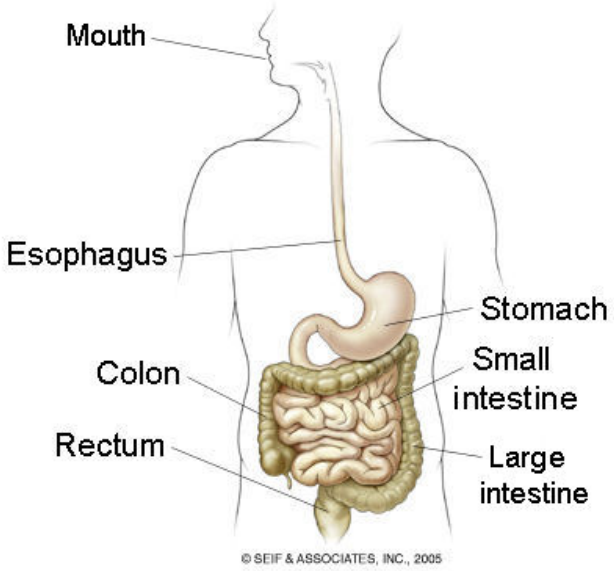
Barrett's Esophagus

The esophagus is the muscular tube that carries food and saliva from the mouth to the stomach. Barrett's esophagus involves changes in the esophagus. Some of its lining is replaced by a type of tissue similar to that found in the intestine. This process is called intestinal metaplasia. While Barrett's esophagus may cause no symptoms itself, a small number of people with this condition develop a relatively rare but often deadly type of cancer of the esophagus. It is called esophageal adenocarcinoma. Barrett's esophagus is associated with the common condition called GERD (*gastroesophageal reflux disease*).



HOW THE ESOPHAGUS WORKS

The esophagus carries food, liquids, and saliva from the mouth to the stomach. The stomach acts as a container to start digestion and pump food and liquids into the intestines in a controlled process. Food can then be properly digested over time. Nutrients can be taken in (*absorbed*) by the intestines.

The esophagus moves food to the stomach by coordinated contractions of its muscular lining. This process is automatic. People are usually not aware of it. Many people have felt their esophagus when they:

- Swallow something too large.
- Try to eat too quickly.
- Drink very hot or cold liquids.

They then feel the movement of the food or drink down the esophagus into the stomach. This may be an uncomfortable feeling.

DIGESTIVE TRACT

The muscular layers of the esophagus are normally pinched together at both the upper and lower ends by muscles. These muscles are called sphincters. When a person swallows, the sphincters relax automatically. This allows food or drink to pass from the mouth, into the stomach. The muscles then close rapidly. This prevents the swallowed food or drink from leaking out of the stomach, back into the esophagus or into the mouth. These muscles make it possible to swallow while lying down or even upside-down. When people belch to release swallowed air or gas from carbonated beverages, the sphincters relax. Then small amounts of food or drink may come back up, briefly. This condition is called reflux. The esophagus quickly squeezes the material back into the stomach. This is considered normal.

These functions of the esophagus are an important part of everyday life. However, people who must have their esophagus removed, for example because of cancer, can live a relatively healthy life without it.

GERD (GASTROESOPHAGEAL REFLUX DISEASE)

Having some stomach contents (liquids or gas) sometimes *reflux* (come back up from the stomach into the esophagus) is considered normal. When it happens often, and causes other symptoms, it is considered a medical problem or disease. However, it is not necessarily a serious one or one that requires seeing a caregiver.

The stomach produces acid and enzymes to digest food. When this mixture refluxes into the esophagus more often than normal or for a longer period of time than normal, it may produce symptoms. These symptoms are often called acid reflux. They are often described by people as heartburn, indigestion, or “gas”. The symptoms often consist of a burning sensation below and behind the lower part of the breastbone or sternum.

Almost everyone has experienced these symptoms at least once. This is typically a result of overeating. Other things that provoke GERD symptoms include:

- Being overweight.
- Eating certain types of foods.
- Being pregnant.

In most people, GERD symptoms may last only a short time and require no treatment at all.

More continual symptoms are often quickly relieved by over-the-counter acid-reducing agents, such as antacids.

Other drugs used to relieve GERD symptoms are antisecretory drugs, such as histamine2 (H2) blockers or proton pump inhibitors.

People who have symptoms often should talk with their caregiver. Other diseases can have similar symptoms. Prescription medicines, together with other actions, might be needed to reduce reflux. GERD that is untreated over a long period can lead to problems. An example is an ulcer in the esophagus, that could cause bleeding. Another common problem is scar tissue that blocks the movement of swallowed food and drink through the esophagus. This condition is called stricture.

Esophageal reflux may also cause certain less common symptoms. These include hoarseness or chronic cough. It sometimes provokes conditions such as asthma. While most patients find that lifestyle changes and acid-blocking drugs relieve their symptoms, caregivers sometimes advise surgery. Overall, GERD is one of the most common medical conditions. About 20 percent of the population can be affected over a lifetime.

GERD AND BARRETT'S ESOPHAGUS

The exact causes of Barrett's esophagus are not known. It is thought to be caused in part by the same factors that cause GERD. People who do not have heartburn can have Barrett's esophagus. However, it is found about 3 to 5 times more often in people with this condition.

Barrett's esophagus is uncommon in children. The average age at diagnosis is 60. But it is usually difficult to know when the problem started. It is about twice as common in men as in women. It is much more common in white men than in men of other races.

BARRETT'S ESOPHAGUS AND CANCER OF THE ESOPHAGUS

Barrett's esophagus does not cause symptoms itself. However, it seems to precede the development of a particular kind of cancer. This cancer is esophageal adenocarcinoma. The risk of developing this cancer is 30 to 125 times higher in people who have Barrett's esophagus than in people who do not. This type of cancer is increasing quickly in white men. The increase is possibly related to the rise in obesity and GERD.

For people who have Barrett's esophagus, the risk of getting cancer of the esophagus is small. It is less than 1 percent (0.4 percent to 0.5 percent) per year. Esophageal adenocarcinoma is often not curable. This is partly because the disease is often discovered at a late stage and treatments are not effective.

DIAGNOSIS (HOW TO TELL WHAT IS WRONG) AND SCREENING

Diagnosing Barrett's esophagus is not easy. At the present time it cannot be diagnosed based on symptoms, physical exam, or blood tests. The only useful test is upper gastrointestinal endoscopy and biopsy. In this procedure, a flexible tube called an *endoscope* is used. This tool is like a pencil sized flexible telescope. It has a light and tiny camera. It is passed into the esophagus. If the tissue appears suspicious to your caregiver, biopsies must be done. A *biopsy* is the removal of a small piece of tissue. This is done using a pincher-like device passed through the endoscope. A pathologist is a specialist who examines body tissue samples. He or she examines the tissue under a microscope to confirm the diagnosis.

Looking for a medical problem in people who do not know whether they have one is called screening. Currently, there are no commonly accepted guidelines on who should have endoscopy, to check for Barrett's esophagus. There are many reasons for the lack of firm recommendations about screening. Among them are the

great cost and occasional risk of side effects of the test. Also, the rate of finding Barrett's esophagus is low. Finding the problem early has not been proven to prevent deaths from cancer. Many caregivers advise that adult patients who are over the age of 40 and have had GERD symptoms for a number of years have endoscopy, to see whether they have Barrett's esophagus. Screening for this condition in people who have no symptoms is not advised.

TREATMENT

Barrett's esophagus has no cure, other than surgical removal of the esophagus. This is a serious operation. Surgery is advised only for people who have a high risk of developing cancer or who already have it. Most caregivers recommend treating GERD with acid-blocking drugs. This is sometimes linked to improvement in the extent of the Barrett's tissue. But this approach has not been proven to reduce the risk of cancer. Treating reflux with surgery for GERD also does not seem to cure Barrett's esophagus.
Several experimental approaches are under study. One attempts to see whether destroying the Barrett's tissue by heat or other means, through an endoscope, can get rid of the condition. But this approach has potential risks and unknown effectiveness.

LOOKING FOR DYSPLASIA AND CANCER

Occasional endoscopic examinations to look for early warning signs of cancer are generally advised for people who have Barrett's esophagus. This approach is called surveillance. When people who have Barrett's esophagus develop cancer, the process seems to go through an intermediate stage. In this stage cancer cells appear in the Barrett's tissue. This condition is called dysplasia. It can be seen only in biopsies with a microscope. The process is patchy and cannot be seen directly through the endoscope. So, multiple biopsies must be taken. Even then, it can be missed.

The process of change from Barrett's to cancer seems to happen only in a few patients. It is less than 1 percent per year. And it happens over a relatively long period of time. Most caregivers advise that patients with Barrett's esophagus undergo occasional endoscopy to have biopsies. The recommended time between endoscopies varies depending on circumstances. The best time interval has not been decided.

TREATMENT FOR DYSPLASIA OR ESOPHAGEAL ADENOCARCINOMA

If a person with Barrett's esophagus is found to have dysplasia or cancer, the caregiver will usually recommend surgery. This is if the person is strong enough and has a good chance of being cured. The type of surgery may vary. But it usually involves removing most of the esophagus and pulling the stomach up into the chest to attach it to what remains of the esophagus. Many patients with Barrett's esophagus are elderly. They may have many other medical problems that make surgery unwise. In these patients, other methods to treat dysplasia are being studied.

HOPE THROUGH RESEARCH

Many important questions about Barrett's esophagus need further research to:

- Find better ways to identify people who have the problem.
- Find out what causes it.
- Test treatments that may prevent or get rid of it.
- Find better treatments for people who have Barrett's esophagus with cancer.

The National Institute of Diabetes and Digestive and Kidney Diseases, and the National Cancer Institute, sponsor research programs to study Barrett's esophagus.

IMPORTANT POINTS TO REMEMBER

- In Barrett's esophagus, the cells lining the esophagus change. They become similar to the cells lining the intestine.
- Barrett's esophagus is connected with gastroesophageal reflux disease or GERD.
- A small number of people with Barrett's esophagus may develop esophageal cancer.
- Barrett's esophagus is diagnosed by upper gastrointestinal endoscopy and biopsy.

- People who have Barrett's esophagus should have periodic esophageal exams.
- Taking acid-blocking drugs for GERD may help improve Barrett's esophagus.
- Removal of the esophagus is recommended only for people who have a high risk of developing cancer or who already have it.

ADDITIONAL RESOURCES

For more information about GERD or Barrett's esophagus, contact:
International Foundation for Functional Gastrointestinal Disorders (IFFGD), Inc.
P.O. Box 170864
Milwaukee, WI 53217
Phone: 1-888-964-2001 or (414) 964-1799
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Email: iffgd@iffgd.org
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National Digestive Diseases Information Clearinghouse
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