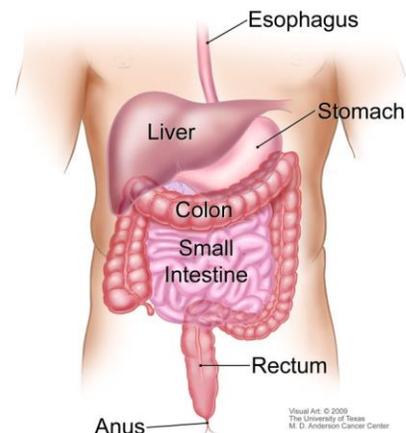


Esophageal Cancer

What is the Esophagus?

The esophagus or “food pipe” is a hollow, muscular tube that carries food and liquids from the mouth to the stomach (see image). It is located behind the windpipe (trachea). When a person swallows, the wall of the esophagus contracts to push food down into the stomach. The lower part of the esophagus that connects to the stomach is called the gastroesophageal junction or GE junction. In adults, the esophagus is usually between 10 and 13 inches long and is about three quarters of an inch across at its smallest point.



The esophagus and nearby organs.

What is Esophageal Cancer?

Cancer develops when cells grow and divide out of control to form a tumor or mass. These cancer cells can invade and destroy the tissue around them. The cancer cells also can spread to other parts of the body. This process of the cancer spreading from the original site of the tumor (esophagus) to other parts of the body is called metastasis. The lymph nodes, liver, lung and bone are the most common areas esophageal cancer may metastasize.

Esophageal cancer occurs when cancer cells form in the tissue of the esophagus. The exact cause is unknown, but an increased risk of developing esophageal cancer is associated with:

- Older age.
- Gender (more common in men than women).
- Tobacco use.
- Alcohol use.
- Reflux disease or GERD (gastroesophageal reflux disease).
- Barrett’s esophagus – a condition where long-term reflux of stomach acid causes injury to the esophagus, thereby replacing the normal cells in the esophagus with glandular cells.

What are the Key Statistics of Esophageal Cancer?

According to the American Cancer Society, it is estimated in 2015 the United States will have about 16,980 esophageal cancer cases diagnosed (13,570 in men and 3,410 in women) and approximately 15,590 deaths from the disease (12,600 in men and 2,990 in women).

This disease is three to four times more common among men than women. The lifetime risk of esophageal cancer in the United States is about one in 125 in men and about one in 435 in women.

Overall, the rates of esophageal cancer in the United States have been fairly stable for many years. It was once much more common in African Americans than in Caucasians. Now, however, its occurrence is about equal with squamous cell carcinoma being more common among African Americans and adenocarcinoma more common in Caucasians.

Esophageal cancer makes up about one percent of all cancers diagnosed in the United States, but it is much more common in other parts of the world, such as Iran, northern China, India and southern Africa. The main type of esophageal cancer in these areas is squamous cell carcinoma.

Two Main Types of Esophageal Cancer

Squamous cell carcinoma arises in the squamous cells that line the esophagus. It most commonly occurs in the upper and middle part of the esophagus. The major risk factors associated with this type include a history of smoking and/or alcohol use.

Adenocarcinomas are cancers that usually form in the glandular tissue of the esophagus. These are most commonly found in the lower part of the esophagus, near the stomach. The major risk factors include GERD and Barrett's esophagus.

What are the Symptoms of Esophageal Cancer?

Common symptoms include difficult or painful swallowing, weight loss, mild chest pain, cough and hoarseness. Symptoms do not usually appear until the cancer is in advanced stages.

What is Staging?

Staging is done to determine the size and location of the tumor and whether it has metastasized to other places in the body. Staging is necessary in order to plan the appropriate treatment. Your doctor may order a series of tests to help determine the stage of your cancer. All of these tests will be discussed in detail with you.

There are four stages of esophageal cancer with Stage IV being the most advanced because it has spread to other parts of the body.

How is Esophageal Cancer Treated?

Treatment for esophageal cancer depends upon the size, location and extent of the tumor, as well as the patient's general health and nutritional condition. Many different treatments may be used alone or simultaneously to control the cancer and/or improve a patient's quality of life by reducing symptoms. The main types of treatment are explained next.

Surgery

Surgery is the most common treatment for early stage esophageal cancer that has not spread to the lymph nodes or other parts of the body. There are four common surgical procedures. In all four, the surgeon will make two or more incisions and remove all or part of the esophagus, a portion of the stomach and nearby lymph nodes. The remaining stomach is pulled up into the chest or neck and connected to the remaining esophagus. The four surgical procedures have similar cure and complication rates. In general, the type of surgery performed depends on the location and extent of the cancer. Your health care team will discuss in detail with you the type of surgery your doctor recommends.

To treat more advanced stages of cancer, surgery may be combined with radiation treatment and/or chemotherapy.

Radiation Treatment

Radiation treatment or therapy uses X-rays or other high-energy rays to kill cancer cells and shrink tumors. The radiation only affects cancer cells in the treated area. External beam radiation therapy is radiation delivered from a machine outside the body.

Radiation is usually combined with chemotherapy in the treatment of esophageal cancer to prevent tumor growth and to reduce symptoms resulting from the tumor, such as difficulty swallowing or bleeding.

Side effects from radiation to the esophagus may include the following:

- Skin changes including redness, irritation, scales, ulceration, thickening, hair loss and change in color.
- Inflammation of the esophagus causing pain/difficulty with swallowing, heartburn or a sticking sensation when swallowing food.
- Loss of appetite, nausea, vomiting, weight loss and weakness.
- Inflammation of the lung causing pain, fever, cough and difficulty in breathing.
- Inflammation of the heart sac with chest pain and palpitations.
- Bleeding, perforation or creation of a fistula (tract).
- Lowering of blood counts leading to increased risk of infection and/or bleeding.
- Intermittent electric shock-like feelings in the lower spine or legs when bending the neck.

Chemotherapy

Chemotherapy uses drugs to kill cancer cells. These drugs enter the bloodstream to reach all areas of the body, making this treatment useful for cancer that has spread beyond the esophagus. Your doctor may use one or a combination of drugs. Chemotherapy can be given several ways, such as intravenously (through a vein) or by mouth. Patients usually receive chemotherapy on an outpatient basis, which does not require hospitalization.

Since chemotherapy medicines may affect some healthy cells as well as cancer cells, side effects can occur. Your doctor can prescribe medicines to help relieve the side effects. You will receive detailed information about the chemotherapy medicines your doctor has prescribed. Common side effects of chemotherapy include:

- Nausea.
- Diarrhea.
- Fatigue.
- Hair Loss.
- Low blood counts (may increase the risk for infections and bleeding).

Chemotherapy by itself does not typically cure cancer of the esophagus. Chemotherapy may be combined with radiation therapy as a primary treatment (instead of surgery) or may be given before surgery to shrink the tumor.

Clinical Trials

Clinical trials are in progress to find the best ways to treat esophageal cancer. New chemotherapy drugs and combinations are being studied as treatments for cancer that has spread and as a way to try to relieve symptoms. Your doctor will tell you if you are eligible to participate in a clinical trial.

Other Therapies

Other treatments that may be used to treat esophageal cancer are listed next. Your doctor will determine whether these treatments apply to your case.

Endoscopic Mucosal Resection (EMR) is a highly effective treatment for small surface esophageal lesions. During the treatment, saline is injected in the esophageal wall to form a bubble under the lesion. The lesion is suctioned into a small cap and removed. This allows the doctor to perform a

resection without damaging the rest of the esophagus. More than one EMR may be needed to completely remove the lesion.

Laser therapy uses high-intensity light to destroy cancer cells through an endoscope. This may be used to relieve a blockage in the esophagus caused by the tumor. Relieving the blockage can help reduce symptoms such as difficulty swallowing.

Esophageal stents are small expandable metal or plastic tubes that are placed over the tumor in the esophagus with the aid of an endoscope. Once placed, the stent can expand to open up the blocked part of the esophagus, allowing food and liquids to pass through easier.

How Important is Nutrition?

It is important to take in enough calories to prevent weight loss and maintain energy and strength. Individuals with esophageal cancer often have a hard time eating because of pain or difficulty swallowing. In these cases, soft foods or liquid supplements may be easier to eat. If you are not able to take in enough calories by mouth, a feeding tube may be placed to keep you healthy. Ask to speak with a dietitian for more information.

What Type of Follow-Up Care is Needed?

Follow-up visits during and after treatment are necessary to ensure that any change in the status of your cancer is found quickly. If the cancer returns, spreads to new areas or progresses, it should be treated as soon as possible. Routine follow-up visits may include physical exams, X-rays, CT scans and/or laboratory tests.

Resources

If you have questions or concerns after reading this information, ask your health care team.

The American Cancer Society (ACS) is a voluntary national health organization with local offices around the country. The ACS supports research, provides information about cancer and offers many programs and services to patients and their families. For more information, call 800.227.2345 or visit www.cancer.org.

The National Cancer Institute has valuable cancer-related health information for over 200 cancer types, clinical trials, cancer statistics, prevention, screening, treatment and news. For more information, visit www.cancer.gov.