

All About GERD

Gastro esophageal reflux disease (GERD) is one of the most common diseases affecting the upper portion of the gastrointestinal tract (the part of the digestive tract including the esophagus, stomach and intestines). It is very common and

During gastro esophageal reflux, gastric contents passively move up from the stomach into the esophagus (a muscular tube or "swallowing pipe" connecting the back of the throat to the stomach). While this can occur normally (when burping, for example), if it is associated with certain symptoms, it may be attributed to GERD.

Symptoms can range from mild and bothersome to severe and debilitating. GERD can be considered a syndrome with a wide range of symptoms. People may experience mild symptoms with an esophagus that appears to be normal or they may have severe symptoms with abnormalities that can be detected with an endoscope (a lighted tube with a scope on its end that is inserted into the gastrointestinal tract with some sedation). This document will provide information regarding the abnormalities that may lead to GERD, a clinical assessment of the disease by a physician, preventative measures, as well as treatment options that may be employed.

Definition

GERD may be defined as any symptomatic condition that is the result of gastric contents (contents of the stomach) moving up into the esophagus. Symptoms of GERD can be quite varied, although the cardinal symptom is heartburn. More recently, symptoms arising outside of the esophagus (such as asthma or laryngitis) are also considered manifestations of GERD in certain situations. Alternatively, these symptoms may also arise from disorders of the upper or lower respiratory tracts (organs involved in respiration or the exchange of the gases oxygen and carbon dioxide). GERD complications also include pre-malignant (pre-cancerous) and malignant (cancerous) conditions of the esophagus.

Who Gets GERD?

GERD is a disease of increasing incidence in the developed world. Studies have shown that as much as ten percent of the population experience heartburn daily. A complication such as Barrett's esophagus (a potentially cancerous conversion of the cells in the lining of the esophagus that results from the long-term exposure of the esophagus to refluxed stomach acid) is now being recognized more frequently in the general population. There is no difference between the percentage of men and women that are affected by GERD. Its increase may relate to changes in diet or the disappearance of *Helicobacter pylori* gastritis (a common infection of the gastrointestinal tract which has been declining in the developed world).

Understanding Your Body

The burp mechanism is a process whereby the lower esophageal sphincter (the valve between the bottom of the esophagus and the top of the stomach) relaxes in order to relieve pressure in the stomach from the ingestion of food and gas. This normal process occurs only in an upright position and does not occur when one lies down. It thus, prevents gastric contents (contents of the stomach) from finding their way into the lungs which causes significant health risks.

There is a complex mechanism that prevents reflux at the junction between the lower esophagus and the stomach (called the gastro esophageal junction). It is composed of an internal lower esophageal sphincter (the valve between the bottom of the esophagus and the top of the stomach) and an external pressure on the junction by the diaphragm. When this barrier fails, gastric contents may make their way into the esophagus and cause symptoms.

Substances that have flowed backward from the stomach into the esophagus are called refluxate. The presence of symptoms depends on the acidity of the refluxate, the speed with which the esophagus can clear the refluxate, the presence of buffering agents (agents that neutralize acids) such as swallowed saliva, and the resistance of the lining of the esophagus to acid injury.

The barrier that prevents reflux is the lower esophageal sphincter (LES) a muscular valve at the junction of the esophagus and the stomach; it is further reinforced by the diaphragm. The function of this valve can be impaired by an abnormality known as a hiatal hernia, in which the stomach protrudes above the diaphragm. It may also be impaired by failure of the LES to relax properly,

by surgical disruption of the LES, or by certain diseases such as scleroderma. Improper relaxing or a destruction of the lower sphincter of the esophagus, which can happen after surgery or be caused by certain diseases such as scleroderma (a slow progressive disease characterized by thick deposits of fibrous tissue in the skin or lining of organs).

Abnormal muscle contractions of the esophagus may affect a person's ability to clear refluxate from the esophagus. These abnormal contractions may be of unclear cause or related to conditions such as scleroderma. They also may be due to a lack of alkaline fluids that have the ability to neutralize stomach acid or counteract the effects of acids. An insufficient amount of alkaline fluids prohibits the esophagus from properly buffering the acid that has moved up from the stomach. For example, patients who smoke often do not produce enough saliva to protect the esophagus from the acid in the refluxate. This may cause abnormal contractions of the esophagus, which inhibit a person's ability to clear refluxate. In turn, this may lead to symptoms of GERD.

Other conditions that may lead to GERD include: enlarged gastric volume from delayed emptying of the stomach, increased abdominal pressure (from pregnancy, obesity, or an abdominal mass), lying down too soon after eating or bending at the waist. The final common pathway that leads to the presence of symptoms of GERD is the infiltration of refluxate into the lining of the esophagus. This may depend upon the amount of time that the refluxate is in the esophagus.