Treating Anal Cancer

After the cancer is found and staged, your cancer care team will talk with you about treatment options. A key goal of treatment is saving the anal sphincter muscles so you have bowel control and there's less impact in your overall quality of life.

Your treatment options depend on many factors. The location, type, and the stage (extent of spread) of the tumor are important. In choosing your treatment plan, you and your cancer care team will also take into account your age, your overall health, and your personal preferences.

How is anal cancer treated?

The 3 main ways to treat anal cancer are:

- Surgery for Anal Cancer
- Radiation Therapy for Anal Cancer
- Chemotherapy for Anal Cancer

Common treatment approaches

Often the best approach combines 2 or more treatments. In the past, surgery was the only way to cure anal cancer, but now most anal cancers are treated with radiation and chemotherapy combined. Surgery is often not needed.

- Treatment of Anal Cancer, by Stage

Who treats anal cancer?

Based on your treatment options, you might have different types of doctors on your treatment team. These doctors could include:
• A radiation oncologist: a doctor who treats cancer with radiation therapy
• A medical oncologist: a doctor who treats cancer with medicines such as chemotherapy
• A surgical oncologist (oncologic surgeon): a doctor who uses surgery to treat cancer
• A colorectal surgeon (proctologist): a doctor who uses surgery to treat diseases of the colon, rectum, and anus

You might have many other specialists on your treatment team as well, including physician assistants, nurse practitioners, nurses, nutrition specialists, social workers, and other health professionals.

• Health Professionals Associated With Cancer Care

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.

• Questions to Ask Your Doctor About Anal Cancer
• Seeking a Second Opinion

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 Trials
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 Medicine

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
- Find Support Programs and Services in Your Area
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

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 Anal Cancer

In most cases, surgery is not the first treatment used for anal cancer. For people who do need surgery, the type of operation depends on the type and location of the tumor.

Local resection

A local resection is an operation that removes only the tumor, plus a small margin (edge) of the normal tissue around the tumor. It’s most often used to treat cancers of the anal margin if the tumor is small and has not spread to nearby tissues or lymph nodes.

In most cases, local resection saves the sphincter muscles that keep stool from coming out until they relax during a bowel movement. This allows a person to move their bowels
normally after the surgery.

**Abdominoperineal resection**

An abdominoperineal resection (or APR) is a major operation. The surgeon makes one incision (cut) in the abdomen (belly), and another around the anus to remove the anus and the rectum. The surgeon may also take out some of the nearby groin lymph nodes, though this (called a *lymph node dissection*) can also be done later.

The anus (and the anal sphincter) is removed, so a new opening needs to be made for stool to leave the body. To do this, the end of the colon is attached to a small hole (called a *stoma*) made on the abdomen. A bag to collect stool sticks to the body over the opening. This is called a *colostomy*.

In the past, APR was a common treatment for anal cancer, but doctors have found that it can almost always be avoided by using radiation therapy and chemotherapy instead. Today, APR is used only if other treatments don’t work or if the cancer comes back after treatment.

**Possible risks and side effects of surgery**

Potential side effects of surgery depend on many things, including the extent of the operation and the person’s health before surgery. Most people will have at least some pain after the operation, but it usually can be controlled with medicines. Other problems can include reactions to anesthesia, damage to nearby organs, bleeding, blood clots in the legs, and infection.

**APR tends to cause more side effects, many of which are long-lasting changes.** For instance, after an APR, you might develop scar tissue (called *adhesions*) in your belly that can cause organs or tissues to stick together. This might cause pain or problems with food moving through the intestines, which can lead to digestive problems.

People also need a permanent colostomy after an APR. This can take some time to get used to and may mean some lifestyle changes.

For men, an APR may cause erection problems, trouble having an orgasm, or your pleasure at orgasm may become less intense. An APR can also damage the nerves that control ejaculation, leading to “dry” orgasms (orgasms without semen).

APR usually does not cause a loss of sexual function for women, but abdominal
adhesions (scar tissue) may sometimes cause pain during sex.

More information on dealing with the sexual impact of cancer and its treatment can be found at Sex and the Man With Cancer and Sex and the Woman With Cancer.

More information about Surgery

For more general information about surgery as a treatment for cancer, see Cancer Surgery.

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

Hyperlinks


References

See all references for Anal Cancer (www.cancer.org/cancer/anal-cancer/references.html)

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Radiation therapy uses a beam of high-energy rays (or particles) to kill cancer cells or slow their growth. Radiation therapy can be used:

- As part of the main treatment (along with chemotherapy) for most anal cancers (This is called chemoradiation.)
- After surgery if the doctor is concerned that all of the cancer might not have been removed
- To help treat cancer that has come back in the lymph nodes after initial treatment
- To help control cancer that has spread or to relieve symptoms it causes (This may be called supportive or palliative care.)

There are 2 main forms of radiation therapy: external beam and internal radiation.

**External-beam radiation therapy (EBRT)**

The most common way for anal cancer to be treated with radiation is by using a focused beam of radiation that comes from a machine outside the body. This is known as external-beam radiation therapy.

Radiation can harm nearby healthy tissues along with the cancer cells. This causes side effects. To reduce the risk of side effects, doctors carefully figure out the exact dose you need and aim the beams as accurately as they can. Before treatment starts, the radiation team will get PET/CT or MRI scans of the area to be treated to help figure this out. Radiation therapy is much like getting an x-ray, but the radiation is stronger. The procedure itself doesn't hurt. Each treatment lasts only a few minutes, but the setup time – getting you into place for treatment – usually takes longer. Treatments are usually given 5 days a week for a period of 5 weeks or so.

Newer techniques allow doctors to give higher doses of radiation to the cancer while reducing the radiation to nearby healthy tissues:

**Three-dimensional conformal radiation therapy (3D-CRT)** uses special computers to precisely map the location of the cancer. Radiation beams are then shaped and aimed at the tumor from several directions. This makes them less likely to damage normal tissues. You will most likely be fitted with a plastic mold like a body cast to keep you in the exact same position each time so that the radiation can be aimed more accurately.

**Intensity-modulated radiation therapy (IMRT)** is an advanced form of 3-D therapy and the preferred type of EBRT for anal cancer. It uses a computer-driven machine that actually moves around you as it delivers radiation. Along with shaping the beams and
aiming them from several angles, the intensity (strength) of the beams can be adjusted. This helps limit the dose reaching normal tissues. IMRT lets doctors deliver an even higher dose to the cancer.

**Side effects of external radiation therapy**

Side effects vary based on the part of the body treated and the dose of radiation given. Some common short-term side effects include:

- Diarrhea
- Skin changes (like a sunburn) in areas being treated
- Short-term anal irritation and pain (called radiation proctitis)
- Discomfort during bowel movements
- Tiredness
- Nausea
- Low blood cell counts

In women, radiation may irritate the vagina. This can lead to discomfort and discharge.

Most of these side effects get better over time after radiation stops.

Long-term side effects can also occur:

- Damage to anal tissue by radiation may cause scar tissue to form. This can sometimes keep the anal sphincter muscle from working as it should, which could lead to problems with bowel movements.
- Radiation to the pelvis can weaken the bones, increasing the risk of fractures of the pelvis or hip.
- Radiation can damage blood vessels that nourish the lining of the rectum and lead to chronic radiation proctitis (inflammation of the lining of the rectum). This can cause rectal bleeding and pain.
- Radiation can affect fertility (the ability to have children) in both women and men. (For more on this, see *Fertility and Men With Cancer* and *Fertility and Women With Cancer*.)
- Radiation can lead to vaginal dryness and even a narrowing or shortening of the vagina (called *vaginal stenosis*), which can make sex painful. A woman can help prevent this problem by stretching the walls of her vagina several times a week. This can be done using a vaginal dilator (a plastic or rubber tube used to stretch out the vagina). (To learn more, see *Sex and the Woman With Cancer*.)
• If radiation is given to the lymph nodes in the groin, it can lead to swelling problems in the genitals and legs, called lymphedema\(^{10}\).

**Internal radiation (brachytherapy)**

Internal radiation is not commonly used to treat anal cancer. When it is used, it's usually given as a radiation boost along with external radiation when a tumor isn't responding to regular chemoradiation (chemo plus external radiation).

Internal radiation involves putting small sources of radioactive materials in or near the tumor. It may also be called *brachytherapy*, *interstitial radiation*, or *intracavitary radiation*. It's used to focus the radiation in the area of the cancer.

The possible side effects are a lot like those seen with external radiation.

**More information about radiation therapy**

To learn more about how radiation is used to treat cancer, see [Radiation Therapy]\(^{11}\).

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects]\(^{12}\).

**Hyperlinks**

6. [www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html](http://www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html)

References


Chemotherapy for Anal Cancer

Chemotherapy (chemo) uses drugs to treat cancer. Some drugs can be swallowed in pill form, while others need to be injected into a vein or muscle. The drugs enter the bloodstream to reach and destroy the cancer cells throughout the body. This makes chemo a systemic or “whole body” treatment.

To treat anal cancer, chemo can be:

- Combined with radiation therapy (known as chemoradiation) as the first treatment for most anal cancers. This can often cure the cancer without the need for surgery. If the cancer doesn’t go away completely after chemoradiation, more chemo might be given.
- Given along with radiation after surgery to try to kill any cancer cells that may have been left behind. This is called adjuvant therapy. It’s done to lower the chance of the cancer coming back.
- Used if anal cancer has spread to distant parts of the body, such as the liver or lungs. This can help keep the cancer under control or relieve symptoms it’s causing.

In most cases, 2 or more drugs are used at the same time because one drug can boost the effect of the other.

- The main drug combination used to treat anal cancer is 5-fluorouracil (5-FU) and mitomycin.
- The combination of 5-FU and cisplatin is also used, especially in people who can’t get mitomycin or for advanced anal cancer.

In these treatments, the 5-FU is a liquid given into a vein 24 hours a day for 4 or 5 days. It’s put in a small pump that you can take home with you. The other drugs are given more quickly on certain other days in the treatment cycle. And radiation is given 5 days a week for at least 5 weeks. Talk to your treatment team about your treatment plan and how and where you will get chemo.
Side effects of chemo

Chemo drugs attack cells that are dividing quickly, which is why they work against cancer cells. But other cells in the body, like 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, too, which can lead to side effects. Side effects depend on the drugs used, the amount taken, and the length of treatment. Common short-term side effects might include:

- Nausea and vomiting
- Loss of appetite
- Hair loss
- Diarrhea
- Mouth sores

Because chemo can damage the blood-producing cells of the bone marrow, patients may have low blood cell counts. This can result in:

- An increased chance of infection (due to a shortage of white blood cells)
- Bleeding or bruising after minor cuts or injuries (due to a shortage of blood platelets)
- Fatigue or shortness of breath (due to low red blood cell counts)

Along with the risks above, some chemo drugs can cause other, less common side effects. For instance, cisplatin cause nerve damage (called *peripheral neuropathy*). This can lead to numbness, tingling, or pain in the hands and feet.

Most side effects get better over time once treatment stops, but some can last a long time or even be permanent. If you’re going to get chemo, be sure to discuss the drugs that will be used and their possible side effects.

If you do have problems, tell your doctor or nurse about any side effects as soon as you notice them. Your cancer care team can help you deal with them. For example, drugs can be used to help control nausea and vomiting. Sometimes changing the treatment dosage or how you take your medicines can reduce side effects, too.

**More information about chemotherapy**

For more general information about how chemotherapy is used to treat cancer, see [Chemotherapy](#).
To learn about some of the side effects listed here and how to manage them, see Managing Cancer-related Side Effects$^3$.

**Hyperlinks**

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

**References**

See all references for Anal Cancer (www.cancer.org/cancer/anal-cancer/references.html)

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**Treatment of Anal Cancer, by Stage**

The type of treatment your cancer care team will recommend depends on the type$^1$ of anal cancer, where it is, and how far it has spread (the stage$^2$).

Most experts agree that treatment in a clinical trial$^4$ should be considered for anal cancer that has spread beyond the anus or if standard treatment isn't working. This way you can get the best treatment available now and may also get the treatments that are thought to be even better.

Anal tumors affecting the anal margin or the perianal skin (and not the anal canal) are sometimes treated differently from anal canal cancers.

**Stage 0**

At this stage, the cancer is still only in the inner lining of the anus and has not grown into deeper layers. Anal cancers are seldom found at this early stage.
Stage 0 tumors can often be removed completely by surgery (local resection). The goal is to take out all of the cancer as well as edge (margin) of healthy cells around it. Radiation therapy and chemotherapy (chemo) are rarely needed.

**Stages I and II**

These cancers have grown into the anal wall but have not grown into nearby organs or spread to the lymph nodes. Surgery (local resection) can be used to remove some small tumors (usually less than 1 centimeter or ½ inch) that do not involve the sphincter. In some cases, this may be followed with chemo and radiation therapy.

The standard treatment for anal cancers that can’t be removed without harming the anal sphincter is radiation therapy combined with chemo (called chemoradiation). In chemoradiation, the 2 treatments are given over the same time period. The chemo is usually 5-FU with mitomycin C. The mitomycin is given as a short intravenous (IV) injection, usually at the start of radiation treatment and then again near the end, at around 4 to 6 weeks. The 5-FU is often given by a long IV infusion over 4 to 5 days and repeated in 4 to 6 weeks. In some cases, your doctor may suggest internal radiation along with the external beam radiation.

If the cancer hasn’t gone away completely after chemoradiation is done, more treatment might be needed. But it’s important to know that it may take months to see the full effects of chemoradiation. Because of this, doctors may watch any remaining cancer for up to 6 months. It may continue to shrink and even go away without more treatment.

If more treatment is needed, sometimes chemo (with or without extra radiation) may be given to try to shrink any remaining cancer. The drugs most often used are 5-FU plus cisplatin. Another option is surgery to remove the remaining cancer. This is most often a major operation called an abdominoperineal resection (APR), but sometimes only a local resection is needed.

**Stages IIIA, IIIB, and IIIC**

These cancers have grown into nearby organs or spread to nearby lymph nodes, but they have not spread to distant parts of the body.

In most cases, the first treatment will be radiation therapy combined with chemo (chemoradiation). In chemoradiation, both treatments are given over the same time period. The chemo is usually 5-FU with mitomycin C. The mitomycin is given as a short...
intravenous (IV) injection, usually at the start of radiation treatment and then again near the end, at around 4 to 6 weeks. The 5-FU is often given by a long IV infusion over 4 to 5 days and repeated in 4 to 6 weeks. In some cases, your doctor may suggest internal radiation along with the external beam radiation.

If some cancer remains after the chemoradiation, it may be watched closely for up to 6 months because it can take months to see the full effects of treatment. If the cancer grows, more treatment is needed. More chemo may be given. The drugs most often used are 5-FU plus cisplatin. Sometimes more radiation is given as well. (This is called a radiation boost.) Another option is surgery to remove the cancer. This is most often a major operation called an abdominoperineal resection (APR), but sometimes only a local resection is needed. If the cancer has spread to nearby lymph nodes, they may be removed with surgery or treated with radiation therapy.

Stage IIIB anal cancer can be hard to treat, so people with this stage might be helped by taking part in a clinical trial.

Stage IV

In this stage, the cancer has spread to distant organs or tissues. Most often, anal cancer first spreads to the lungs, liver, brain, or bones, but it can spread anywhere.

Treatment is very unlikely to cure these cancers. Treatment is aimed at controlling the disease for as long as possible and relieving symptoms as much as possible. Chemotherapy, sometimes along with radiation, is usually the standard treatment. The drugs most often used are 5-FU and cisplatin. Surgery might also be an option in some cases, but before having any surgery it’s important that you understand its goal (to prolong life, relieve symptoms, etc.) and the possible risks and side effects.

Because these cancers can be hard to treat, you might also want to think about taking part in a clinical trial of newer treatments.

Recurrent anal cancer

Cancer is called recurrent when it comes back after treatment. Recurrence can be local (in or near the same place it started) or distant (spread to organs like the lungs or bone).

If cancer returns in the anus or nearby lymph nodes after treatment, treatment depends on what treatment you had the first time. For example, if you had surgery alone, you may get radiation therapy and chemo (chemoradiation). If you first had
chemoradiation, then you might be treated with surgery and/or chemo. Treating recurrent anal cancer often requires a major surgery called an *abdominoperineal resection* (APR).

For some people, the cancer will come back in distant sites or organs in the body. The most common sites are the liver and lungs. The main treatment for this is usually chemo. Most often 5-FU and cisplatin are used. Chemo might not cure the cancer, but it can often help control it and reduce any symptoms it's causing. In rare cases, surgery or radiation therapy might be options to help treat these cancers. But as with chemo, they are unlikely to cure these cancers, so be sure you understand the goal of any treatments offered.

Clinical trials\(^\text{11}\) of newer treatments might also be useful for people with recurrent anal cancer.

**Treating HIV-infected patients**

Most people with [HIV infection]\(^\text{12}\) can be given the same treatment as others with [anal cancer], and they can have a good outcome. People with advanced HIV disease and weakened immune systems might need to have less intensive chemotherapy.

**Anal melanoma**

Melanoma doesn't respond well to chemotherapy or radiation, so surgery to remove the cancer is the main treatment when possible. Early stage anal melanomas are treated with surgery to remove the tumor and a rim of surrounding normal tissue (local excision). If the tumor is large or has grown into deeper tissues (such as the sphincter muscle) a bigger operation, such as an abdominoperineal resection (APR) may be needed.

If the melanoma has spread to other organs, it's treated like skin melanoma that has spread, often with [immunotherapy]\(^\text{13}\) or [targeted therapy]\(^\text{14}\) drugs. For more information about the treatment of advanced melanoma, see [Melanoma Skin Cancer]\(^\text{15}\).

**Hyperlinks**


References

See all references for Anal Cancer (www.cancer.org/cancer/anal-cancer/references.html)

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