Esophageal Cancer

What is the esophagus?

The esophagus (food pipe) is a tube that connects your throat to your stomach. It is about 10 inches long and runs behind your trachea (windpipe) and sits in front of your spine. When you swallow, the muscular walls of the esophagus squeeze together to push food and liquids down into your stomach.

What is esophageal cancer?

A growth in the esophagus may be called a lesion, mass, or tumor. Growths can be malignant (cancer) or benign (not cancer). There are many different layers of tissue that line the inside of the esophagus. A growth can start in any of the layers of the esophagus. The layers of the esophagus include:

- **Mucosa** - the inside layer of the esophagus
- **Submucosa** - the layer right below the mucosa. This is where the blood vessels, glands and nerves are located.
- **Muscularis propria** - this is a thick layer of muscle that sits under the submucosa. This layer helps to push food down the esophagus.
- **Adventitia** - the outer layer of the esophagus
- **Lumen** - the inner open space of the esophagus

Cancer of the esophagus usually starts in the cells that line the inside of the esophagus. Cancer cells grow fast, become out of control and form a tumor. The cells can grow so big that they destroy other tissues around the tumor. The cancer cells can then spread to other parts of the body. When cancer spreads, it is called metastasis.
There are some risk factors that may increase the risk of getting esophageal cancer. These include:

- Older age
- Men are more likely than women to get esophageal cancer
- Heavy alcohol use
- Tobacco use
- Having a history of GERD (gastroesophageal reflux disease)
- Being overweight

**What are the symptoms of esophageal cancer?**

Common symptoms may include:

- Problems swallowing
- Pain with swallowing
- Weight loss
- Hoarseness and cough
- Heartburn and indigestion
How is esophageal cancer diagnosed?

There are different tests that can be done to diagnose esophageal cancer. These may include the following:

- **CT scan**: A CT scan is used to check the lungs, liver, adrenal glands, brain, and other organs. A contrast liquid will be given by mouth or by an injection into your arm or hand. The contrast liquid helps the body tissues show up more clearly.

- **MRI**: The MRI uses a powerful magnet linked to a computer. It shows detailed pictures of your brain, bones and other tissues on a computer screen.

- **PET scan**: A PET scan may be used to check for cancer and see if the cancer has spread. You will be given an injection of a small amount of radioactive sugar. The machine takes computerized pictures of the sugar being used by the cells in your body. Cancer cells use sugar faster than normal cells and areas with cancer look brighter on the scan.

- **Esophagogastroduodenoscopy (EGD)**: An EGD is also called an upper endoscopy. This test checks your esophagus, stomach and part of the small intestine called the duodenum. A narrow, flexible tube that has a camera and a light is passed down your throat into your stomach and duodenum. A sample of tissue may be removed, this is called a biopsy. The tissue sample will be viewed under a microscope by a pathologist to check for cancer.

- **Endoscopic Ultrasound (EUS)**: This test is done to check your esophagus, stomach and the duodenum. Other organs in the area may also be viewed. A narrow, flexible tube that has a sound transmitter is used to take ultrasound pictures. The tube is passed down your throat and into the stomach and duodenum. Your doctor is able to see if a tumor has grown into the wall of the esophagus, and if so, how deep the tumor has grown. This test can also check if a tumor has spread to nearby lymph nodes. A biopsy to remove a sample of tissue and lymph nodes may be done. This tissue sample will be viewed under a microscope by a pathologist to check for cancer.
What are the different types of esophageal cancer?

There are two major types of esophageal cancer:

- **Squamous cell carcinoma** – this type of cancer usually starts in the upper or middle part of the esophagus.

- **Adenocarcinoma** – this type of cancer usually starts in the lower part of the esophagus.

What are the stages of esophageal cancer?

After a cancer has been found, your doctor will develop a plan to treat the cancer. To develop this plan, your doctor needs to know the type of cancer and the amount (stage) of the disease. Staging is done to find out if the cancer has spread, and if so, to what parts of the body. The common areas in the body where esophageal cancer may spread includes the lungs, liver, bones or lymph nodes. The following staging is used for the two major types of esophageal cancer.

**Stages of Esophageal Cancer**

**Stage 0**  
In this stage, abnormal cells called “high grade dysplasia” are found in the inner layer of the esophagus. There is a risk that these abnormal cells could change into cancer cells.

**Stage I**  
The tumor has spread to the inside layers of the esophagus but has not spread outside the esophagus or to the lymph nodes.

**Stage II**  
The tumor has spread to the outer layers (muscle layer) of the esophagus. The cancer cells have spread to 1 to 2 lymph nodes near the tumor.

**Stage III**  
The tumor has spread past the wall of the esophagus to the outer layer. The cancer cells have spread to more lymph nodes, organs and tissues near the esophagus.

**Stage IV**  
The cancer has spread to other parts of the body.
How is esophageal cancer treated?

There are different types of treatment for esophageal cancer. This may include surgery, radiation, chemotherapy or other types of treatment. Some of these may be used together to help treat or control the cancer. Cancer treatment will depend on the size, location and stage of the cancer. Your doctor will also check your overall health to decide the best treatment for you. Here is more information about the different types of treatment that may be used to treat the cancer.

- **Surgery**
  Surgery is the most common type of treatment used for an early stage esophageal cancer that has not spread outside the esophagus. Surgery may include removing part or all of the esophagus. If the cancer has spread, surgery may be combined with other treatments to help control the cancer.

- **Radiation**
  Radiation Therapy (also called radiotherapy) is a type of cancer treatment that uses high doses of radiation to kill cancer cells and stop them from spreading. The type of radiation therapy most often used to treat esophageal cancer is called **external beam radiation therapy**. A machine outside your body will aim a beam of radiation to the area where your cancer is located. The radiation treatments you will get are spread out over several weeks.

- **Chemotherapy**
  Chemotherapy is a type of cancer treatment that uses drugs to stop fast growing cells, such as cancer cells, from dividing and making new cells. Chemotherapy drugs can also stop fast growing healthy cells from dividing, which may cause side effects such as hair loss, nausea or fatigue. Chemotherapy can be given through an intravenous catheter (IV) in a vein or by mouth as a pill, tablet or capsule.
Other Therapies

Other treatments may be used to treat the cancer. This may include the following:

- If the esophageal cancer has not spread past the esophagus or to the lymph nodes, a combination of chemotherapy and radiation may be used first before surgery. This is called “induction therapy”.

- For esophageal cancer that has spread to other parts of the body, chemotherapy and radiation may be an option. Surgery is only used when you have problems with swallowing (dysphagia).

The cancer treatment team may include other health care professionals, such as nurses, pharmacists, dietitians, social workers or speech language pathologists. This team will work together to help care for you.