



What
You
Need
To
Know
About™

Cancer of the Esophagus

This booklet is about cancer of the esophagus. If you have questions, call the Cancer Information Service to learn more about this disease. The staff can talk with you in English or Spanish.

The phone number is
1-800-4-CANCER (1-800-422-6237).
The number for deaf and hard of hearing
callers with TTY equipment is
1-800-332-8615. The call is free.

Este folleto es acerca del cáncer en el esófago. Si tiene preguntas, llame al Servicio de Información sobre el Cáncer para conocer más acerca de esta enfermedad. Este servicio tiene personal que habla español.

El número a llamar es el
1-800-4-CANCER (1-800-422-6237).
Personas con dificultades de audición
con equipo TTY pueden llamar al
1-800-332-8615. La llamada es gratis.

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What You Need To Know About™ Cancer of the Esophagus

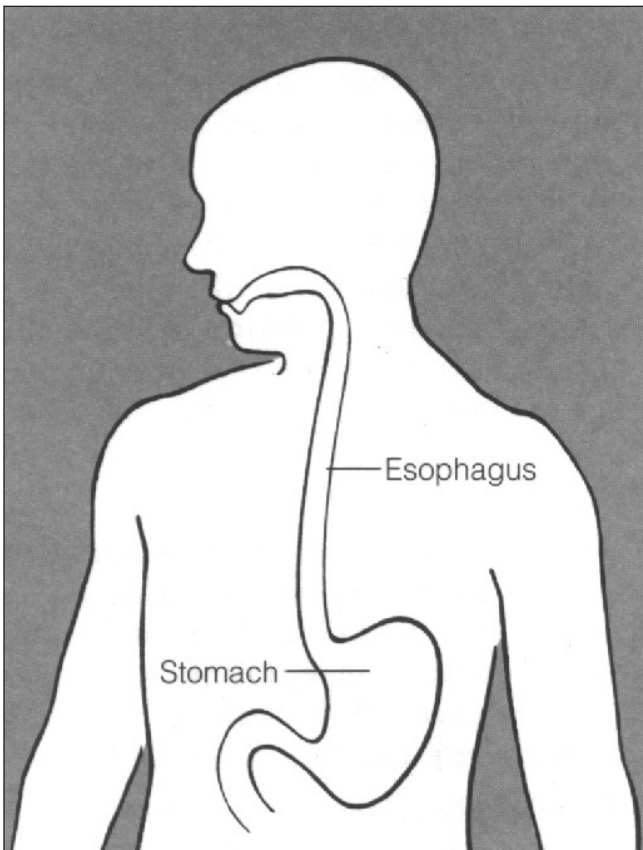
The diagnosis of cancer of the esophagus brings with it many questions and a need for clear, understandable answers. We hope this National Cancer Institute (NCI) booklet will help. It provides information about the symptoms, diagnosis, and treatment of cancer of the esophagus, and it describes some of the possible causes (risk factors) of this disease. Having this important information may make it easier for patients and their families to handle the challenges they face.

Cancer researchers continue to study and learn more about cancer of the esophagus. The Cancer Information Service (CIS), a free public service of the NCI, can provide the latest, most accurate information on cancer of the esophagus. The CIS meets the information needs of patients, the public, and health professionals. Specially trained staff provide the latest scientific information about cancer in understandable language. They can also provide information about locating community cancer programs and services. CIS staff answer questions in English and Spanish and distribute NCI materials, such as the publications mentioned in this booklet. The toll-free phone number is 1-800-4-CANCER (1-800-422-6237). For deaf and hard of hearing callers with TTY equipment, the number is 1-800-332-8615.

Many NCI publications are also available on the Internet at the Web sites listed in the “National Cancer Institute Information Resources” section at the end of this booklet.

The Esophagus

The esophagus is a hollow tube that carries food and liquids from the throat to the stomach. When a person swallows, the muscular walls of the esophagus contract to push food down into the stomach. Glands in the lining of the esophagus produce mucus, which keeps the passageway moist and makes swallowing easier. The esophagus is located just behind the trachea (windpipe). In an adult, the esophagus is about 10 inches long.



Understanding the Cancer Process

Cancer is a disease that affects cells, the body's basic unit of life. To understand any type of cancer, it is helpful to know about normal cells and what happens when they become cancerous.

The body is made up of many types of cells. Normally, cells grow, divide, and produce more cells when they are needed. This process keeps the body healthy and functioning properly. Sometimes, however, cells keep dividing when new cells are not needed. The mass of extra cells forms a growth or tumor. Tumors can be benign or malignant.

- **Benign tumors** are not cancer. They usually can be removed and, in most cases, they do not come back. Cells in benign tumors do not spread to other parts of the body. Most important, benign tumors are rarely a threat to life.
- **Malignant tumors** are cancer. Cells in malignant tumors are abnormal and divide without control or order. These cancer cells can invade and destroy the tissue around them. Cancer cells can also break away from a malignant tumor and enter the bloodstream or lymphatic system (the tissues and organs that produce, store, and carry white blood cells that fight infection and other diseases). This process, called metastasis, is how cancer spreads from the original (primary) tumor to form new (secondary) tumors in other parts of the body.

Cancer that begins in the esophagus (also called esophageal cancer) is divided into two major types, squamous cell carcinoma and adenocarcinoma, depending on the type of cells that are malignant.

Squamous cell carcinomas arise in squamous cells that line the esophagus. These cancers usually occur in the upper and middle part of the esophagus.

Adenocarcinomas usually develop in the glandular tissue in the lower part of the esophagus. The treatment is similar for both types of esophageal cancer.

If the cancer spreads outside the esophagus, it often goes to the lymph nodes first. (Lymph nodes are small, bean-shaped structures that are part of the body's immune system.) Esophageal cancer can also spread to almost any other part of the body, including the liver, lungs, brain, and bones.

Risk Factors

The exact causes of cancer of the esophagus are not known. However, studies show that any of the following factors can increase the risk of developing esophageal cancer:

- **Age.** Esophageal cancer is more likely to occur as people get older; most people who develop esophageal cancer are over age 60.
- **Sex.** Cancer of the esophagus is more common in men than in women.
- **Tobacco use.** Smoking cigarettes or using smokeless tobacco is one of the major risk factors for esophageal cancer.
- **Alcohol use.** Chronic and/or heavy use of alcohol is another major risk factor for esophageal cancer. People who use both alcohol and tobacco have an especially high risk of esophageal cancer. Scientists believe that these substances increase each other's harmful effects.
- **Barrett's esophagus.** Long-term irritation can increase the risk of esophageal cancer. Tissues at the bottom of the esophagus can become irritated if stomach acid frequently "backs up" into the

esophagus—a problem called gastric reflux. Over time, cells in the irritated part of the esophagus may change and begin to resemble the cells that line the stomach. This condition, known as Barrett’s esophagus, is a premalignant condition that may develop into adenocarcinoma of the esophagus.

- **Other types of irritation.** Other causes of significant irritation or damage to the lining of the esophagus, such as swallowing lye or other caustic substances, can increase the risk of developing esophageal cancer.
- **Medical history.** Patients who have had other head and neck cancers have an increased chance of developing a second cancer in the head and neck area, including esophageal cancer.

Having any of these risk factors increases the likelihood that a person will develop cancer. Still, most people with one or even several of these factors do not get the disease. And most people who do get esophageal cancer have none of the known risk factors.

Identifying factors that increase a person’s chances of developing esophageal cancer is the first step toward preventing the disease. We already know that the best ways to prevent this type of cancer are to quit (or never start) smoking cigarettes or using smokeless tobacco and to drink alcohol only in moderation. Researchers continue to study the causes of esophageal cancer and to search for other ways to prevent it. For example, they are exploring the possibility that increasing one’s intake of fruits and vegetables, especially raw ones, may reduce the risk of this disease.

Researchers are also studying ways to reduce the risk of esophageal cancer for people with Barrett’s esophagus.

The best ways to prevent cancer of the esophagus are to quit (or never start) using tobacco and to limit the use of alcohol.

Recognizing Symptoms

Early esophageal cancer usually does not cause symptoms. However, as the cancer grows, symptoms may include:

- Difficult or painful swallowing
- Severe weight loss
- Pain in the throat or back, behind the breastbone or between the shoulder blades
- Hoarseness or chronic cough
- Vomiting
- Coughing up blood

These symptoms may be caused by esophageal cancer or by other conditions. It is important to check with a doctor.

Diagnosing Esophageal Cancer

To help find the cause of symptoms, the doctor evaluates a person's medical history and performs a physical exam. The doctor usually orders a chest x-ray and other diagnostic tests. These tests may include the following:

- A **barium swallow** (also called an esophagram) is a series of x-rays of the esophagus. The patient drinks a liquid containing barium, which coats the inside of

the esophagus. The barium makes any changes in the shape of the esophagus show up on the x-rays.

- **Esophagoscopy** (also called endoscopy) is an examination of the inside of the esophagus using a thin lighted tube called an endoscope. An anesthetic (substance that causes loss of feeling or awareness) is usually used during this procedure. If an abnormal area is found, the doctor can collect cells and tissue through the endoscope for examination under a microscope. This is called a **biopsy**. A biopsy can show cancer, tissue changes that may lead to cancer, or other conditions.

Staging the Disease

If the diagnosis is esophageal cancer, the doctor needs to learn the stage (or extent) of disease. Staging is a careful attempt to find out whether the cancer has spread and, if so, to what parts of the body. Knowing the stage of the disease helps the doctor plan treatment. Listed below are descriptions of the four stages of esophageal cancer.

- **Stage I.** The cancer is found only in the top layers of cells lining the esophagus.
- **Stage II.** The cancer involves deeper layers of the lining of the esophagus, or it has spread to nearby lymph nodes. The cancer has not spread to other parts of the body.
- **Stage III.** The cancer has invaded more deeply into the wall of the esophagus or has spread to tissues or lymph nodes near the esophagus. It has not spread to other parts of the body.
- **Stage IV.** The cancer has spread to other parts of the body. Esophageal cancer can spread almost anywhere in the body, including the liver, lungs, brain, and bones.

Some tests used to determine whether the cancer has spread include:

- **CAT (or CT) scan** (computed tomography). A computer linked to an x-ray machine creates a series of detailed pictures of areas inside the body.
- **Bone scan.** This technique, which creates images of bones on a computer screen or on film, can show whether cancer has spread to the bones. A small amount of radioactive substance is injected into a vein; it travels through the bloodstream and collects in the bones, especially in areas of abnormal bone growth. An instrument called a scanner measures the radioactivity levels in these areas.
- **Bronchoscopy.** The doctor puts a bronchoscope (a thin, lighted tube) into the mouth or nose and down through the windpipe to look into the breathing passages.

Treatment

Treatment for esophageal cancer depends on a number of factors, including the size, location, and extent of the tumor, and the general health of the patient. Patients are often treated by a team of specialists, which may include a gastroenterologist (a doctor who specializes in diagnosing and treating disorders of the digestive system), surgeon (a doctor who specializes in removing or repairing parts of the body), medical oncologist (a doctor who specializes in treating cancer), and radiation oncologist (a doctor who specializes in using radiation to treat cancer). Because cancer treatment may make the mouth sensitive and at risk for infection, doctors often advise patients with esophageal cancer to see a dentist for a dental exam and treatment before cancer treatment begins.

Many different treatments and combinations of treatments may be used to control the cancer and/or to improve the patient's quality of life by reducing symptoms.

- **Surgery** is the most common treatment for esophageal cancer. Usually, the surgeon removes the tumor along with all or a portion of the esophagus, nearby lymph nodes, and other tissue in the area. (An operation to remove the esophagus is called an esophagectomy.) The surgeon connects the remaining healthy part of the esophagus to the stomach so the patient is still able to swallow. Sometimes, a plastic tube or part of the intestine is used to make the connection. The surgeon may also widen the opening between the stomach and the small intestine to allow stomach contents to pass more easily into the small intestine. Sometimes surgery is done after other treatment is finished.
- **Radiation therapy**, also called radiotherapy, involves the use of high-energy rays to kill cancer cells. Radiation therapy affects cells in the treated area only. The radiation may come from a machine outside the body (external radiation) or from radioactive materials placed in or near the tumor (internal radiation). A plastic tube may be inserted into the esophagus to keep it open during radiation therapy. This procedure is called intraluminal intubation and dilation. Radiation therapy may be used alone or combined with chemotherapy as primary treatment instead of surgery, especially if the size or location of the tumor would make an operation difficult. Doctors may also combine radiation therapy with chemotherapy to shrink the tumor before surgery. Even if the tumor cannot be removed by surgery or destroyed entirely by radiation therapy, radiation therapy can often help relieve pain and make swallowing easier.

- **Chemotherapy** is the use of anticancer drugs to kill cancer cells. The anticancer drugs used to treat esophageal cancer travel throughout the body. Anticancer drugs used to treat esophageal cancer are usually given by injection into a vein (IV). Chemotherapy may be combined with radiation therapy as primary treatment (instead of surgery) or to shrink the tumor before surgery.
- **Laser therapy** is the use of high-intensity light to destroy tumor cells. Laser therapy affects the cells only in the treated area. The doctor may use laser therapy to destroy cancerous tissue and relieve a blockage in the esophagus when the cancer cannot be removed by surgery. The relief of a blockage can help to reduce symptoms, especially swallowing problems.
- **Photodynamic therapy (PDT)**, a type of laser therapy, involves the use of drugs that are absorbed by cancer cells; when exposed to a special light, the drugs become active and destroy the cancer cells. The doctor may use PDT to relieve symptoms of esophageal cancer such as difficulty swallowing.

Clinical trials (research studies) to evaluate new ways to treat cancer are an important option for many patients with esophageal cancer. In some studies, all patients receive the new treatment. In others, doctors compare different therapies by giving the new treatment to one group of patients and the usual (standard) therapy to another group. Through research, doctors learn new, more effective ways to treat cancer. More information about research studies can be found in the NCI publication *Taking Part in Clinical Trials: What Cancer Patients Need To Know*. NCI also has a Web site at <http://cancertrials.nci.nih.gov> that provides general information about clinical trials and detailed information about specific ongoing studies. This information is also available from the Cancer

Information Service at 1-800-4-CANCER (1-800-422-6237). For deaf and hard of hearing callers with TTY equipment, the number is 1-800-332-8615.

The NCI's CancerNet™ Web site provides information from numerous NCI sources, including PDQ®, NCI's cancer information database. PDQ contains current information on cancer prevention, screening, treatment, supportive care, and ongoing clinical trials. CancerNet also contains CANCERLIT®, a database of citations and abstracts on cancer topics from scientific literature. CancerNet can be accessed at <http://cancernet.nci.nih.gov> on the Internet.

Side Effects of Treatment

The side effects of cancer treatment depend on the type of treatment and may be different for each person. Doctors and nurses can explain the possible side effects of treatment, and they can suggest ways to help relieve symptoms that may occur during and after treatment.

- **Surgery** for esophageal cancer may cause short-term pain and tenderness in the area of the operation, but this discomfort or pain can be controlled with medicine. Patients are taught special breathing and coughing exercises to keep their lungs clear.
- **Radiation therapy** affects normal as well as cancerous cells. Side effects of radiation therapy depend mainly on the dose and the part of the body that is treated. Common side effects of radiation therapy to the esophagus are a dry, sore mouth and throat; difficulty swallowing; swelling of the mouth

and gums; dental cavities; fatigue; skin changes at the site of treatment; and loss of appetite.

- **Chemotherapy**, like radiation therapy, affects normal as well as cancerous cells. Side effects depend largely on the specific drugs and the dose (amount of drug administered). Common side effects of chemotherapy include nausea and vomiting, poor appetite, hair loss, skin rash and itching, mouth and lip sores, diarrhea, and fatigue. These side effects generally go away gradually during the recovery periods between treatments or after treatment is over.
- **Laser therapy** can cause short-term pain where the treatment was given, but this discomfort can be controlled with medicine.
- **Photodynamic therapy** makes the skin and eyes highly sensitive to light for 6 weeks or more after treatment. Other temporary side effects of PDT may include coughing, trouble swallowing, abdominal pain, and painful breathing or shortness of breath.

Radiation Therapy and You, *Chemotherapy and You*, and *Questions and Answers About Pain Control* are useful NCI booklets that suggest ways for patients to cope with the side effects they experience during and after cancer treatment.

Doctors and nurses can explain the possible side effects of treatment, and they can suggest ways to help relieve symptoms that may occur during and after treatment.

Nutrition for Cancer Patients

Eating well during cancer treatment means getting enough calories and protein to control weight loss and maintain strength. Eating well often helps people with cancer feel better and have more energy.

However, many people with esophageal cancer find it hard to eat well because they have difficulty swallowing. Patients may not feel like eating if they are uncomfortable or tired. Also, the common side effects of treatment, such as poor appetite, nausea, vomiting, dry mouth, or mouth sores, can make eating difficult. Foods may taste different.

After surgery, patients may receive nutrients directly into a vein. (This way of getting nourishment into the body is called an IV.) Some may need a feeding tube (a flexible plastic tube that is passed through the nose to the stomach or through the mouth to the stomach) until they are able to eat on their own.

Patients with esophageal cancer are usually encouraged to have several small meals and snacks throughout the day, rather than three large meals. When swallowing is difficult, many patients can still manage soft, bland foods moistened with sauces or gravies. Puddings, ice cream, and soups are nourishing and are usually easy to swallow. It may be helpful to use a blender to process solid foods. The doctor, dietitian, nutritionist, or other health care provider can advise patients about these and other ways to maintain a healthy diet.

Patients and their families may want to read the National Cancer Institute booklet *Eating Hints for Cancer Patients*, which contains many useful suggestions and recipes.

The Importance of Followup Care

Followup care after treatment for esophageal cancer is important to ensure that any changes in health are found. If the cancer returns or progresses or if a new cancer develops, it can be treated as soon as possible. Checkups may include physical exams, x-rays, or lab tests. Between scheduled appointments, patients should report any health problems to their doctor as soon as they appear.

Providing Emotional Support

Living with a serious disease is challenging. Apart from having to cope with the physical and medical challenges, people with cancer face many worries, feelings, and concerns that can make life difficult. They may find they need help coping with the emotional as well as the practical aspects of their disease. In fact, attention to the emotional burden of having cancer is often a part of a patient's treatment plan. The support of the health care team (doctors, nurses, social workers), support groups, and patient-to-patient networks can help people feel less isolated and distressed, and improve the quality of their lives. Cancer support groups provide a setting in which cancer patients can talk about living with cancer with others who may be having similar experiences. Patients may want to speak to a member of their health care team about finding a support group. Many also find useful information in NCI fact sheets and booklets, including *Taking Time* and *Facing Forward*.

National Cancer Institute Information Resources

You may want more information for yourself, your family, and your doctor. The following National Cancer Institute (NCI) services are available to help you.

Telephone

Cancer Information Service (CIS)

Provides accurate, up-to-date information on cancer to patients and their families, health professionals, and the general public. Information specialists translate the latest scientific information into understandable language and respond in English, Spanish, or on TTY equipment.

Toll-free: 1-800-4-CANCER (1-800-422-6237)

TTY (for deaf and hard of hearing callers):
1-800-332-8615

Internet

These Web sites may be useful:

<http://www.nci.nih.gov>

NCI's primary Web site; contains information about the Institute and its programs.

<http://cancertrials.nci.nih.gov>

cancerTrials™; NCI's comprehensive clinical trials information center for patients, health professionals, and the public. Includes information on understanding trials, deciding whether to participate in trials, finding specific trials, plus research news and other resources.

<http://cancernet.nci.nih.gov>

CancerNet™; contains material for health professionals, patients, and the public, including information from PDQ® about cancer treatment, screening, prevention, supportive care, and clinical trials; and CANCERLIT®, a bibliographic database, and a glossary of medical terms related to cancer and its treatment.

E-mail

CancerMail

Includes NCI information about cancer treatment, screening, prevention, and supportive care. To obtain a contents list, send e-mail to cancermail@icicc.nci.nih.gov with the word “help” in the body of the message.

Fax

CancerFax®

Includes NCI information about cancer treatment, screening, prevention, and supportive care. To obtain a contents list, dial 301–402–5874 from a fax machine hand set and follow the recorded instructions.

Questions for Your Doctor

This booklet is designed to help you get information you need from your doctor so that you can make informed decisions about your health care. In addition, asking your doctor the following questions will help you further understand your condition. To help you remember what the doctor says, you may take notes or ask whether you may use a tape recorder. Some people also want to have a family member or friend with them when they talk to the doctor—to take part in the discussion, to take notes, or just to listen.

Diagnosis

- What tests can diagnose esophageal cancer? Are they painful?
- How soon after the tests will I learn the results?

Treatment

- What treatments are recommended for me?
- What clinical trials are appropriate for my type of cancer?
- Will I need to be in the hospital to receive my treatment? For how long?
- How might my normal activities change during my treatment?

Side Effects

- What side effects should I expect? How long will they last?
- Whom should I call if I am concerned about a side effect?
- What will be done if I have pain?

Followup

- After treatment, how often do I need to be checked?
- What type of followup care should I have?
- What type of nutritional support will I need? Where can I get it?
- Will I eventually be able to resume my normal activities?

The Health Care Team

- Who will be involved with my treatment and rehabilitation? What is the role of each member of the health care team in my care?
- What has been your experience in caring for patients with esophageal cancer?

Resources

- Are there support groups in the area with people I can talk to?
- Are there organizations where I can get more information about cancer, specifically esophageal cancer?
- Are there Web sites I can visit that have accurate information about cancer, especially esophageal cancer?

The National Cancer Act, passed by Congress in 1971, made research a national priority. Since that time, the National Cancer Institute (NCI), the lead Federal agency for cancer research, has collaborated with top researchers and facilities across the country to conduct innovative research leading to progress in cancer prevention, detection, diagnosis, and treatment. These efforts have resulted in a decrease in the overall cancer death rate, and have helped improve and extend the lives of millions of Americans.

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