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Treating Esophagus Cancer

Local treatments

Local treatments treat the tumor in a specific location, without affecting the rest of the body. These treatments are more likely to be useful for earlier stage (less advanced) cancers, although they might also be used in some other situations.

- [Surgery for Esophageal Cancer](#)
- [Radiation Therapy for Esophageal Cancer](#)
- [Endoscopic Treatments for Esophageal Cancer](#)

Systemic treatments

Systemic treatments are drugs, which can be given by mouth or directly into the bloodstream. These are called *systemic therapies* because they travel through your whole system, allowing them to reach cancer cells almost anywhere in the body. Depending on the type of esophageal cancer, several different types of drugs might be used.

- [Chemotherapy for Esophageal Cancer](#)
- [Targeted Therapy for Esophageal Cancer](#)
- [Immunotherapy for Esophageal Cancer](#)

Common treatment approaches

Depending on the [stage of the cancer](#)¹ and other factors, different types of treatment may be combined at the same time or used after one another.

Some of these treatments can also be used as palliative treatment when all the cancer

cannot be removed. Palliative treatment is meant to relieve symptoms, such as pain and trouble swallowing, but it is not expected to cure the cancer.

- [Treating Esophageal Cancer by Stage](#)
- [Treating Recurrent Esophageal Cancer](#)
- [Palliative Therapy for Esophageal Cancer](#)

Who treats esophageal cancer?

Doctors on your cancer treatment team might include:

- A **thoracic surgeon**: a doctor who treats diseases of the chest with surgery
- A **surgical oncologist**: a doctor who uses surgery to treat cancer
- A **radiation oncologist**: a doctor who treats cancer with radiation therapy
- A **medical oncologist**: a doctor who treats cancer with medicines such as chemotherapy or targeted therapy
- A **gastroenterologist**: a doctor who specializes in treatment of diseases of the gastrointestinal (digestive) system

You might have many other specialists on your treatment team as well, including physician assistants (PAs), nurse practitioners (NPs), nurses, psychologists, nutritionists, social workers, and other health professionals.

- [Health Professionals Associated With Cancer Care²](#)

Making treatment decisions

It's important to discuss all treatment options, including their goals and possible side effects, with your doctors to help make the decision that best fits your needs. You may feel that you need to make a decision quickly, but it's important to give yourself time to absorb the information you have learned. Ask your cancer care team questions.

If time permits, it is often a good idea to seek a second opinion. A second opinion can give you more information and help you feel more confident about the treatment plan you choose.

- [What Should You Ask Your Doctor About Esophageal Cancer?³](#)
- [Seeking a Second Opinion⁴](#)

Thinking about taking part in a clinical trial

Clinical trials are carefully controlled research studies that are done to get a closer look at promising new treatments or procedures. Clinical trials are one way to get state-of-the-art cancer treatment. In some cases they may be the only way to get access to newer treatments. They are also the best way for doctors to learn better methods to treat cancer. Still, they're not right for everyone.

If you would like to learn more about clinical trials that might be right for you, start by asking your doctor if your clinic or hospital conducts clinical trials.

- [Clinical Trials⁵](#)

Considering complementary and alternative methods

You may hear about alternative or complementary methods that your doctor hasn't mentioned to treat your cancer or relieve symptoms. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

Complementary methods refer to treatments that are used along with your regular medical care. Alternative treatments are used instead of a doctor's medical treatment. Although some of these methods might be helpful in relieving symptoms or helping you feel better, many have not been proven to work. Some might even be harmful.

Be sure to talk to your cancer care team about any method you are thinking about using. They can help you learn what is known (or not known) about the method, which can help you make an informed decision.

- [Complementary and Alternative Medicine⁶](#)

Help getting through cancer treatment

People with cancer need support and information, no matter what stage of illness they may be in. Knowing all of your options and finding the resources you need will help you make informed decisions about your care.

Whether you are thinking about treatment, getting treatment, or not being treated at all, you can still get supportive care to help with pain or other symptoms. Communicating with your cancer care team is important so you understand your diagnosis, what treatment is recommended, and ways to maintain or improve your quality of life.

Different types of programs and support services may be helpful, and can be an important part of your care. These might include nursing or social work services, financial aid, nutritional advice, rehab, or spiritual help.

The American Cancer Society also has programs and services – including rides to treatment, lodging, and more – to help you get through treatment. Call our National Cancer Information Center at 1-800-227-2345 and speak with one of our trained specialists.

- [Palliative Care](#)⁷
- [Find Support Programs and Services in Your Area](#)⁸

Choosing to stop treatment or choosing no treatment at all

For some people, when treatments have been tried and are no longer controlling the cancer, it could be time to weigh the benefits and risks of continuing to try new treatments. Whether or not you continue treatment, there are still things you can do to help maintain or improve your quality of life.

Some people, especially if the cancer is advanced, might not want to be treated at all. There are many reasons you might decide not to get cancer treatment, but it's important to talk to your doctors and you make that decision. Remember that even if you choose not to treat the cancer, you can still get supportive care to help with pain or other symptoms.

- [If Cancer Treatments Stop Working](#)⁹

The treatment information given here is not official policy of the American Cancer Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor. Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don't hesitate to ask him or her questions about your treatment options.

Surgery for Esophageal Cancer

For some earlier stage cancers, surgery can be used to try to remove the cancer and some of the normal surrounding tissue. In some cases, it might be combined with other treatments, such as [chemotherapy](#) and/or [radiation therapy](#).

Esophagectomy

Surgery to remove some or most of the esophagus is called an *esophagectomy*. Often a small part of the stomach is removed as well. The upper part of the esophagus is then connected to the remaining part of the stomach. Part of the stomach is pulled up into the chest or neck to become the new esophagus. How much of the esophagus is removed depends upon the stage of the tumor and where it's located:

- If the cancer is in the lower part of the esophagus (near the stomach) or at the place where the esophagus and stomach meet (the gastroesophageal or GE junction), the surgeon will remove part of the stomach, the part of the esophagus containing the cancer, and about 3 to 4 inches (about 7.6 to 10 cm) of normal esophagus above this. Then the stomach is connected to what is left of the esophagus either high in the chest or in the neck.
- If the tumor is in the upper or middle part of the esophagus, most of the esophagus will need to be removed to be sure to get enough tissue above the cancer. The stomach will then be brought up and connected to the esophagus in the neck. If for some reason the stomach can't be pulled up to attach it to the remaining part of the esophagus, the surgeon may use a piece of the intestine to bridge the gap between the two. When a piece of intestine is used, it must be moved without damaging its blood vessels. If the vessels are damaged, not enough blood will get to that piece of intestine, and the tissue will die.

Esophagectomy techniques

Open esophagectomy: In the standard, open technique, the surgeon operates through one or more large incisions (cuts) in the neck, chest, or abdomen (belly). Many different approaches can be used to remove part of the esophagus.

- For a *transthoracic esophagectomy*, the esophagus is removed with the main incisions in the abdomen and the chest.
- If the main incisions are in the abdomen and neck, it is called a *transhiatal esophagectomy*.
- Some procedures are done through incisions in the neck, chest, and abdomen.

You and your surgeon should discuss in detail the operation planned for you and what you can expect.

Minimally invasive esophagectomy: For some early (small) cancers, the esophagus can be removed through several small incisions instead of large incisions. The surgeon puts a scope (like a tiny telescope) through one of the incisions to see everything during the operation. Then the surgical instruments go in through other small incisions. To do this type of procedure well, the surgeon needs to be highly skilled and have a great deal of experience removing the esophagus this way. Because it uses smaller incisions, minimally invasive esophagectomy may allow the patient to leave the hospital sooner and recover faster.

No matter which approach is used, esophagectomy is not a simple operation, and it may require a long hospital stay. It is very important to have it done at a center that has a lot of experience treating these cancers and performing these procedures.

If the cancer has not yet spread far beyond the esophagus, removing the esophagus (and nearby lymph nodes) may cure the cancer. Unfortunately, most esophageal cancers are not found early enough for doctors to cure them with surgery.

Lymph node removal

For either type of esophagectomy, nearby lymph nodes are also removed during the operation as well. These are then checked in the lab to see if they contain cancer cells. If the cancer has spread to lymph nodes, the outlook is not as good, and the doctor may recommend other treatments (like [chemotherapy](#) and/or [radiation](#)) after surgery.

Possible risks of esophagectomy

Like most serious operations, surgery of the esophagus has some risks.

- Short-term risks include reactions to anesthesia, excess bleeding, blood clots in the lungs or elsewhere, and infections. Most people will have at least some pain after the operation, which can usually be helped with pain medicines.
- Lung complications are common. Pneumonia may develop, leading to a longer hospital stay, and sometimes even death.
- Some people might have voice changes after the surgery.
- There may be a leak at the place where the stomach (or intestine) is connected to the esophagus, which might require another operation to fix. This is not as common

as it used to be because of improvements in surgical techniques.

- Strictures (narrowing) can form where the esophagus is surgically connected to the stomach, which can cause problems swallowing for some patients. To relieve this symptom, these strictures can be expanded during an upper endoscopy procedure.
- After surgery, the stomach may empty too slowly because the nerves that control its contractions can be affected by surgery. This can sometimes lead to frequent nausea and vomiting.
- After surgery, bile and stomach contents can back up into the esophagus because the ring-shaped muscle that normally controls this (the lower esophageal sphincter) is often removed or changed by the surgery. This can cause symptoms such as heartburn. Sometimes antacids or motility drugs can help relieve these symptoms.

Some complications from this surgery can be life threatening. The risk of dying from this operation is related to the doctor's experience with these procedures. In general, the best outcomes are achieved with surgeons and hospitals that have the most experience. This is why patients should ask the surgeon about his or her experience: how often they operate on the esophagus, how many times they have done this procedure, and what percentage of their patients have died after this surgery. The hospital where the surgery is done is also important, and any hospital that you consider should be willing to show you their survival statistics.

For more general information about surgery as a treatment for cancer, see [A Guide to Cancer Surgery](#)¹.

Surgery for palliative care

Sometimes minor types of surgery are used to help prevent or relieve problems caused by the cancer, instead of trying to cure it. For example, minor surgery can be used to place a feeding tube directly into the stomach or small intestine in people who need help getting enough nutrition. This is discussed in [Palliative Therapy for Esophageal Cancer](#).

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/surgery.html

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Radiation Therapy for Esophageal Cancer

Radiation therapy uses high-energy rays (such as x-rays) or particles to destroy cancer cells. It is often combined with other types of treatment, such as [chemotherapy](#) (chemo) and/or [surgery](#), to treat esophageal cancer. Chemotherapy can make radiation therapy more effective against some esophagus cancers. Using these 2 treatments together is called **chemoradiation** or **chemoradiotherapy**.

When is radiation therapy used for esophagus cancer?

Radiation therapy may be used:

- As part of the main treatment of esophageal cancer in some patients, typically along with chemo (known as *chemoradiation*). This is often used for people who can't have surgery due to poor health or for people who don't want surgery.
- Before surgery (and along with chemo when possible), to try to shrink the cancer and make it easier to remove (called *neoadjuvant treatment*).
- After surgery (and along with chemo when possible), to try to kill any areas of cancer cells that may have been left behind but are too small to see. This is known as *adjuvant therapy*.
- To ease the symptoms of advanced esophageal cancer such as pain, bleeding, or trouble swallowing. This is called [palliative therapy](#).

Types of radiation therapy

There are 2 main types of radiation therapy used to treat esophageal cancer.

External-beam radiation therapy: This is the type of radiation therapy used most often for people with esophageal cancer. The radiation is focused on the cancer from a machine outside the body. It is much like getting an x-ray, but the radiation is more intense. How often and how long the radiation treatments are delivered depends on the reason the radiation is being given and other factors. It can last anywhere from a few days to weeks.

Internal radiation therapy (brachytherapy): For this type of treatment, the doctor

passes an endoscope (a long, flexible tube) down the throat to place radioactive material very close to the cancer. The radiation travels only a short distance, so it reaches the tumor but has little effect on nearby normal tissues. The radioactive source is then removed a short time later. Brachytherapy can be given 2 ways:

- For *high-dose rate (HDR) brachytherapy*, the doctor leaves the radioactive material near the tumor for a few minutes at a time, which may require several treatments.
- In *low-dose rate (LDR) brachytherapy*, a lower dose of radiation is put near the tumor for longer periods (1 or 2 days) at a time. The patient needs to stay in the hospital during this treatment, but it can usually be completed in only 1 or 2 sessions.

Brachytherapy is most often used with more advanced esophageal cancers to shrink tumors so a patient can swallow more easily. This technique cannot be used to treat a very large area, so it is better used as a way to relieve symptoms (and not to try to cure the cancer).

Side effects of radiation therapy

If you are going to get radiation therapy, it's important to ask your doctor beforehand about the possible side effects so you know what to expect. Possible [Side effects](#)¹ of external radiation therapy can include:

- Skin changes in areas getting radiation, ranging from redness to blistering and peeling
- Nausea and vomiting
- Diarrhea
- Fatigue
- Painful sores in the mouth and throat
- Dry mouth or thick saliva
- Pain with swallowing

These side effects are often worse if chemotherapy is given at the same time as radiation.

Most side effects of radiation are temporary, but some less common side effects can be permanent. For example, in some cases radiation can cause a stricture (narrowing) in the esophagus, which might require further treatment. Radiation to the chest can cause lung damage, which may lead to problems breathing and shortness of breath.

If you notice any side effects, talk to your doctor right away so steps can be taken to reduce or relieve them.

See [Radiation Therapy](#)² for more information about how radiation is used to treat cancer..

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
2. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation.html

References

Burmeister BH, Smithers BM, Gebiski V, et al. Surgery alone versus chemoradiotherapy followed by surgery for resectable cancer of the oesophagus: A randomised controlled phase III trial. *Lancet Oncol*. 2005;6:659–668.

Kleinberg L, Kelly R, Yang S, Wang JS, Forastiere AA. Chapter 74 – Cancer of the Esophagus. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, Pa. Elsevier: 2014.

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Chemotherapy for Esophageal Cancer

Chemotherapy (chemo) is treatment with anti-cancer drugs.

How is chemotherapy given?

The main way chemo is given for esophageal cancer is called **systemic chemotherapy**. The drugs are injected into your vein or you take them by mouth. These drugs enter your bloodstream and reach most areas of your body.

Doctors give chemo in cycles, with each period of treatment followed by a period of rest to give the body time to recover. Chemotherapy cycles generally last about 2 to 4 weeks, and people usually get at least several cycles of treatment.

When is chemotherapy used for esophageal cancer?

Chemo may be used at different times during treatment for esophageal cancer.

- **Adjuvant chemo:** Chemo can be given *after* [surgery](#). The goal is to kill any cancer cells that may have been left behind during surgery because they were too small to see, as well as cancer cells that might have escaped from the main tumor and settled in other parts of the body (but are too small to see on imaging tests).
- **Neoadjuvant chemo:** For some cancers, chemo is given (often with radiation) *before* surgery to try to shrink the cancer and make surgery easier.
- **Chemo for advanced cancers:** For cancers that have spread to other organs, such as the liver, chemo can also be used to help shrink tumors and relieve symptoms. Although it is not likely to cure the cancer, it often helps people live longer.

Chemo by itself rarely cures esophageal cancer. It is often given together with [radiation therapy](#) (called *chemoradiation* or *chemoradiotherapy*). Chemoradiation is often used before surgery. This can lower the chance of the cancer coming back and help people live longer than using surgery alone. Chemoradiation is also sometimes given after surgery, but it isn't clear that it is as helpful as giving it before surgery.

Drugs used to treat esophageal cancer

Some common drugs and drug combinations used to treat esophageal cancer include:

- Carboplatin and paclitaxel (Taxol) (which may be combined with radiation)
- Cisplatin and 5-fluorouracil (5-FU) (often combined with radiation)
- ECF: epirubicin (Ellence), cisplatin, and 5-FU (especially for gastroesophageal junction tumors)
- DCF: docetaxel (Taxotere), cisplatin, and 5-FU
- Cisplatin with capecitabine (Xeloda)
- Oxaliplatin and either 5-FU or capecitabine
- Irinotecan (Camptosar)
- Trifluridine and tipiracil (Lonsurf), a combination drug in pill form

For some esophagus cancers, chemo may be used along with the targeted drug trastuzumab (Herceptin) or ramucirumab (Cyramza). For more information on these drugs, see [Targeted Therapy for Esophageal Cancer](#).

Possible side effects of chemotherapy

Chemo drugs attack cells that are dividing quickly, which is why they work against cancer cells. But other cells, such as those in the bone marrow (where new blood cells are made), the lining of the mouth and intestines, and the hair follicles, also divide quickly. These cells are also likely to be affected by chemo, which can lead to side effects. [Side effects](#)¹ depend on the specific drugs used, their dose, and the length of treatment. Common side effects of chemo include:

- Nausea and vomiting
- Loss of appetite
- Hair loss
- Mouth sores
- Diarrhea or constipation
- Low blood counts
- Increased chance of infection (from having too few white blood cells)
- Easy bleeding or bruising (from having too few blood platelets)
- Fatigue (from having too few red blood cells)

Along with these, some side effects are specific to certain drugs. For example:

- **Hand-foot syndrome.** During treatment with capecitabine or 5-FU (when given as an infusion), this can start out as redness in the hands and feet, and then progress to pain and sensitivity in the palms and soles. If it worsens, blistering or skin peeling

can occur, sometimes leading to painful sores. It's important to tell your doctor right away about any early symptoms, such as redness or sensitivity, so that steps can be taken to keep things from getting worse.

- **Neuropathy (nerve damage).** This is a common side effect of oxaliplatin, cisplatin, docetaxel, and paclitaxel. Symptoms include numbness, tingling, and even pain in the hands and feet. Oxaliplatin can also cause intense sensitivity to cold in the throat and esophagus (the tube connecting the throat to the stomach) and the palms of the hands. This can cause problems swallowing liquids or holding a cold glass. If you will be getting oxaliplatin, talk with your doctor about side effects beforehand, and let him or her know right away if you develop numbness and tingling or other side effects.
- **Allergic or sensitivity reactions.** Some people can have reactions while getting the drug oxaliplatin. Symptoms can include skin rash, chest tightness and trouble breathing, back pain, or feeling dizzy, lightheaded, or weak. Be sure to tell your nurse right away if you notice any of these symptoms while you are getting chemo.
- **Diarrhea.** This is a common side effect with many of these drugs, but can be particularly bad with irinotecan. It needs to be treated right away — at the first loose stool — to prevent severe dehydration. This often means taking drugs like loperamide (Imodium). If you are on a chemo drug that is likely to cause diarrhea, your doctor will give you instructions on what drugs to take and how often to take them to control this symptom.

Most of these side effects tend to go away after treatment is finished. Some, such as hand and foot numbness, may last for a long time. There are often ways to lessen these side effects. For example, you can be given drugs to help prevent or reduce nausea and vomiting.

Be sure to discuss any questions about side effects with your cancer care team, and report any side effects or changes you notice while getting chemo so that they can be treated promptly. In some cases, the doses of the chemo drugs may need to be reduced or treatment may need to be delayed or stopped to prevent the effects from getting worse.

People with esophageal cancer have often already lost weight before the cancer was found. Treatments such as chemo, radiation, and chemoradiation can cause painful sores in the mouth and throat. These can make it hard to eat well enough to get good nutrition, making weight loss worse. Some people with esophageal cancer may need to have a feeding tube, usually called a *jejunostomy tube* (or J-tube), put in place before treatment. This is done through a small hole in the skin over the abdomen during a

minor operation. A J-tube lets liquid nutrition be put directly into the small intestine to prevent further weight loss and improve nutrition. This can make treatment easier to tolerate. Feeding tubes can easily be removed when they are no longer needed. Less often, the tube is placed into the stomach instead. This is known as a *gastrostomy tube* or G-tube.

For more information about chemo, see [Chemotherapy](#)².

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
2. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy.html

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Burmeister BH, Smithers BM, Gebski V, et al. Surgery alone versus chemoradiotherapy followed by surgery for resectable cancer of the oesophagus: A randomised controlled phase III trial. *Lancet Oncol*. 2005;6:659–668.

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Targeted Therapy for Esophageal Cancer

As researchers have learned more about the changes in cells that cause cancer, they have developed newer drugs that specifically target these changes. Targeted drugs work differently from standard [chemotherapy](#) drugs. They sometimes work when standard chemo drugs don't, and they often have different side effects. They can be used either along with chemo or by themselves if chemo is no longer working.

Trastuzumab

A small number of esophagus cancers have too much of the HER2 protein on the surface of their cells, which can help cancer cells to grow. Having too much of this protein is caused by having too many copies of the *HER2* gene.

A drug that targets the HER2 protein, known as trastuzumab (Herceptin), may help treat these cancers when used along with chemotherapy. If you have esophageal cancer and can't have surgery, your doctor may have your tumor biopsy samples tested for the HER2 protein or gene. People whose cancers have normal amounts of the HER2 protein or gene are very unlikely to be helped by this drug.

Trastuzumab is injected into a vein (IV) once every 3 weeks along with chemo. The optimal length of time to give it is not yet known.

Most of the [side effects](#)¹ of trastuzumab are relatively mild and can include fever and chills, weakness, nausea, vomiting, cough, diarrhea, and headache. These occur less often after the first dose. This drug can also sometimes cause heart damage, leading to the heart muscle becoming weak. This drug is not given with certain chemo drugs called *anthracyclines*, such as epirubicin (Ellence) or doxorubicin (Adriamycin), because it can further increase the risk of heart damage if they are given together. Before starting treatment with this drug, your doctor may test your heart function with an echocardiogram or a MUGA scan.

Ramucirumab

For cancers to grow and spread, they need to create new blood vessels so that the tumors get blood and nutrients. One of the proteins that tells the body to make new blood vessels is called VEGF. VEGF binds to cell surface proteins called receptors to act. Ramucirumab (Cyramza™) is a monoclonal antibody that binds to a receptor for VEGF. This keeps VEGF from binding to the receptor and signaling the body to make more blood vessels. This can help slow or stop the growth and spread of cancer.

Ramucirumab is used to treat cancers that start at the gastroesophageal (GE) junction when they are advanced (the GE junction is the place where the stomach and esophagus meet). It is most often used after another drug stops working.

This drug is given as infusion into a vein (IV) every 2 weeks.

The most common side effects of this drug are high blood pressure, headache, and diarrhea. Rare but possibly serious side effects include blood clots, severe bleeding, holes forming in the stomach or intestines (called perforations), and problems with wound healing. If a hole forms in the stomach or intestine it can lead to severe infection and may require surgery to correct.

For more information about what to expect when taking these drugs, see [Targeted Cancer Therapy²](#).

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
2. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/targeted-therapy.html

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Immunotherapy for Esophageal Cancer

Immunotherapy is the use of medicines that help a person's own immune system find and destroy cancer cells. It can be used to treat some people with esophagus cancer.

Immune checkpoint inhibitors

An important part of the immune system is its ability to keep itself from attacking normal cells in the body. To do this, it uses “checkpoints” – molecules on immune cells that need to be turned on (or off) to start an immune response. Cancer cells sometimes use these checkpoints to avoid being attacked by the immune system. But newer drugs that target these checkpoints hold a lot of promise as cancer treatments.

Pembrolizumab (Keytruda) targets PD-1, a protein on immune system cells called T cells that normally helps keep these cells from attacking other cells in the body. By blocking PD-1, this drug boosts the immune response against cancer cells. This can shrink some tumors or slow their growth.

This drug can be used in some people with advanced cancer of the esophagus, typically after another treatment has been tried. It can also be used to treat some advanced cancers of the of the gastroesophageal junction (GEJ), typically after at least 2 prior treatments (including [chemotherapy](#)).

Pembrolizumab is given as an intravenous (IV) infusion, typically every 3 weeks.

Possible side effects

Side effects of this drug can include:

- Feeling tired or weak
- Fever
- Cough
- Nausea
- Itching
- Skin rash
- Loss of appetite
- Muscle or joint pain
- Shortness of breath
- Constipation or diarrhea

Other, more serious side effects occur less often:

Infusion reactions: Some people might have an infusion reaction while getting this drug. This is like an allergic reaction, and can include fever, chills, flushing of the face, rash, itchy skin, feeling dizzy, wheezing, and trouble breathing. It's important to tell your doctor or nurse right away if you have any of these symptoms while getting this drug.

Autoimmune reactions: This drug works by basically removing the brakes on the body's immune system. Sometimes the immune system starts attacking other parts of the body, which can cause serious or even life-threatening problems in the lungs, intestines, liver, hormone-making glands, kidneys, skin, or other organs.

It's very important to report any new side effects to your health care team promptly. If serious side effects do occur, treatment may need to be stopped and you may get high doses of corticosteroids to suppress your immune system.

To learn more about how immunotherapy drugs are used to treat cancer, see [Cancer Immunotherapy](#)¹.

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)².

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-

[types/immunotherapy.html](#)

2. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html

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Endoscopic Treatments for Esophageal Cancer

Several types of treatment for esophageal cancer can be done by passing an endoscope (a long, flexible tube) down the throat and into the esophagus. Some of these treatments may be used to try to cure very early stage cancers, or even to prevent them from developing by treating Barrett's esophagus or dysplasia. Other treatments are used mainly to help relieve symptoms from more advanced esophageal cancers that can't be removed.

Endoscopic mucosal resection

Endoscopic mucosal resection (EMR) can be used for dysplasia (pre-cancer) and some small, very early-stage cancers of the esophagus.

In this technique, a piece of the inner lining of the esophagus is removed with instruments passed down the endoscope. After the abnormal tissue is removed, patients take drugs called *proton pump inhibitors* to suppress acid production in the stomach. This can help keep the disease from returning.

The most common side effect of EMR is bleeding in the esophagus, which is usually not serious. Less common but more serious side effects can include esophageal strictures (areas of narrowing) that might need to be treated by with dilation, and puncture (perforation) of the wall of the esophagus.

Photodynamic therapy

Photodynamic therapy (PDT) can be used to treat Barrett's esophagus, esophageal pre-cancers (dysplasia), and some very early stage esophageal cancers. It is also often used to treat large cancers that are blocking the esophagus. In this situation, PDT is not meant to destroy all the cancer, but to kill enough of the cancer to improve a person's

ability to swallow.

For this technique, a light-activated drug called porfimer sodium (Photofrin[®]) is injected into a vein. Over the next couple of days, the drug is more likely to collect in cancer cells than in normal cells. A special type of laser light is then focused on the cancer through an endoscope. This light changes the drug into a new chemical that can kill the cancer cells. The dead cells may then be removed a few days later during an upper endoscopy. This process can be repeated if needed.

The advantage of PDT is that it can kill cancer cells with very little harm to normal cells. But because the chemical must be activated by light, it can only kill cancer cells near the inner surface of the esophagus – those that can be reached by the light. This light cannot reach cancers that have spread deeper into the esophagus or to other organs.

PDT can cause swelling in the esophagus for a few days, which may lead to some problems swallowing. Strictures (areas of extreme narrowing) can also happen. These often need to be treated by with dilation. Other possible side effects include bleeding or holes in the esophagus.

Some of this drug also collects in normal cells in the body, such as skin and eye cells. This can make you very sensitive to sunlight or strong indoor lights. Too much exposure can cause serious skin reactions, which is why doctors recommend staying out of any strong light for 4 to 6 weeks after the injection.

This treatment can cure some very early esophageal cancers that have not spread to deeper tissues. But this procedure destroys the tissue, so it can be hard to be certain that the cancer hasn't spread into deeper layers of the esophagus. Since the light used in PDT can only reach those cancer cells near the surface of the esophagus, cells of deeper cancers could be left behind, and grow into a new tumor. People getting this treatment need to have follow-up endoscopies to make sure the cancer hasn't grown back. They also need to stay on a drug called a proton pump inhibitor to stop stomach acid production.

For more information on this technique, see [Photodynamic Therapy](#)¹.

Radiofrequency ablation (RFA)

This procedure can be used to treat dysplasia in areas of Barrett's esophagus. It may lower the chance of cancer developing in that area.

A balloon containing many small electrodes is passed into an area of Barrett's

esophagus through an endoscope. The balloon is then inflated so that the electrodes are in contact with the inner lining of the esophagus. Then an electrical current is passed through it, which kills the cells in the lining by heating them.

Over time, normal cells will grow in to replace the Barrett's cells. People getting this treatment need to stay on drugs to block stomach acid production after the procedure. Endoscopy (with biopsies) is then done periodically to watch for any further changes in the lining of the esophagus. Rarely, RFA can cause strictures (narrowing) or bleeding in the esophagus.

Treatments to help keep the esophagus open

Laser ablation

This technique can be used to help open the esophagus when it is blocked by an advanced cancer. This can help improve problems swallowing.

A laser beam is aimed at the cancer through the tip of an endoscope to destroy the cancerous tissue. The laser is called a *neodymium: yttrium-aluminum-garnet (Nd:YAG) laser*. Laser endoscopy can be helpful, but the cancer often grows back, so the procedure may need to be repeated every month or two.

Argon plasma coagulation

This technique is like laser ablation, but it uses argon gas and a high-voltage spark delivered through the tip of an endoscope. The spark causes the gas to reach very high temperatures, which can then be aimed at the tumor. This approach is used to help unblock the esophagus for people who have trouble swallowing.

Electrocoagulation (electrofulguration)

For this treatment, a probe is passed down into the esophagus through an endoscope to burn the tumor off with electric current. In some cases, this treatment can help relieve esophageal blockage.

Esophageal stent

A stent is a device that, once in place, self-expands (opens up) to become a tube that helps hold the esophagus open. Stents are made of mesh material. Most often stents are made of metal, but they can also be made of plastic. Using endoscopy, a stent can

be placed into the esophagus across the length of the tumor.

How well the stent works depends on the type that is used and where it is placed. Stents will relieve trouble swallowing for most people. They are often used after other endoscopic treatments to help keep the esophagus open.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/photodynamic-therapy.html

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Treating Esophageal Cancer by Stage

Most of the time, the initial treatment of esophagus cancer is based on its [stage](#)¹— how far it has spread. But other factors, such as a person’s overall health, can also affect treatment options. Talk to your doctor if you have any questions about the treatment plan he or she recommends.

Treating stage 0 esophagus cancer

A stage 0 tumor is not true cancer. It contains abnormal cells called *high-grade dysplasia* and is a type of pre-cancer. The abnormal cells look like cancer cells, but they are only found in the inner layer of cells lining the esophagus (the epithelium). They have not grown into deeper layers of the esophagus. This stage is often diagnosed when someone with Barrett’s esophagus has a routine biopsy.

Options for treatment typically include [endoscopic treatments](#) such as photodynamic therapy (PDT), radiofrequency ablation (RFA), or endoscopic mucosal resection (EMR). Long-term follow-up with frequent upper endoscopy is very important after endoscopic treatment to continue to look for pre-cancer (or cancer) cells in the esophagus.

Another option is to have the abnormal part of the esophagus removed with an [esophagectomy](#). This is a major operation, but one advantage of this approach is that it doesn’t require lifelong follow-up with endoscopy.

Treating stage I esophagus cancer

In this stage the cancer has grown into some of the deeper layers of the esophagus wall (past the innermost layer of cells) but has not reached the lymph nodes or other organs.

T1 cancers: Some very early stage I cancers that are only in a small area of the mucosa and haven’t grown into the submucosa (T1a tumors) can be treated with [EMR](#), usually followed by some type of endoscopic procedure to destroy any remaining abnormal areas in the esophagus lining.

But most patients with T1 cancers who are healthy enough will have [surgery](#) (esophagectomy) to remove the part of their esophagus that contains the cancer. [Chemotherapy](#) and [radiation therapy](#) (chemoradiation) may be recommended after surgery if there are signs that all of the cancer may not have been removed.

T2 cancers: For patients with cancers that have invaded the muscularis propia (T2 tumors), treatment with chemoradiation is often given before surgery. Surgery alone may be an option for smaller tumors (less than 2 cm). If the cancer is in the part of the esophagus near the stomach, chemo without radiation may be given before surgery.

If the cancer is in the upper part of the esophagus (in the neck), chemoradiation may be recommended as the main treatment instead of surgery. For some patients, this may cure the cancer. Close follow-up with endoscopy is very important in looking for possible signs of cancer returning.

People with stage I cancers who can't have surgery because they have other serious health problems, or who don't want surgery, may be treated with EMR and endoscopic ablation, chemo, radiation therapy, or both together (chemoradiation).

Treating stages II and III cancer of the esophagus

Stage II includes cancers that have grown into the main muscle layer of the esophagus or into the connective tissue on the outside of the esophagus. This stage also includes some cancers that have spread to 1 or 2 nearby lymph nodes.

Stage III includes some cancers that have grown through the wall of the esophagus to the outer layer, as well as cancers that have grown into nearby organs or tissues. It also includes most cancers that have spread to nearby lymph nodes.

For people who are healthy enough, treatment for these cancers is most often chemoradiation followed by [surgery](#). Patients with adenocarcinoma at the place where the stomach and esophagus meet (the gastroesophageal junction) are sometimes treated with chemo (without radiation) followed by surgery. Surgery alone may be an option for some small tumors.

If surgery is the first treatment, chemoradiation may be recommended afterward, especially if the cancer is an adenocarcinoma or if there are signs that some cancer may have been left behind.

In some instances (especially for cancers in the upper part of the esophagus), chemoradiation may be recommended as the main treatment instead of surgery. Patients who do not have surgery need close follow-up with endoscopy to look for possible signs of remaining cancer. Unfortunately, even when cancer cannot be seen, it can still be present below the inner lining of the esophagus, so close follow-up is very important.

Patients who cannot have surgery because they have other serious health problems are usually treated with chemoradiation.

Treating stage IV cancer of the esophagus

Stage IV esophageal cancer has spread to distant lymph nodes or to other distant organs.

In general, these cancers are very hard to get rid of completely, so surgery to try to cure the cancer is usually not a good option. Treatment is used mainly to help keep the cancer under control for as long as possible and to relieve any symptoms it is causing.

Chemo may be given (possibly along with **targeted drug therapy**) to try to help patients feel better and live longer, but the benefit of giving chemo is not clear. **Radiation therapy** or other treatments may be used to help with pain or trouble swallowing. Another option at some point might be treatment with the **immunotherapy** drug pembrolizumab (Keytruda).

For **cancers that started at the gastroesophageal (GE) junction**, treatment with the **targeted drug** ramucirumab (Cyramza) may be an option at some point. It can be given by itself or combined with chemo. Another option at some point might be treatment with the **immunotherapy** drug pembrolizumab (Keytruda).

Some people prefer not to have treatments that have serious side effects and choose to receive only treatments that will help keep them comfortable and add to their quality of life. For more information on treatments that may be helpful, see **Palliative Therapy for Esophageal Cancer**.

Hyperlinks

1. www.cancer.org/cancer/esophagus-cancer/detection-diagnosis-staging/staging.html

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Treating Recurrent Esophageal Cancer

Recurrent means the cancer has come back after treatment. The recurrence may be local (near the area of the initial tumor), or it may be in distant organs.

Local recurrence

If the cancer was initially treated endoscopically (such as with endoscopic mucosal resection or photodynamic therapy), it most often comes back in the esophagus. This type of recurrence is often treated with [surgery to remove the esophagus](#). If the patient isn't healthy enough for surgery, the cancer may be treated with [chemotherapy](#), [radiation](#), or both.

If cancer recurs locally (such as in nearby lymph nodes) , radiation and/or

chemotherapy may be used after the esophagus has been removed. Radiation may not be an option if it was already given as part of the initial treatment. If chemotherapy was given before, it is usually still possible to give more chemotherapy. Sometimes the same drugs that were used before are given again, but often other drugs are used. Other treatment options for local recurrence after surgery might include more surgery or other treatments to help prevent or relieve symptoms.

If the cancer recurs locally after chemoradiation (without surgery), esophagectomy might be an option if the person is healthy enough. If surgery is not possible, treatment options might include chemotherapy or other treatments to help prevent or relieve symptoms.

Distant recurrence

Esophageal cancer that recurs in distant parts of the body is treated like a stage IV cancer. (See [Treating Esophageal Cancer by Stage](#) for more details.)

Your options depend on which, if any, drugs you received before the cancer came back and how long ago you received them, as well as on your health. Radiation therapy may be an option to relieve symptoms as well.

Recurrent cancers can often be hard to treat, so you might also want to ask your doctor if you might be eligible for [clinical trials](#)¹ involving newer treatments.

Managing symptoms of recurrent esophageal cancer

People with recurrent esophageal cancer will usually be given treatments aimed at preventing or relieving symptoms as needed. Learn more in [Palliative Therapy for Esophageal Cancer](#).

For more on dealing with cancer recurrence, see [Understanding Recurrence](#)².

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html
2. www.cancer.org/treatment/survivorship-during-and-after-treatment/understanding-recurrence/coping-with-cancer-recurrence.html

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Palliative Therapy for Esophageal Cancer

Palliative therapy is treatment aimed at preventing or relieving symptoms instead of trying to cure the cancer. The main purpose of this type of treatment is to improve the patient's comfort and quality of life.

Several types of treatment can be used to help prevent or relieve symptoms of esophageal cancer. In some cases, they are given along with other treatments that are intended to cure the cancer. In other cases, palliative treatments are given when a cure is not possible.

Esophageal dilation

This procedure is used to stretch out an area of the esophagus that is narrowed or blocked to allow better swallowing.

A small balloon-like device or a device shaped like a cylinder is passed down the throat and pushed through the narrowed area to stretch it out. This can be repeated if needed. Before the procedure, your doctor may give you a sedative to help you relax and may numb your throat by spraying it with a local anesthetic.

There is a small risk of bleeding or tearing a hole in the esophagus (called a *perforation*) with this procedure, which could require surgery or other treatments to fix. The esophagus typically stays open only a few weeks after dilation, so this is often followed by other treatments (such as placing a stent) to help keep the esophagus open.

Other endoscopic procedures

Several types of endoscopic procedures can be used to help keep the esophagus open in people who are having trouble swallowing. These techniques are described in more detail in [Endoscopic Treatments for Esophageal Cancer](#). Procedures that may be used include:

- Esophageal stent placement
- Photodynamic therapy
- Electrocoagulation
- Laser ablation
- Argon plasma coagulation

Radiation therapy

External-beam radiation can often help relieve some of the symptoms from advanced esophageal cancer, including pain and problems swallowing. Radiation is often used for cancer that has spread to the brain or spine, but it is also useful in treating problems with swallowing from a narrowed or blocked esophagus.

If an area had been treated with external beam radiation therapy earlier, it might not be able to be treated that way again. In that case, brachytherapy may be an option. Brachytherapy is especially useful in helping to relieve a blocked esophagus. See [Radiation Therapy for Esophageal Cancer](#) for more details.

Chemotherapy and targeted therapy

When used to help treat advanced esophageal cancer, [chemotherapy](#) and [targeted therapy](#) can both be considered a type of palliative therapy because they are intended to help slow the growth of the cancer and relieve symptoms from the cancer, as opposed to trying to cure it.

Pain management

Pain control is an important concern for people with cancer. There are many ways to treat cancer pain. People with cancer should let their cancer care team know right away if they are in pain. The cancer care team can provide medicines and other palliative treatments to relieve pain and other symptoms. See [Cancer Pain](#)¹ to learn more.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/pain.html

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