages that can irritate a damaged esophageal lining, such as **citrus fruits (particular orange juice) and juices, tomato products, spicy food and pepper, should also be avoided. Anti-inflammatories like aspirin, ibuprofen (Advil, Motrin) and naprosyn (Aleve)** should also be avoided.

2. Meals: Decreasing the size of portions at mealtime may also help control symptoms. Eating meals at lest 2 to 3 hours before bedtime may lessen reflux by allowing the acid in the stomach to decrease and the stomach to empty partially. In addition, being overweight often worsens symptoms. Many overweight people find relief when they lose weight.

3. Stop Smoking.

4. Elevating the head of the bed: Elevate your bed 6-inch blocks or sleeping on a specially designed wedge reduces heartburn by allowing gravity to minimize reflux of stomach contents into the esophagus.

5. Medications: Antacids taken regularly can neutralize acid in the esophagus and stomach and stop heartburn. Many people find that nonprescription antacids provide temporary or partial relief. These compounds are believed to form a foam barrier on top of the stomach that prevents acid reflux from occurring. Long-term use of antacids, however, can result in side-effects, including diarrhea, altered calcium metabolism (a change in the way the body breaks down and uses calcium), and buildup of magnesium in the body. Too much magnesium can be serious for patients with kidney disease. If antacids are needed for more than 3 weeks, a doctor should be consulted.

   - **For chronic reflux and heartburn, the doctor may prescribe medications to reduce acid in the stomach. These medicines include H_2 blockers, which inhibit acid secretion in the stomach. Currently, four H_2 blockers are available: cimetidine (Tagamet HB), famotidine (Pepcid AC), and ranitidine (Zantac 75,150). These are best taken before bedtime. Another type of drug, the proton pump (or acid pump) inhibitor may be necessary. These are more potent than H2 blockers and best taken in the morning ON AN EMPTY STOMACH. Currently there are five available: omeprazole (Prilosec OTC), esomeprzole (Nexium), lansoprazole (Prevacid), pantoprazole (Protonix) and rabeprazole (Achiphex)**

Other approaches to therapy will increase the strength of the LES and quicken emptying of stomach contents with motility drugs that act on the upper gastrointestinal (GI) tract. These drugs include and metoclopramide or erythromycin.

WHAT IF SYMPTOMS PERSIST?

People with severe, chronic esophageal reflux or with symptoms not relieved by the treatment described above may need more complete diagnostic evaluation. Doctors use a variety of tests and procedures to examine a patient with chronic heartburn.

An *upper GI series* may be performed during the early phase of testing. This test is a special x-ray that shows the esophagus, stomach and duodenum (the upper part of the small intestine). While an upper GI series provides limited information about possible reflux, it is used to rule out other diagnoses, such as peptic ulcers.

Endoscopy is an important procedure for individuals with chronic GERD. By placing a small lighted tube with a tiny video camera on the end (endoscope) into the esophagus, the doctor may see inflammation or irritation of the tissues lining the esophagus (esophagitis). If the findings of the endoscopy are abnormal or questionable, *biopsy* (removing a small sample of tissue) from the lining of the esophagus may be helpful.