

OESOPHAGEAL CANCER

OVERVIEW

Esophageal cancer is cancer that occurs in the esophagus — a long, hollow tube that runs from your throat to your stomach.

Esophagus carries food you swallow to your stomach to be digested.

Esophageal cancer usually begins in the cells that line the inside of the esophagus. Esophageal cancer can occur anywhere along the esophagus, but in people in the United States, it occurs most often in the lower portion of the esophagus.

More men than women get esophageal cancer.

Esophageal cancer isn't common in the United States. In Asia and parts of Africa, esophageal cancer is much more common.

TYPES OF OESOPHAGEAL CANCER

Esophageal cancer is classified according to the type of cells that are involved. The type of esophageal cancer you have helps determine your treatment options. Types of esophageal cancer include:

- **Adenocarcinoma.** Adenocarcinoma begins in the cells of mucus-secreting glands in the esophagus. Adenocarcinoma occurs most often in the lower portion of the esophagus. Adenocarcinoma is the most common form of esophageal cancer in the United States, and it affects primarily white men.
- **Squamous cell carcinoma.** The squamous cells are flat, thin cells that line the surface of the esophagus. Squamous cell carcinoma occurs most often in the middle of the esophagus. Squamous cell carcinoma is the most prevalent esophageal cancer worldwide.
- **Other rare types.** Rare forms of esophageal cancer include choriocarcinoma, lymphoma, melanoma, sarcoma and small cell cancer.

SYMPTOMS

Symptoms of esophageal cancer usually do not show up until the disease has reached an advanced stage.

- The most common symptom is difficulty swallowing (dysphagia).
 - Initially, swallowing solids is difficult.

- Over time, even swallowing liquids becomes difficult.
- The following symptoms may accompany cancer of the esophagus. Any of these symptoms are indications of advanced disease.
 - Weight loss
 - Central chest pain
 - Pain upon swallowing
 - Vomiting
 - Chronic cough
- Symptoms of gastrointestinal bleeding
 - Black stools
 - Vomiting blood or material that looks like coffee grounds

RISK FACTORS

It's thought that chronic irritation of your esophagus may contribute to the DNA changes that cause esophageal cancer. Factors that cause irritation in the cells of your esophagus and increase your risk of esophageal cancer include:

- Drinking alcohol
- Having bile reflux
- Having difficulty swallowing because of an esophageal sphincter that won't relax (achalasia)
- Drinking very hot liquids
- Eating few fruits and vegetables
- Having gastroesophageal reflux disease (GERD)
- Being obese
- Having precancerous changes in the cells of the esophagus (Barrett's esophagus)
- Undergoing radiation treatment to the chest or upper abdomen
- Smoking

DIAGNOSIS

- **Using a scope to examine your esophagus (endoscopy).** During endoscopy, a hollow tube equipped with a lens (endoscope) is passed down throat and into esophagus. Using the endoscope, esophagus, is examined for cancer or areas of irritation.
- **Collecting a sample of tissue for testing (biopsy).** A special scope is passed down throat into esophagus (endoscope) to collect a sample

of suspicious tissue (biopsy). The tissue sample is sent to a laboratory to look for cancer cells.

- **Endoscopic ultrasound (EUS)** may be done if high-grade dysplasia is found with endoscopy and biopsy

Once the presence of cancer has been confirmed, the doctor tries to determine the spread of the malignancy beyond the oesophagus. Doctors may use the following imaging tests:

- CT scan of the chest and abdomen
- Chest x-ray film
- Nuclear bone scans
- PET SCAN

STAGING

- **Stage I.** This cancer occurs in the superficial layers of cells lining your esophagus.
- **Stage II.** The cancer has invaded deeper layers of your esophagus lining and may have spread to nearby lymph nodes.
- **Stage III.** The cancer has spread to the deepest layers of the wall of your esophagus and to nearby tissues or lymph nodes.
- **Stage IV.** The cancer has spread to other parts of your body.

PROGNOSIS

- When the oesophageal cancer has spread to organs beyond the oesophagus, long-term survival is uncommon.
- The chance of recovery improves when doctors detect the cancer at an early stage. But in most cases, long-term survival remains below 30%.
- Once cancer invades the muscle layer of the oesophagus, most people already have developed widespread cancer.
- For these people, cancers invariably come back following surgical removal. Few people survive long-term.
- Following completion of therapy, whether with surgery, radiotherapy, chemotherapy, or a combination of these, the patient needs regular follow-up endoscopic examinations as well as repeat CT scans of the chest and abdomen.
- Often, people who undergo surgery of their oesophagus develop significant narrowing at the site of the surgery. They require frequent oesophageal dilatations or insertion of stents.

TREATMENT

Treatments for esophageal cancer are based on the type of cells involved in cancer, cancer's stage, overall health and preferences for treatment.

Surgery

Surgery to remove the cancer can be used alone or in combination with other treatments. Operations used to treat esophageal cancer include:

- **Surgery to remove very small tumors.** If cancer is very small, confined to the superficial layers of esophagus and hasn't spread, it is recommended removing the cancer and margin of healthy tissue that surrounds it. Surgery for very early-stage cancers can be done using an endoscope passed down your throat and into your esophagus.
- **Surgery to remove a portion of the esophagus (esophagectomy).** During esophagectomy, the portion of your esophagus that contains the tumor and nearby lymph nodes is removed. The remaining esophagus is reconnected to stomach.
- **Surgery to remove part of your esophagus and the upper portion of your stomach (esophagogastrectomy).** During esophagogastrectomy, part of your esophagus, nearby lymph nodes and the upper part of your stomach is removed. The remainder of stomach is then pulled up and reattached to esophagus. If necessary, part of your colon is used to help join the two.

Esophageal cancer surgery carries a risk of serious complications, such as infection, bleeding and leakage from the area where the remaining esophagus is reattached.

Surgery to remove your esophagus can be performed as an open procedure using large incisions or with special surgical tools inserted through several small incisions in your skin (laparoscopically). How your surgery is performed depends on your situation and your surgeon's experience and preferences.

Treatments for complications

Treatments for esophageal obstruction and difficulty eating can include:

- **Relieving esophageal obstruction.** If esophageal cancer has narrowed esophagus, a surgeon may use an endoscope and special tools to place a metal tube (stent) to hold the esophagus open. Other options include surgery, radiation therapy, chemotherapy, laser therapy and photodynamic therapy.
- **Providing nutrition.** A feeding tube is recommended if there is trouble swallowing or if you're having esophagus surgery. A feeding tube allows nutrition to be delivered directly to stomach or small intestine, giving esophagus time to heal after cancer treatment.

Chemotherapy

Chemotherapy is drug treatment that uses chemicals to kill cancer cells. Chemotherapy drugs are typically used before (neoadjuvant) or after (adjuvant) surgery in people with esophageal cancer. Chemotherapy can also be combined with radiation therapy. In people with advanced cancer that has spread beyond the esophagus, chemotherapy may be used alone to help relieve signs and symptoms caused by the cancer.

Radiation therapy

Radiation therapy uses high-powered energy beams to kill cancer cells. Radiation can come from a machine outside your body that aims the beams at your cancer (external beam radiation). Or radiation can be placed inside your body near the cancer (brachytherapy).

Radiation therapy is most often combined with chemotherapy in people with esophageal cancer. It can be used before or after surgery. Radiation therapy is also used to relieve complications of advanced esophageal cancer, such as when a tumor grows large enough to stop food from passing to your stomach.

Types of Radiation Therapy

Omega Hospital team uses state-of-the-art technologies for radiation therapy, including intensity-modulated radiation therapy (IMRT), VMAT and image-guided radiation therapy (IGRT).

- **Intensity-Modulated Radiation Therapy**

IMRT targets tumors more accurately than conventional radiation therapy. Using computers and 3-D images from CT scans, our doctors focus small

radiation beams on and around the tumor. It's a highly targeted treatment, so surrounding organs aren't affected.

- **Image-Guided Radiation Therapy**

IGRT molds radiation beams to the contours of your tumor. Our doctors use CT, ultrasound, or other guidance systems during each treatment to deliver more-precise doses. It helps make sure that the natural movement of the esophagus doesn't affect treatment.

- **Brachytherapy**

Instead of using machines to deliver radiation from outside your body into the esophagus, brachytherapy delivers radiation from the inside of your esophagus. After you're put under anesthesia, the doctor puts a radioactive source, sometimes called radioactive "seeds," into the esophagus. This is usually recommended for patients who have had external radiation therapy and can't have surgery.

- **Radiation Therapy for Pain**

We may use radiation to shrink a tumor if it is blocking the esophagus. Radiation therapy is also used sometimes after a patient gets a stent (a device that is implanted to keep the esophagus open).

Side effects of radiation to the esophagus include sunburn-like skin reactions, painful or difficult swallowing, and are temporary.

Combined chemotherapy and radiation

Combining chemotherapy and radiation therapy may enhance the effectiveness of each treatment. Combined chemotherapy and radiation may be the only treatment you receive, or combined therapy can be used before surgery. But combining chemotherapy and radiation treatments increases the likelihood and severity of side effects.

Palliation

Many patients will present late in the disease process with unresectable disease. For this group of patients, the emphasis will be on palliation and symptom relief.

- Radiotherapy, brachytherapy, chemotherapy, electrocautery or plasma/laser ablation may be of use (primarily in reducing tumour bulk and bleeding). Photodynamic therapy may also be used for palliation in advanced disease.^[18]
- Trastuzumab in combination with cisplatin/fluoropyrimidine should be considered for patients with HER2-positive oesophago-gastric junctional AC.^[22]
- Stenting is a first-line option to assist swallowing.
- Nutritional status may be maintained by the use of liquid feeds, enteral nutrition or percutaneous endoscopic gastrostomy (PEG) tubes.
- Pain relief should be maintained at a level at which the patient experiences little, or no pain.

SCREENING

None of the organizations recommend endoscopic screening of the general population with GERD. There is general agreement among the guidelines that patients with chronic GERD and multiple other risk factors associated with esophageal adenocarcinoma should undergo upper gastrointestinal endoscopy to screen for Barrett esophagus or esophageal adenocarcinoma. Those additional risk factors include the following:

- Male sex
- Age 50 years or older
- White race
- Hiatal hernia
- Obesity

AFTER TREATMENT CARE

Rehabilitation

Following treatment for esophageal cancer, you may notice changes in your range of motion, strength, flexibility, and endurance. Rehabilitation therapy can help improve your quality of life. Exercise programs just for you that can help you increase your strength, endurance, and balance after treatment. We also address breathing problems that can happen after esophageal surgery, educating patients about the most effective way to cough and keep the airways clear

COUNSELLING

Individual and group counseling sessions to help you and your family cope with your disease. These sessions can be a healthy, productive way to work through the stress and anxiety can be part of treatment and recovery.

NUTRITION

After treatment for esophageal cancer, we may recommend that you adjust your diet to manage side effects and to ensure that you're getting enough nutrients.

If you are having trouble eating after surgery, your doctors may ask you to follow a liquid or soft diet, or you may be given a feeding tube to bring food directly to your stomach. This is usually temporary — often just while you're recovering from surgery.

. If you undergo esophageal surgery, you may need to:

- eat several small meals each day instead of fewer large meals
- avoid certain foods, such as milk, chocolate, sweets, and spiced and fried foods
- change your sleeping position so that your head is slightly elevated, to prevent food and stomach acids from traveling back up through the esophagus
- stop drinking or smoking to reduce the chance that a new cancer will develop
- improve your appetite and nutrition