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2022

Anal Cancer

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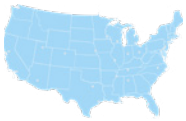

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These NCCN Guidelines for Patients are based on the NCCN Guidelines® for Anal Cancer, Version 2.2022 — September 2, 2022.

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National Comprehensive Cancer Network (NCCN) / NCCN Foundation
3025 Chemical Road, Suite 100
Plymouth Meeting, PA 19462
215.690.0300

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Additional support provided by

ACF ANAL CANCER FOUNDATION

The Anal Cancer Foundation (ACF) is dedicated to ending anal cancer and improving the lives of those affected by it. ACF programs raise awareness, accelerate early detection, improve quality of life, and support research to find a cure. ACF is proud to partner with the NCCN Foundation to provide this comprehensive, evidence-based guide to support anal cancer patients and their loved ones. For help during any stage of your journey, please visit analcancerfoundation.org.

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The Colorectal Cancer Alliance is the largest nonprofit advocacy organization dedicated to colorectal cancer. The Alliance empowers a nation of allies who work with us to support patients and families, caregivers, and survivors; to raise awareness of preventive measures; and inspire efforts to fund critical research. Call the toll-free Helpline for support and resources: 877.422.2030 ccalliance.org

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Anal cancer basics

Anal cancer is an uncommon cancer of the digestive system. Treatment should involve a team of digestive health experts with experience in chemotherapy, radiation, surgery, and imaging. Everyone with anal cancer is encouraged to consider enrolling in a clinical trial for treatment if available.

Anal cancer most often starts in squamous cells lining the canal that leads from the skin surface into the rectum. Cancer that forms in squamous cells is known as squamous cell carcinoma. Squamous cells are found in the tissues that form the surface of the skin and in other areas of the body. Most colorectal cancers, in contrast, start in glandular cells and are called adenocarcinomas. This difference is important in determining treatment options.

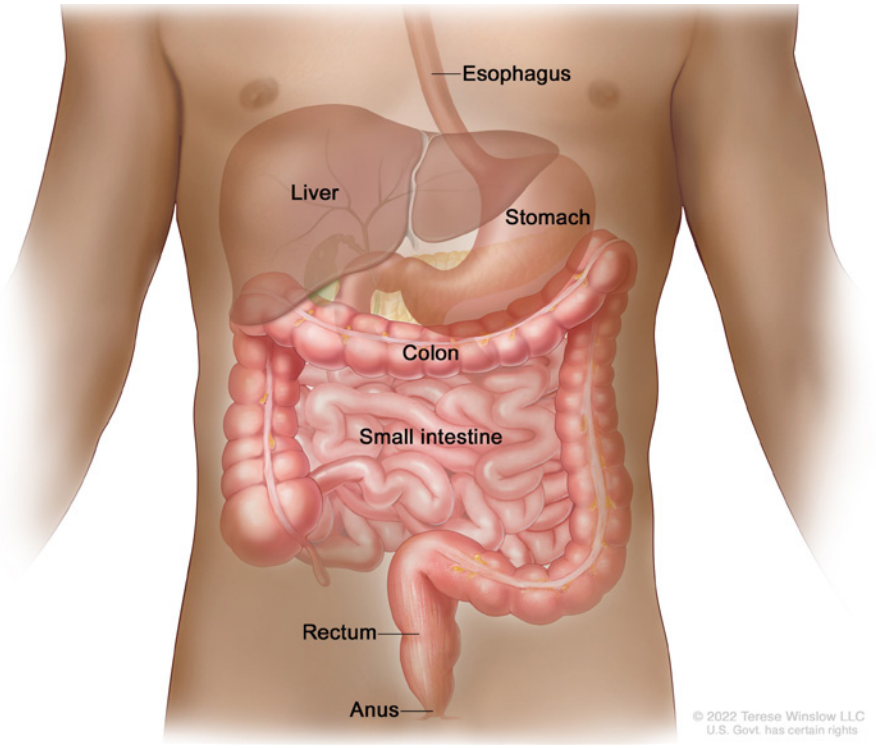
Anal squamous cell carcinoma is the focus of this patient guide. Other rare types not covered here include anal adenocarcinoma and anal melanoma. NCCN Guidelines for Patients® are available on rectal cancer and melanoma.

The anus

The anus is the opening through which feces (also called stool) exit the body. It is located at the very end of the large intestine (bowel). The colon is the first and longest section of the large bowel. The rectum is defined as the last several inches of the large bowel. Stool is held in the rectum until it leaves the body through the anus. The rectum and anus are located within the pelvis. The pelvis is the area of the body between the hip bones, below the abdomen. Other organs in the pelvis include

The anus

The anus is the opening through which stool exits the body. Anal cancer starts in either the anal canal or the perianal region. The anal canal connects the rectum and the anal opening. The perianal region includes the anal opening and the skin directly surrounding it.



the bladder, uterus, ovaries, vagina, and prostate gland.

Anal cancer starts in either the **anal canal** or the **perianal region**. The anal canal connects the rectum and the anal opening. It is about 1 and a half inches (4 centimeters) long. The anal canal is surrounded by muscles (anal sphincters) that relax to allow stool to leave the body through the anus. The perianal region includes the anal opening and the skin directly surrounding it. In some cases, an anal tumor can involve both the anal canal and the perianal skin.

Risk factors

A risk factor is something that increases the risk of developing a disease. Some people with no known risk factors develop anal cancer. And, some people with risk factors never get anal cancer. Risk factors for anal cancer are described next.

Human papillomavirus infection

The risk factor most strongly linked with anal cancer is long-term infection with human papillomavirus (HPV). HPV is a sexually transmitted virus. HPV is extremely common. It affects almost everyone who has ever been sexually active. Most people are unaware that they are–or ever were–infected.

In most people, the immune system gets rid of ("clears") HPV from the body. In some people, however, the virus causes long-term cell changes that develop into cancer. The progression to cancer often occurs decades after the initial infection. Doctors are still learning why one person gets anal cancer and another does not. Cancers caused by HPV include anal, cervical, head and neck, penile, vaginal, and vulvar cancers.

There are more than 100 types (called strains) of HPV. Infection with some strains is more likely to lead to anal cancer and other related cancers. High-risk forms of HPV include HPV-16 and HPV-18. HPV infection can also cause abnormal skin growths, called warts, to form on the anus or genitals.

Other risk factors

The health- and lifestyle-related factors listed below can also increase the risk of anal cancer. Some of these factors lead to a higher risk because they weaken the immune system. This can can make it harder for the body to clear HPV infection.

- Infection with human immunodeficiency virus (HIV)
- Taking anti-rejection medicines (immunosuppressants) after an organ transplant
- A history of cervical, vulvar, or vaginal cancer or precancer
- A history of anal precancer
- A history of blood cancer such as lymphoma, chronic lymphocytic leukemia, or multiple myeloma
- Certain autoimmune disorders, such as Crohn's disease
- Smoking
- A history of anal sex
- A history of sexually transmitted infection (STI)

Risk reduction

Anal cancer starts as areas of abnormal cells, called lesions, in or near the anus. These pre-cancerous lesions are known as anal dysplasia. Identifying and treating anal dysplasia may prevent anal cancer. Other names for anal dysplasia include:

- Low-grade squamous intraepithelial lesion (LSIL) (mild dysplasia)
- High-grade squamous intraepithelial lesion (HSIL) (moderate or severe dysplasia)
- Anal intraepithelial neoplasia (AIN)
- Stage 0 anal cancer

The HPV vaccine

A vaccine that protects against 9 different strains of HPV, including the highest-risk strains, is available. While previously only recommended for routine use in adolescents and young adults, vaccination is now an option for adults aged 45 years and under. However, it is most effective in younger people because they have likely never been exposed to HPV. Also, while the vaccine can prevent new HPV infections, it does not treat existing HPV infections or HPV-related cancers.

Diagnosis and treatment planning

The most common symptom of anal cancer is bleeding from the anus, also called rectal bleeding. You may notice blood in your stool, on toilet paper, or in the water of the toilet bowl. Anal itching is also common. Some people have pain in the anal area or feel like there is a lump or mass near the anus.

These symptoms should not be ignored. They may be commonly attributed to hemorrhoids. Although they may be embarrassing to talk about, it is important to be evaluated by a health care professional. Most commonly, people with these symptoms reach out to their primary care physician (PCP), gynecologist, or gastroenterologist. This is an important first step. However, because anal cancer is fairly rare, certain specialists are best qualified to evaluate you. Such specialists include colorectal surgeons and health care providers trained to conduct a test called high-resolution anoscopy (HRA). HRA typically takes place after a digital rectal exam (DRE) is performed.

Digital rectal exam

The digital rectal exam (DRE) is an important exam for diagnosis, staging, and follow-up. There is nothing high-tech about a DRE. Digit is another word for finger. In a DRE, your doctor inserts a gloved, lubricated finger into your anus and rectum. This finger exam can detect or assess growths or other abnormalities in the anal canal and nearby areas.

High-resolution anoscopy (HRA)

HRA is a procedure that allows your health care provider to view and examine the anal canal with magnification. After a numbing gel

is applied to the anal area, a short, hollow tool (an anoscope) is inserted a few inches into the anus. Next, a liquid called acetic acid is applied to the anal canal tissue. A special magnifying glass called a colposcope is then used to closely examine the tissues of the anal canal. The acetic acid makes abnormal cells appear differently when viewed with the colposcope.

If abnormal or suspicious areas are seen, a sample of tissue is removed and tested. This is called a biopsy. This biopsy sample may provide the diagnosis of anal cancer. If a colposcope is not used for the procedure, it is simply called standard anoscopy. HRA may be more effective than standard anoscopy at identifying anal cancer and anal dysplasia (fast-growing abnormal cells).

No special preparations need to be taken ahead of HRA. The procedure is brief (about 20 to 30 minutes), generally painless, and you can go home afterwards. Some people have minor bleeding and discomfort for a few days following the procedure. Sometimes HRA is done in the operating room under general anesthesia.

SISCCA

Superficially invasive squamous cell carcinoma (SISCCA) is the earliest form of anal cancer. These small lesions are often found accidentally. They may be found during a biopsy, or during removal of growths thought to be non-cancerous. Such growths may include genital warts, hemorrhoids, or anal skin tags. These cancers are tiny (less than 7 mm wide, smaller than a pea) and not deep at all.

Treatment for SISCCA is evolving. If the lesion is completely removed during surgery, further treatment may not be needed. However, close follow-up that includes HRA and other testing to check for spread to nearby lymph nodes is needed. **Most of the information in this guide does not apply to SISCCA.** This guide applies to treatment of invasive anal cancer diagnosed by biopsy and found to be more advanced than SISCCA.

Testing after diagnosis

After a biopsy confirms anal squamous cell carcinoma, more testing is needed to plan treatment. Digital rectal exams are repeated. This section describes additional recommended testing after diagnosis.

Lymph node exam

There are hundreds of small bean-shaped structures called lymph nodes in the body. Lymph nodes catch and filter out foreign particles and harmful cells, including cancer cells. Certain areas of the body contain more lymph nodes than others. The groin (where the thigh meets the abdomen) is one such area. Lymph nodes in the groin are called the inguinal lymph nodes. If left untreated, anal cancer cells can travel through lymphatics or blood to these groin lymph nodes or other lymph nodes in the pelvis, and then to other areas of the body.

Lymph nodes cannot usually be seen or felt in the early stages of cancer, but may become enlarged as cancer progresses. Your doctor will examine lymph nodes in the groin by pressing on the surface of the skin. This is known as palpation. If any lymph nodes feel enlarged or look suspicious on imaging tests, a sample may be removed for testing. A thin needle may be used to remove a sample of tissue from the node(s). This is called fine-needle aspiration (FNA). In some cases, all or part of a lymph

node may be removed by cutting into the skin. This is called an excisional biopsy.

Imaging

Imaging for anal cancer allows your doctors to see areas inside the body in detail. Imaging tests provide information on the extent of the cancer and whether it has spread to distant areas (metastasized).

To learn the extent of anal cancer in the anus and nearby areas (including lymph nodes), either computed tomography (CT) or magnetic resonance imaging (MRI) is recommended. To look for areas of cancer beyond the pelvis, a CT scan of the chest and abdomen with contrast is recommended. In some cases, positron emission tomography (PET) may be combined with a CT or MRI. CT, MRI, and PET are described below.

CT takes many pictures of areas inside of the body using x-rays. A computer combines the x-rays to make one detailed picture. The picture is saved for later viewing by a radiologist. You will lie face-up on a table that moves through a tunnel-like machine.

A substance called contrast will be used to make the pictures clearer. Before the CT scan, you will be asked to drink a large glass of oral contrast. A contrast agent may also be injected into your vein. It may cause you to feel flushed or get hives. Rarely, serious allergic reactions occur. Tell your doctors if you have had bad reactions to contrast in the past. You will be alone during the scan, but a technician will be right outside the room. You may hear buzzing or clicking during the scan.

MRI uses a magnetic field and radio waves to make pictures of areas inside the body. MRI is especially good at making clear pictures of

CT scans

A CT scan of the chest and abdomen with contrast is recommended to look for areas of cancer beyond the pelvis, such as the liver or lungs. Either CT or MRI is used to learn the extent of anal cancer in the pelvis.

areas of soft tissue. Unlike a CT scan, MRI does not use radiation. Tell your doctor know if you have issues with small enclosed spaces.

CT or MRI may be combined with positron emission tomography (PET). PET involves first injecting radioactive glucose (sugar) into the body. The radioactive sugar is detected with a special camera during the scan. Cancer cells appear brighter than normal cells because they use sugar more quickly.

HIV testing

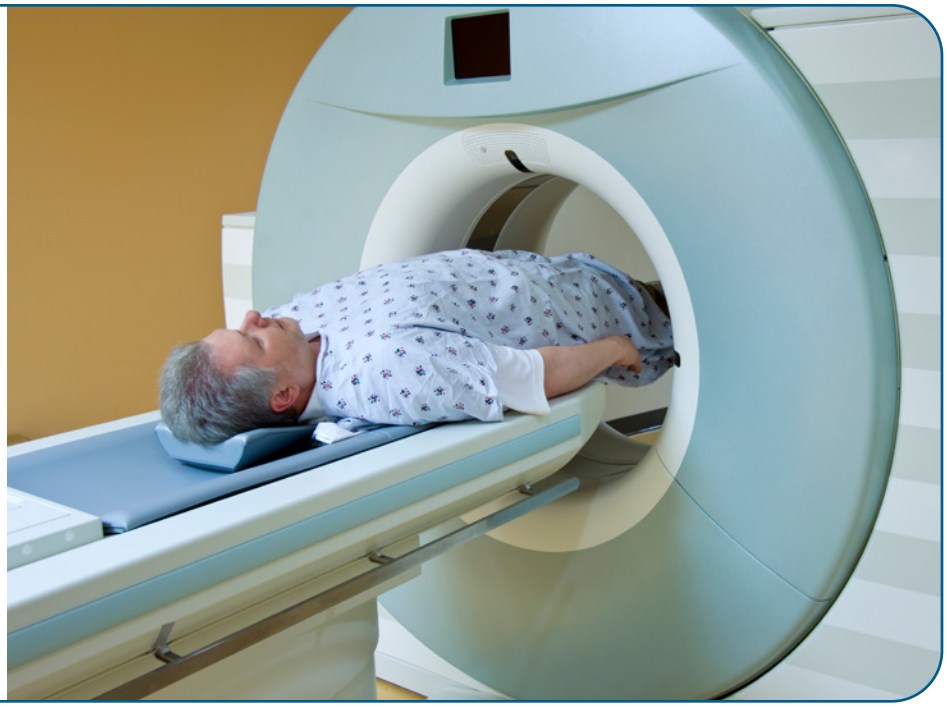
People with HIV are at increased risk of developing anal cancer. It is important to know your HIV status. If you have not been tested for HIV, your provider may recommend that you get tested. If you have HIV, getting the care you need may also improve cancer treatment outcomes.

Gynecologic exam

A gynecologic exam, including screening for cervical cancer, is recommended. Like anal cancer, HPV is the cause of almost all cervical cancers. Cervical cancer screening involves scraping cells from the cervix and testing them for HPV, cancer, and cell changes that may lead to cancer. If testing for HPV is not performed, it is simply called a Pap test. If the cells are tested for both HPV and cancer, it is called an HPV/Pap co-test.

MRI

You may have an MRI to determine the extent of the cancer in the pelvis. MRI uses a magnetic field and radio waves to make pictures of areas inside the body. Unlike a CT scan, MRI does not use radiation.



Staging

The results of testing are used to determine the cancer stage. The stage is an assessment of the extent of cancer in the body. The tumor, node, metastasis (TNM) system developed by the American Joint Committee on Cancer (AJCC) is used to stage anal cancer. This system is used to stage both anal canal and perianal tumors. Three key pieces of information are used to determine the stage:

T: The size and extent of invasion of the anal tumor. Tumors are measured in centimeters (cm). Approximately 2 and a half cm make up one inch.

N: Whether any lymph nodes near the anus have cancer

M: Whether the cancer has metastasized (spread) to areas far from the anus, such as the liver or lungs

It is important for the cancer to be staged accurately. This helps determine the best treatment plan. It also suggests how likely the cancer is to be cured using current treatments.

Precancer

There are abnormal cells on the surface of the anal canal or perianal region. These lesions may develop into cancer. Names for anal precancer include stage 0 anal cancer, anal dysplasia, carcinoma in situ, high-grade anal intraepithelial neoplasia (AIN), and high-grade squamous intraepithelial lesions (HSIL). Treatment may involve close monitoring, electrocautery by an HRA provider, or surgical removal.

Stage I

In stage I anal cancer, the tumor is 2 cm or smaller. Cancer has not spread to nearby lymph nodes or to areas far from the anus. Stage I anal cancer is described as T1, N0, M0.

Stage II

Stage II anal cancer is divided into 2 sub-stages, depending on the size of the tumor. Anal tumors larger than 2 cm but not larger than 5 cm are **stage IIA**. This stage is described as T2, N0, M0. Anal tumors larger than 5 cm are **stage IIB**. This stage is described as T3, N0, M0.

Stage II anal cancers have not spread to nearby lymph nodes or to areas far from the anus.

Stage III

Stage III anal cancer is divided into 3 sub-stages. There may be cancer in nearby lymph nodes.

In stage IIIA, the anal tumor is 5 cm or smaller and there is cancer in nearby lymph nodes. This stage is described as either T1, N1, M0 or T2, N1, M0.

In stage IIIB, the tumor has invaded nearby organs (such as the vagina, urethra, or bladder), but there is no cancer in nearby lymph nodes. This stage is described as T4, N0, M0.

In stage IIIC, the tumor is larger than 5 cm or has invaded nearby organs. Cancer has spread to nearby lymph nodes. This stage is described as either T3, N1, M0 or T4, N1, M0.

Stage IV
The cancer is metastatic. This means it has spread to areas beyond the pelvis, such as the liver or lungs. Stage IV anal cancer is described as T (may be 1, 2, 3, or 4), N (0 or 1), M1.

Staging and treatment
Stages I, II, and III anal cancer are non-metastatic (have not spread to distant sites). These stages are potentially curable. With the exception of some early-stage perianal cancers, treatment with chemotherapy and radiation (chemoradiation) is recommended for most non-metastatic anal cancers, regardless of the stage. The goal of treatment for these stages is to cure the cancer. The primary (main) treatment for metastatic anal cancer, in contrast, is chemotherapy or immunotherapy. The goal of treatment for metastatic anal cancer is usually to help you live longer and to help with symptoms. Detailed treatment information is provided in *Part 2: Treatment guide.*

“

Because anal cancer is rare and stigmatized, it is harder to find others who have been through it. Get yourself a mentor, and when you recover, pay it forward by mentoring someone else.

– Michael
Anal cancer survivor

Fertility and family planning

Anal cancer treatment almost always involves radiation therapy. Radiation therapy can cause or contribute to infertility, which is the inability to produce children. Radiation damages the ovaries and causes them to stop making hormones needed for natural pregnancy. Chemotherapy can also cause infertility in some cases by damaging sperm or eggs.

If you want the option of having children after treatment or are unsure, tell your doctor. There are ways to be able to have children after cancer treatment. This is called fertility preservation. If you are of childbearing age, your doctor will discuss any fertility-related risks of your treatment plan with you. You may be referred for counseling about fertility preservation options. Some fertility preservation options are described below.

Sperm banking
Sperm banking stores semen for later use by freezing it in liquid nitrogen. The medical term for this is semen cryopreservation.

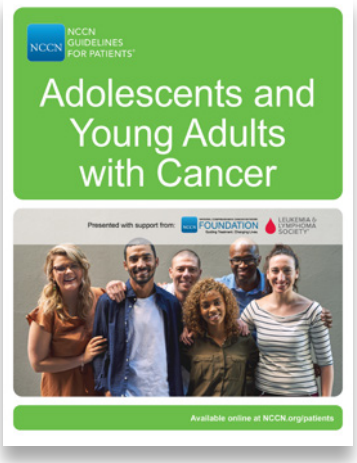
Egg freezing
Like sperm banking, unfertilized eggs can be removed, frozen, and stored for later use. The medical term for this is oocyte cryopreservation.

Ovarian tissue banking
This method involves removing part or all of an ovary and freezing the part that contains the eggs. The frozen tissue that contains the eggs can later be unfrozen and put back in the body.

Ovarian transposition

This procedure moves one or both ovaries and fallopian tubes out of the range of the radiation beam. The medical term for this procedure is oophoropexy.

For more information on this topic, see the *NCCN Guidelines for Patients: Adolescents and Young Adults with Cancer* at NCCN.org/patientguidelines.



Key points

- The anus is the opening through which stool exits the body. It is located in the pelvis, at the end of the large bowel.
- Anal cancer starts in either the anal canal or the perianal region.
- The anal canal is the small section of bowel between the rectum and the anus.
- The perianal region includes the anal opening and the skin directly surrounding it.
- The most common type of anal cancer is squamous cell carcinoma. It starts in squamous cells, which are found in the tissues that form the surface of the skin and in other areas of the body.
- The risk factor most strongly linked with anal cancer is long-term infection with HPV. HPV is an extremely common sexually transmitted virus.
- Other risk factors for anal cancer include HIV infection, immunosuppressant use, a history of certain cancers or pre-cancers, certain autoimmune disorders, smoking, and a history of anal sex or sexually transmitted infection.
- Recommended testing after diagnosis includes DRE, anoscopy, HIV testing, and screening for cervical cancer.
- The cancer stage is an assessment of the extent of cancer in the body. Stages I, II, and III are non-metastatic. Stage IV is metastatic.

2
Treatment guide

Anal cancer starts in either the anal canal or the perianal region. Treatment with chemotherapy and radiation (chemoradiation) is recommended for most non-metastatic anal cancers. Surgery to remove the anus may be needed for cancer that does not respond to treatment or that returns after treatment. Metastatic anal cancer is treated with systemic therapy (chemotherapy or immunotherapy).

Anal canal cancer (stages I – III)

This section provides treatment recommendations for stages I, II, and III anal canal cancer. These stages are non-metastatic, meaning the cancer has not spread beyond the pelvis. See page 26 for information on metastatic anal cancer.

Chemoradiation

Chemoradiation is the recommended primary (main) treatment for non-metastatic anal canal cancer. Chemoradiation involves treatment with both chemotherapy and radiation therapy during the same time period. More information on this combined treatment approach is provided next.

Radiation therapy

Radiation therapy most often uses high-energy x-rays to kill cancer cells. An advanced radiation technique called intensity-modulated radiation therapy (IMRT) is the preferred method for treating anal cancer. It is a type of external beam radiation therapy (EBRT). In EBRT, radiation is delivered from outside (external to) the body using a large machine called a linear accelerator. The radiation passes through skin and other tissue to reach the tumor.

All types of EBRT are conformal, which means that the radiation beams are shaped to the tumor. What makes IMRT unique compared to other forms of EBRT is that it uses many small beams of different intensities (strengths). This allows a high dose of radiation to be targeted at the tumor while limiting the amount of radiation to the surrounding normal tissue. With IMRT it is possible to reduce radiation to important nearby organs and structures, such as external genitalia and hip joints. This can help reduce treatment-related side effects.

Radiation therapy is given in small doses, called fractions. As part of chemoradiation for anal cancer, radiation is typically given Monday through Friday for 5 to 6 weeks (25 to 30 treatment sessions).

A planning session, called simulation, is needed before treatment begins. If IMRT is planned, you will most likely lie on your back with your knees out to the side (“frog-legged”) for simulation and for treatment. Pictures of the cancer sites will be obtained with a CT scan. Using the pictures and sophisticated computer software, the radiation team will plan the best radiation dose and number of treatments.

During treatment, you will lie on a table as you did for simulation. Devices may be used to keep you from moving. This helps to target the tumor. Ink marks on your skin will help position your body accurately for daily treatments. Your radiation oncologist will devise a treatment plan to aim radiation beams at the anal tumor and lymph nodes in the pelvis and groin.

You will be alone in the treatment room. A technician will operate the machine from a nearby room. The technician will be able to see, hear, and speak with you at all times. As treatment is given, you may hear noises. You will not see, hear, or feel the radiation. One session can take less than 10 minutes.

Common side effects at the treatment site during the 5 to 6 weeks of radiation treatment include skin irritation, tenderness, redness, and sores or skin breakdown. Discuss the use of over-the-counter ointments with your radiation oncologist. Over-the-counter ointments like Aquaphor or Silvadene can soothe the skin and help with healing.

Other short-term side effects of radiation therapy include diarrhea, fatigue, frequent urination or pain while urinating, and nausea. Most of these decrease over time when treatment is over. Radiation therapy side effects may not be felt immediately. They can appear and worsen later in the cycle or even after it is complete.

Radiation therapy for anal cancer can also have long-term and potentially serious side effects on fertility, sexual health, and bowel and bladder function. See “Fertility and family planning” on page 14 and *Part 3: Survivorship* for information on ways to help prevent, limit, or manage these effects.

Chemotherapy

Chemotherapy is the use of anti-cancer medicines. It is a type of systemic therapy. Most commonly, chemotherapy is given intravenously. This means the medicine(s) are slowly infused into the body through a vein. The medicine(s) travel in the bloodstream to reach cells throughout the body. Chemotherapy can also be given orally.

Radiation therapy

An advanced radiation technique called intensity-modulated radiation therapy (IMRT) is the preferred method for treating anal cancer.

At this time, chemotherapy regimens recommended for use with radiation therapy to treat stage I, II, and III anal cancer include:

- Mitomycin and capecitabine
- Mitomycin and 5-FU
- 5-FU and cisplatin

While you undergo chemotherapy with one of the above regimens, you will also receive treatment with radiation therapy 5 days per week. These chemotherapy regimens are described in more detail next.

Mitomycin and capecitabine is a commonly used regimen. Capecitabine is taken by mouth twice daily, Monday through Friday (on radiation days only), for 5 and a half to 6 weeks. You will be undergoing radiation therapy during the same time period. On the day you begin taking capecitabine, a single intravenous dose of mitomycin will be given. Another dose of mitomycin is usually given at the start of week 5.

Mitomycin and 5-FU is another regimen recommended for use with radiation therapy. 5-FU is given by continuous (constant) infusion over several days. You do not need to stay at a treatment center during this time, however. Before chemotherapy begins, a thin, flexible tube will be inserted into a vein in your upper chest, below the collarbone. This is referred to as a "port." Using a small wire and often x-ray guidance, the tube is guided to a large vein above the right side of the heart. Some people receive a temporary PICC line instead. A PICC line is a deep IV that stays in the arm for the duration of treatment.

The 5-FU is stored in a small, wearable pump connected to the catheter. The pump infuses the medicine into the body very slowly, over several days. The tube, called a central venous catheter, stays in place for the duration of treatment. It allows you to receive chemotherapy with 5-FU from home.

The first 5-FU infusion starts when radiation therapy begins and lasts for 4 to 5 days. You will have another 4- to 5-day infusion at the start of week 5 of radiation therapy. The pump will be disconnected and removed between infusions.

A single dose of mitomycin is given on the first day of the first 5-FU infusion. Another dose of mitomycin may be given when the second 5-FU infusion begins, towards the end of radiation therapy.

Another option for chemotherapy is **5-FU and cisplatin**. 5-FU is given as described above. Cisplatin is given intravenously on the first day of 5-FU infusions.

Chemotherapy can kill normal, healthy cells in addition to cancer cells. The damage to healthy cells causes potentially harsh side effects. The most common side effects of the chemotherapy regimens discussed above are nausea, vomiting, diarrhea, sores in the mouth and lining of the anus, and low blood cell counts. Low white blood cell counts can make you prone to infections. Talk to your treatment team about ways to prevent or lessen these side effects.

Capecitabine can cause a side effect known as hand-foot syndrome. Symptoms include redness, swelling, and pain on the palms of the hands, bottoms of feet, or both. Sometimes

blisters appear. Your dose of capecitabine may be changed at the earliest signs of hand-foot syndrome.

Next steps

See Follow-up and surveillance on page 23 for next steps.

We want your feedback!

Our goal is to provide helpful and easy-to-understand information on cancer.

Take our survey to let us know what we got right and what we could do better:

NCCN.org/patients/feedback

Perianal cancer (stages I – III)

This section provides treatment recommendations for stages I, II, and III perianal cancer. Stages I through III are non-metastatic, meaning the cancer has not spread beyond the pelvis. See page 26 for information on metastatic anal cancer.

Like anal canal cancer, most perianal cancers are treated with chemoradiation. However, local excision (surgery) may be an option for some early-stage, low-risk perianal cancers. Local excision involves removing only the tumor and a small area of surrounding tissue.

Local excision

Local excision is a recommended treatment option for some stage I and stage IIA perianal cancers. Stage I and II anal cancers have not invaded nearby lymph nodes. See page 13 for more information on cancer staging. For local excision to be an option, the cancer must not have invaded the sphincter muscle.

The cancer grade is also important when determining if local excision is an option. The cancer grade is a rating of how fast the cancer is expected to grow and spread. It is based on how abnormal the cancer cells look when viewed under a microscope. Higher scores mean that the cancer is likely to grow and spread quickly. There are 5 possible grades:

- **GX:** Grade cannot be assessed (undetermined grade)
- **G1:** Well differentiated (low grade)
- **G2:** Moderately differentiated (intermediate grade)
- **G3:** Poorly differentiated (high grade)
- **G4:** Undifferentiated (high grade)

Local excision should only be considered for low-grade (G1) and intermediate-grade (G2) perianal cancers.

The normal tissue surrounding the lesion removed during surgery is called the surgical margin. If a margin of at least 1 cm is removed and it does not contain cancer cells, no further treatment is needed. The cancer will be observed. See Follow-up and surveillance on page 22 for next steps.

If a margin of less than 1 cm is removed or if the tissue contains cancer cells, more treatment is needed. The preferred next treatment is another surgery (re-excision). Another option is radiation therapy with or without chemotherapy. If this treatment option is planned, chemotherapy regimens that may be used with radiation include:

- Mitomycin and capecitabine
- Mitomycin and 5-FU
- 5-FU and cisplatin

Next steps

See Follow-up and surveillance on page 22 for next steps.

Chemoradiation

Chemoradiation is recommended for all non-metastatic perianal cancers that do not meet the criteria for local excision. This includes:

- Fast-growing (high-grade) stage I and II cancers
- Stage II cancers that have invaded the sphincter
- Stage III cancers

Chemoradiation treatment for perianal cancer is the same as for anal canal cancer. See page 17 for treatment information.

Next steps

See *Follow-up and surveillance* on page 22 for next steps.

Follow-up and surveillance

After finishing treatment for anal cancer, you will have testing to find early signs that cancer may have returned. This is called surveillance. Surveillance for the return of anal canal cancer and perianal cancer is the same.

A follow-up physical exam with digital rectal examination (DRE) and anoscopy is recommended 8 to 12 weeks after completing chemoradiation to check the results of treatment. Your doctor may also order imaging tests. Depending on the results, the cancer is assigned to 1 of the following categories:

- Complete remission – there are no signs of cancer in the body
- Persistent disease – cancer remains in the body but has not grown or spread
- Progressive disease – the cancer has grown or spread

Complete remission

If initial follow-up testing finds no signs of cancer, recommended surveillance going forward is described below.

Digital rectal exams

DREs are recommended every 3 to 6 months for 5 years after treatment.

Lymph node exams

Inguinal lymph node exams are recommended every 3 to 6 months for 5 years after treatment.

Anoscopy

Where possible, anoscopy is recommended every 6 to 12 months for 3 years after treatment. In some patients, after treatment with radiation therapy, anoscopy may not be possible due to discomfort or pain. In this case, you and your doctor may decide together to omit it or perform it less often than every 6 to 12 months.

Imaging

For stage II and III anal cancers in complete remission after treatment, surveillance also includes imaging. Imaging is recommended every year for 3 years. You should have a CT of the chest, abdomen, and pelvis with contrast, or a CT of the chest without contrast and an MRI of the abdomen and pelvis with contrast.

Other care

In addition to surveillance testing, a range of other care is important for anal cancer survivors. See Part 3: Survivorship for more information. If cancer returns during surveillance, see *Recurrence* on page 24.

Persistent disease

If cancer is found during initial follow-up examination, it does not mean that treatment failed. Some anal cancers take longer to respond to treatment than others. It may be safe to monitor the cancer for as long as 6 months after treatment to see if there is improvement. Waiting to see if the cancer improves may avoid the need for surgery to remove the anus. If the cancer does not go into complete remission or gets worse, see “Progressive disease” below. If the cancer goes into remission, surveillance as described above under “Complete remission” is started.

Progressive disease

If the follow-up examination 8 to 12 weeks after treatment finds that the cancer has progressed, a biopsy will be performed to be

certain. If biopsy results confirm progression, the next step is imaging. Imaging can show if the cancer is limited to the anal area (locally progressive) or whether it has spread to areas far from the pelvis (metastatic disease). See page 26 for information on the treatment of metastatic anal cancer.

Treatment for locally progressive anal cancer is similar to recurrent non-metastatic anal cancer. Surgery to remove the anus is recommended. See *Recurrence* on the next page for more information.

Before proceeding with surgery, your doctor may recommend trying immunotherapy with an immune checkpoint inhibitor. In some anal cancer patients, immunotherapy worked well enough that surgery was not needed. However, there is not much research available on this treatment approach. Talk to your doctor about the possible benefits and risks of delaying surgery to try immunotherapy.

> “Accept NO SHAME - anal cancer is like any other and can happen to anyone.
>
> – Janet
> Anal cancer survivor

Recurrence

Recurrence is the return of cancer after a cancer-free period. Treatment depends on whether the cancer returns to the anus, to lymph nodes near the anus, or to distant areas such as the liver or lungs. See page 26 for information on the treatment of metastatic anal cancer.

If cancer returns to the anus

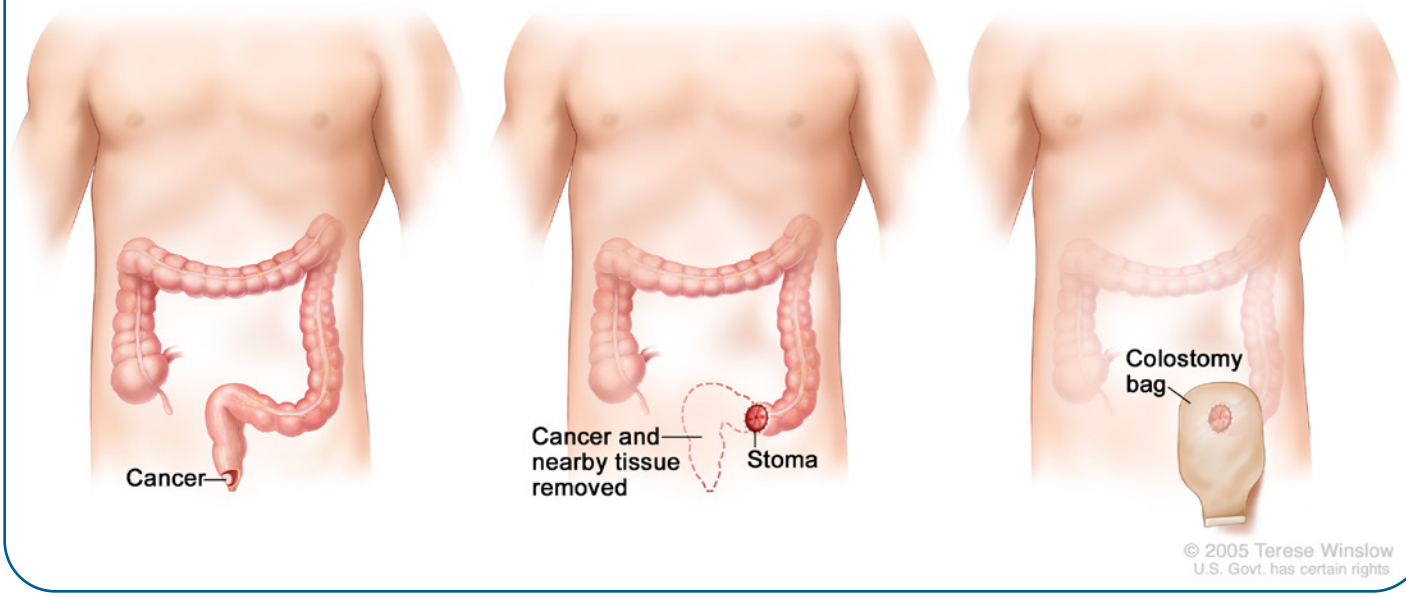
If cancer returns to the anal area, surgery to remove the anus is recommended. This type of surgery is called abdominoperineal resection (APR). APR is a fairly radical surgery that requires cutting into the abdomen and into the area between the anus and genitals (the perineum) to reach and remove the cancer. This type of surgery is also used for some rectal cancers.

In addition to the anus, APR typically involves removing the rectum, the area where the rectum and colon meet, and the fatty tissue surrounding the rectum. Lymph nodes in the groin will also be removed during surgery if any are known to have cancer. This is known as a groin dissection.

Radiation treatment for anal cancer weakens and damages the perineum, which can interfere with healing after APR. In some cases, closing the wound requires taking tissue from another area of the body. This is known as muscle flap reconstruction. It can improve healing of the perineum and reduce complications after surgery. A muscle in the lower abdomen called the rectus abdominis, along with skin, fat, and blood vessels, is often used for reconstruction. If APR is planned, ask your doctor about muscle flap reconstruction.

Abdominoperineal resection (APR)

APR may be needed for anal cancer that does not respond to initial treatment or that returns after treatment. It involves removing the anus and creating a permanent colostomy for stool to leave the body.



Removing the anus means there is no natural way for stool to exit the body. **A permanent colostomy is needed.** A colostomy connects the end of the colon to the outside of the abdomen. This creates an opening, called a stoma, on the surface of the abdomen. Stool exits the body through the stoma and goes into a bag attached to the skin.

If cancer returns to lymph nodes

Treatment of cancer found in lymph nodes during surveillance depends on whether radiation was used as part of initial treatment.

Prior radiation therapy

Radiation therapy is almost always used as part of initial treatment for anal cancer. It is generally not used again to treat cancer that returns to nearby lymph nodes. However, further radiation therapy may be considered in select cases. Otherwise, a lymph node dissection may be needed. If APR is planned, the cancerous lymph nodes will be removed during APR. If APR is not planned, a lymph node dissection can be performed as a standalone surgery.

Chemotherapy is also an option for treating cancer that returns to lymph nodes in the groin. One of the following regimens is recommended:

- Carboplatin and paclitaxel
- 5-FU and cisplatin

Research suggests that carboplatin and paclitaxel may be preferred over 5-FU and cisplatin, but both regimens are standard options.

No prior radiation therapy

If you did not receive radiation therapy as part of initial treatment, it can be used to treat cancer that returns to the inguinal (groin) lymph nodes. Chemotherapy with one of the following regimens may be given in addition to radiation:

- Mitomycin and capecitabine
- 5-FU and mitomycin

Surveillance after recurrence treatment

Imaging

Imaging is recommended every year for 3 years after any type of treatment for recurrence. You may have CT of the chest, abdomen, and pelvis with contrast, or CT of the chest without contrast and an MRI of the abdomen and pelvis with contrast.

Lymph node exams

Inguinal lymph node exams are recommended every 3 to 6 months for 5 years after any type of treatment for recurrence.

Digital rectal exams

If you had treatment for cancer in lymph nodes only (you did not have APR), digital rectal exams (DREs) are recommended every 3 to 6 months for 5 years.

Anoscopy

If you had treatment for cancer in lymph nodes only (you did not have APR), anoscopy is recommended every 6 to 12 months for 3 years. In some patients, after treatment with radiation therapy, anoscopy may not be possible due to discomfort or pain. In this case, you and your doctor may decide together to omit it or perform it less often than every 6 to 12 months.

Metastatic anal cancer

This section provides treatment recommendations for anal cancer that has spread beyond the pelvis. If available, enrolling in a clinical trial for treatment is encouraged. If anal cancer metastasizes, it spreads most often to the liver or lungs. Metastatic anal cancer is treated first with platinum-based chemotherapy. This is called first-line therapy. Options recommended at this time include:

- Carboplatin and paclitaxel
- 5-FU, leucovorin, and oxaliplatin (FOLFOX)
- 5-FU, leucovorin, and cisplatin (FOLFCIS)
- Modified docetaxel, cisplatin, fluorouracil (DCF)
- 5-FU and cisplatin

Ask your treatment team to explain:

- How often you need to receive chemotherapy
- How long you need to receive chemotherapy
- How chemotherapy treatment will be given (eg, intravenously, orally, infusion pump)

After chemotherapy with certain regimens, treatment with chemoradiation may be given. The extent of the cancer will be re-checked when you have finished chemotherapy. This will help guide decisions about chemoradiation. Chemoradiation is generally not considered after chemotherapy with the modified DCF (docetaxel, cisplatin, fluorouracil) regimen. If chemoradiation is planned, either 5-FU or capecitabine will be used for the chemotherapy portion.

Side effects of chemotherapy

The most common side effects of the chemotherapy regimens discussed above are nausea, vomiting, diarrhea, hair loss, and sores in the mouth and lining of the anus.

Platinum-based chemotherapy medicines, including carboplatin, cisplatin, and oxaliplatin, can damage the kidneys. Many people cannot have cisplatin because their kidneys do not work well or because of other health issues. To reduce the effect on the kidneys, individuals receiving platinum-based chemotherapy may receive routine IV hydration.

Extended treatment with cisplatin may also cause hearing problems or hearing loss. Extended treatment with oxaliplatin can cause nerve damage to your fingers and toes. Symptoms include numbness, cramping, tingling, or pain in these areas.

Ask your treatment team for a complete list of possible side effects of each systemic therapy you are receiving. There are ways to prevent or alleviate some of these side effects.

Radiation therapy for metastatic cancer

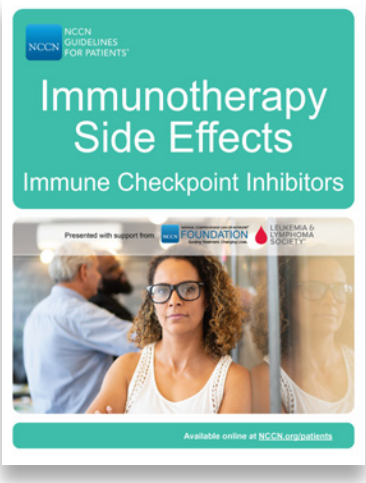
Treatment with radiation therapy in addition to chemotherapy is an option for cancer that metastasized before it was diagnosed (stage IV anal cancer) and that has therefore never been treated with radiation. If there is a limited number of small metastases, a special type of radiation therapy called stereotactic body radiation therapy (SBRT) may be used.

If the cancer metastasizes after initial treatment that included radiation, radiation therapy cannot be used again to treat the same areas. Palliative radiation therapy may be an option if the cancer is causing symptoms. Palliative radiation therapy can limit the size of the tumor(s) and help with symptoms. If palliative radiation is planned, care will be taken to ensure that areas initially treated with radiation are not treated a second time.

Progression

If the cancer progresses during or after treatment with chemotherapy, immunotherapy is recommended if you are eligible. Immunotherapy increases the activity of your immune system, improving your body's ability to find and destroy cancer cells. It is a type of systemic therapy. Nivolumab (Opdivo) and pembrolizumab (Keytruda) are immune checkpoint inhibitors currently used to treat metastatic anal cancer.

For more information, see the *NCCN Guidelines for Patients: Immunotherapy Side Effects - Immune Checkpoint Inhibitors* at NCCN.org/patientguidelines.



“

Stay calm, take care of your mental and emotional self, get organized, and be prepared to be your own advocate. Ask the hard questions. Start a notebook and take it to all appointments to note what is said and how you are doing along the way. I even asked if I could record some of those early appointments so I could play them back later.

– Thom
Anal cancer survivor

Clinical trials

A clinical trial is a type of medical research study. After being developed and tested in a laboratory, potential new ways of fighting cancer need to be studied in people. If found to be safe and effective in a clinical trial, a drug, device, or treatment approach may be approved by the U.S. Food and Drug Administration (FDA).

Everyone with cancer should carefully consider all of the treatment options available for their cancer type, including standard treatments and clinical trials. Talk to your doctor about whether a clinical trial may make sense for you.

Phases

Most cancer clinical trials focus on treatment. Treatment trials are done in phases.

- **Phase I** trials study the safety and side effects of an investigational drug or treatment approach. They also look for early signs that the drug or approach is helpful.
- **Phase II** trials study how well the drug or approach works against a specific type of cancer.
- **Phase III** trials test the drug or approach against a standard treatment. If the results are good, it may be approved by the FDA.
- **Phase IV** trials study the long-term safety and benefits of an FDA-approved treatment.

Who can enroll?

Every clinical trial has rules for joining, called eligibility criteria. The rules may be about age, cancer type and stage, treatment history, or general health. These requirements ensure that participants are alike in specific ways and that the trial is as safe as possible for the participants.

Informed consent

Clinical trials are managed by a group of experts called a research team. The research team will review the study with you in detail, including its purpose and the risks and benefits of joining. All of this information is also provided in an informed consent form. Read the form carefully and ask questions before signing it. Take time to discuss with family, friends, or others you trust. Keep in mind that you can leave and seek treatment outside of the clinical trial at any time.

Start the conversation

Don't wait for your doctor to bring up clinical trials. Start the conversation and learn about all of your treatment options. If you find a study that you may be eligible for, ask your treatment team if you meet the requirements. Try not to be discouraged if you cannot join. New clinical trials are always becoming available.

Frequently asked questions

There are many myths and misconceptions surrounding clinical trials. The possible benefits and risks are not well understood by many with cancer.

Will I get a placebo?

Placebos (inactive versions of real medicines) are almost never used alone in cancer clinical trials. It is common to receive either a placebo with a standard treatment, or a new drug with a standard treatment. You will be informed,

verbally and in writing, if a placebo is part of a clinical trial before you enroll.

Are clinical trials free?

There is no fee to enroll in a clinical trial. The study sponsor pays for research-related costs, including the study drug. You may, however, have costs indirectly related to the trial, such as the cost of transportation or child care due to extra appointments. During the trial, you will continue to receive standard cancer care. This care is billed to—and often covered by—insurance. You are responsible for copays and any costs for this care that are not covered by your insurance.

> Seek out an oncology team that treats many cases of anal cancer a year. It's a rare cancer, and you want the most knowledgeable team you can find to work with you and your healing.
>
> – Melissa
> Anal cancer survivor

Finding a clinical trial

In the United States

NCCN Cancer Centers
NCCN.org/cancercenters

The National Cancer Institute (NCI)
cancer.gov/about-cancer/treatment/clinical-trials/search

Worldwide

The U.S. National Library of Medicine (NLM)
clinicaltrials.gov

Need help finding a clinical trial?
NCI's Cancer Information Service (CIS)
1.800.4.CANCER (1.800.422.6237)
cancer.gov/contact

Key points

- Treatment with chemotherapy and radiation (chemoradiation) is recommended for most non-metastatic anal cancers.
- IMRT is an advanced radiation technique recommended for treating anal cancer. It can limit radiation exposure to areas near the tumor, such as the genitals, small intestine and large intestine, bladder, and skin.
- Chemotherapy is the use of medicines that travel in the bloodstream to reach cells throughout the body. It is a type of systemic therapy.
- Recommended chemotherapy regimens for use with radiation to treat anal cancer include mitomycin and capecitabine, mitomycin and 5-FU, and 5-FU and cisplatin.
- Local excision instead of chemoradiation may be an option for some slow-growing stage I and II perianal cancers.
- A follow-up exam with DRE is recommended 8 to 12 weeks after completing chemoradiation to check the results of treatment.
- Surveillance during remission includes DRE and lymph node exams every 3 to 6 months for 5 years and anoscopy every 6 to 12 months for 3 years. Yearly imaging for 3 years is also recommended for stage II and III anal cancers.
- APR surgery to remove the anus may be needed for anal cancer that does not respond to initial treatment or that returns after treatment. It involves creating a permanent colostomy for stool to leave the body.
- If cancer returns to lymph nodes in the groin (but not to the anal area) and you had radiation as part of initial treatment, a groin dissection and/or chemotherapy is recommended.
- Metastatic anal cancer is treated with chemotherapy. If the cancer does not respond or gets worse, immunotherapy with an immune checkpoint inhibitor is recommended if you are eligible.
- Clinical trials provide access to investigational treatments that may, in time, be approved by the U.S. FDA.

3
Survivorship

Survivorship focuses on the physical, emotional, and financial issues unique to cancer survivors. Managing the long-term side effects of cancer and its treatment, staying connected with your primary care doctor, and living a healthy lifestyle are important parts of survivorship.

Anal cancer survivors may experience both short- and long-term health effects of cancer and its treatment. These effects are different for everyone and depend on the treatment(s) received.

Your primary care doctor

After finishing cancer treatment, your primary care doctor, also known as a general practitioner (GP) or primary care physician (PCP), will play an important role in your care. Your oncologist (cancer doctor) and PCP should work together to make sure you get the follow-up care you need. Your oncologist will develop a written survivorship care plan that includes:

- A summary of your cancer treatment history, including surgeries, radiation treatments, and chemotherapy
- A description of possible short-term, late, and long-term side effects
- Recommendations for monitoring for the return of cancer
- Information on when your care will be transferred to your PCP
- Clear roles and responsibilities for both your cancer care team and your PCP
- Recommendations on your overall health and well-being

Late and long-term side effects

Some side effects of anal cancer treatment can linger longer than expected. Others may not appear until long after treatment is over. Many anal cancer survivors experience problems with bowel, urinary, and sexual function.

Bowel and bladder changes

Radiation to the anus can cause tissue damage. Over time, scar tissue may form that affects how the anal muscles work. The most commonly reported changes in bowel habits include:

- An inability to control bowel movements (fecal incontinence)
- Increase in bowel movements
- Gas (flatulence)
- Urgent need to pass stool (fecal urgency)
- Watery stool

Urinary incontinence (the inability to hold urine in the bladder) and urgency are also possible after radiation therapy for anal cancer. There are ways to control or lessen these symptoms. Over-the-counter anti-diarrheal medicine can help with frequent and watery bowel movements, as it thickens stool.

Optimize your diet

Changing your diet can help with bowel problems, including frequency, urgency, and fecal incontinence. Eating foods high in insoluble (not soluble) fiber and taking fiber supplements can help. Psyllium-based products (Metamucil, for example) may help slow and thicken the stool. Ask your treatment team for a list of foods that may help with bowel changes after anal cancer treatment, as well as a list of foods to avoid. There is a lot to know about oncology nutrition. Many anal cancer survivors find it helpful to talk to a dietitian that specializes in the nutritional needs of anal cancer, or digestive system cancer, survivors.

Pelvic floor physical therapy

The pelvic floor is a group of muscles that supports the organs of the pelvis. These muscles play a key role in bowel and bladder control and well as sexual function and arousal. There are ways to strengthen these muscles before and after treatment. This is known as pelvic floor physical therapy, and there are health care professionals that specialize in it. Ask your treatment team for help finding a pelvic floor specialist in your area. Pelvic floor therapy can include at-home exercises to tighten and release the vaginal and anal muscles (Kegel exercises) as well as hands-on techniques by a physical therapist.

Sexual health

Sexual side effects can occur after anal cancer treatment, including:

- Difficulty getting an erection
- Reduced sex drive (libido)
- Vaginal dryness
- Pain during sex
- Narrowing and shortening of the vagina

Vaginal dilator therapy

Radiation therapy to the pelvic area can cause the vagina to become shorter and narrower. This is called vaginal stenosis. Vaginal stenosis can make it uncomfortable or even painful to have sex, or to have vaginal examinations by a doctor. Vaginal dilator therapy can help during and after radiation therapy. A vaginal dilator is a device used to gradually stretch or widen the vagina. Vaginal dilators are not one-size-fits-all. Different sizes are available, as are dilator kits containing different size devices. The size of the dilator can be increased over time as the vagina lengthens and widens.

Sexual health therapists

While it may be uncomfortable to talk about sexual health, keep in mind that these side effects are common and can often be managed or lessened. Consider seeing a sexual health therapist. These health care professionals specialize in helping cancer survivors and others overcome and manage sexual side effects of cancer treatment. Many cancer treatment centers have programs focused solely on sexual health after anal cancer treatment. Ask your doctor about resources available through your cancer center

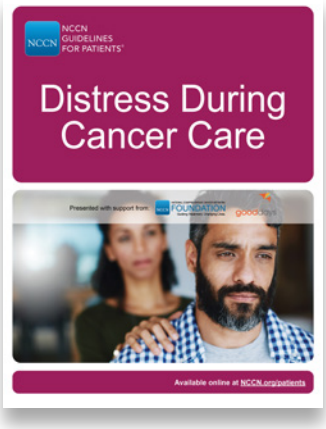
that can help minimize the impact of cancer treatment on your sexual health.

Mental health and wellness

The effects of anal cancer and its treatment can be difficult to cope with. Many survivors report having an overall lower quality of life after cancer treatment. In addition to effects on bowel, bladder, and sexual function, more general effects such as fatigue, trouble breathing (dyspnea), and difficulty sleeping (insomnia) are common. Many anal cancer survivors are also hesitant to share their diagnosis out of a fear of being judged by others. This can be isolating and distressful.

Tell your treatment team about these symptoms. If you are anxious, distressed, depressed, or are just having trouble coping with life after cancer, you are not alone. Expect your treatment team to ask about your mental health. If they don't, speak up. There are many resources available that can improve mental health and wellness for cancer survivors. Social workers at your treatment site are often excellent resources to help connect you with mental health and financial resources.

For more information see the *NCCN Guidelines for Patients: Distress During Cancer Care* at NCCN.org/patientguidelines.



Peer-to-Peer support

The Anal Cancer Foundation's Peer-To-Peer Support Program matches anal cancer patients and caregivers with trained peer volunteers for empathetic connection and practical advice throughout the process of diagnosis, treatment, and road to recovery.

To be matched with a peer, please contact

connect@analcancerfoundation.org

Ostomy care

If you have an ostomy, you may want to join an ostomy support group. Another option is to see a health care provider that specializes in ostomy care, such as an ostomy nurse. People with ostomies can still live very active lifestyles. However, it's a good idea to consult with an ostomy professional before any vigorous or high-intensity physical activity.

"You will get through this. It might seem hard at times toward the end of treatment and the following weeks and months while you recover, but it will pass. I tried to just stay focused on the goal of getting through to the other side to whatever comes next.

– Thom
Anal cancer survivor

Ostomy

You can still lead an active lifestyle with an ostomy. However, it is a good idea to consult with an ostomy professional before any vigorous or high-intensity physical activity.

Healthy habits

Monitoring for the return of anal cancer is important after finishing treatment. But, it is also important to keep up with other aspects of your health. Steps you can take to help prevent other health issues and to improve your quality of life are described next.

Get screened for other types of cancer, such as breast, cervical, colorectal, or prostate cancer. Your primary care doctor should tell you what cancer screening tests you should have based on your sex, age, and risk level.

Get other recommended health care such as blood pressure screening, hepatitis C screening, and immunizations (such as the flu shot).

Leading a healthy lifestyle includes maintaining a healthy body weight. Try to exercise at a moderate intensity for at least 150 minutes per week. All patients should have a discussion with their doctor before starting a new exercise regimen. Eat a healthy diet with lots of plant-based foods.

Talk to your doctor about taking aspirin every day to prevent future cancers.

Radiation treatment to the pelvis can weaken bones in the pelvis, putting you at increased risk of fractures. Your doctor may want to start monitoring the density of your bones.

Alcohol can increase the risk of certain cancers. Drink little to no alcohol.

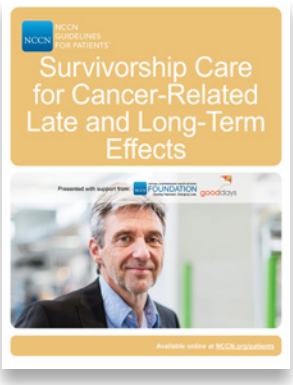
If you smoke, quit! Your doctor will be able to provide (or refer you for) counseling on how to stop smoking.

Experts recommend eating a healthy diet, especially one that includes a lot of plant-based foods (veggies, fruits, and whole grains).

More information

For more information on cancer survivorship, the following are available at NCCN.org/patientguidelines:

- *Survivorship Care for Healthy Living*
- *Survivorship Care for Cancer-Related Late and Long-Term Effects*



These resources address many topics relevant to survivors of anal cancer, including:

- Anxiety, depression, and distress
- Cognitive dysfunction
- Fatigue
- Pain
- Sexual dysfunction
- Sleep disorders
- Healthy lifestyles
- Immunizations
- Employment, insurance, and disability concerns

Complementary and alternative therapies

Complementary and alternative therapies may help with side effects and improve comfort and well-being during and after cancer treatment. Some of these practices and products include:

Acupuncture
Dietary supplements
Eastern medicine
Medical marijuana
Herbal teas and preparations
Homeopathy
Hypnosis
Meditation
Reiki
Yoga
Massage therapy

If you have questions or are curious about complementary therapies, talk to your treatment team. Many cancer centers have integrative oncology programs. Integrative oncology is an approach to cancer care that combines conventional (standard) cancer treatment with complementary and alternative therapies.

4
Making treatment decisions

It is important to be comfortable with the cancer treatment you choose. This choice starts with having an open and honest conversation with your doctor.

It's your choice

In shared decision-making, you and your doctors share information, discuss the options, and agree on a treatment plan. It starts with an open and honest conversation between you and your doctor.

Treatment decisions are very personal. What is important to you may not be important to someone else.

Some things that may play a role in your decision-making:

- What you want and how that might differ from what others want
- Your religious and spiritual beliefs
- Your feelings about certain treatments like surgery or chemotherapy
- Your feelings about pain or side effects such as nausea and vomiting
- Cost of treatment, travel to treatment centers, and time away from work
- Quality of life and length of life
- How active you are and the activities that are important to you

Think about what you want from treatment. Discuss openly the risks and benefits of specific treatments and procedures. Weigh options and share concerns with your doctor. If you take the time to build a relationship with your doctor, it will help you feel supported when considering options and making treatment decisions.

Second opinion

It is normal to want to start treatment as soon as possible. While cancer should not be ignored, there is time to have another doctor review your test results and suggest a treatment plan. This is called getting a second opinion, and it's a normal part of cancer care. Even doctors get second opinions!

Things you can do to prepare:

- Check with your insurance company about its rules on second opinions. There may be out-of-pocket costs to see doctors who are not part of your insurance plan.
- Make plans to have copies of all your records sent to the doctor you will see for your second opinion.

Support groups

Many people diagnosed with cancer find support groups to be helpful. Support groups often include people at different stages of treatment. Some people may be newly diagnosed, while others may be finished with treatment. If your hospital or community doesn't have support groups for people with cancer, check out the websites listed in this book.

Questions to ask

Possible questions to ask your doctors are listed on the following pages. Feel free to use these or come up with your own. Be clear about your goals for treatment and find out what to expect from treatment. Keep a notebook handy to record answers to your questions.

Questions about testing and staging

1. What type of anal cancer do I have? How do you know?
2. Did I have high-resolution anoscopy? Will I?
3. What is the cancer stage?
4. What is the cancer grade? What does this mean?
5. When will I have a biopsy? What type of biopsy? What are the risks?
6. Is there a cancer center or hospital nearby that specializes in anal cancer?
7. What tests are needed? What other tests do you recommend? Will I have any genetic tests?
8. How do I prepare for testing? How and where will the test be done?
9. How soon will I know the results and who will explain them to me?
10. Is there a portal where I can get copies of my test results and other records?
11. Who will talk with me about the next steps? When?
12. Will treatment start before the test results are in?

Questions about treatment options

1. Which treatment do you recommend and why? What are the benefits and risks?
2. How long do I have to decide?
3. Is carefully monitoring the cancer an option? What will happen if I do nothing?
4. Do you consult the NCCN Clinical Practice Guidelines in Oncology® when considering treatment options?
5. Are you suggesting options other than what NCCN recommends? If yes, why?
6. How do my age, overall health, gender, and other factors affect my treatment options?
7. How will treatment affect my fertility? Should I see a fertility specialist before starting treatment?
8. What if I am pregnant? What if I'm planning to get pregnant in the near future?
9. Am I a candidate for a clinical trial?
10. Which option is proven to work best for my cancer subtype, age, and other risk factors?
11. Does any option offer a cure or long-term cancer control? Are the chances any better for one option than another? Less time-consuming? Less expensive?
12. Which treatment will give me the best quality of life? Which treatment will extend life? By how long?

Questions about the treatment process

1. How often will I have treatment? How long is each visit? Will I have to stay overnight in the hospital or make travel plans?
2. Do I have a choice of when to begin treatment? Can I choose the days and times of treatment?
3. How much will this treatment cost? What does my insurance cover? Are there any programs to help pay for treatment?
4. How long will treatment last? How do I prepare for treatment?
5. What in particular should be avoided or taken with caution while receiving treatment?
6. Should I bring someone with me when I get treated?
7. Will I miss work or school? Will I be able to drive?
8. Is home care after treatment needed? If yes, what type?
9. When will I be able to return to my normal activities?
10. How will you know if treatment is working?
11. What are my options if the treatment stops working?
12. Can I stop treatment at any time? What will happen if I stop treatment?

Questions about side effects

1. What are the side effects of treatment? Are any life-threatening?
2. What can be done to prevent or relieve these effects?
3. How long will these side effects last? Do any side effects lessen or worsen in severity over time?
4. When should I call the doctor? Can I text?
5. What medicines can I take to prevent or relieve side effects?
6. What can I do to help with pain and other side effects?
7. Will you stop treatment or change treatment if there are side effects? What do you look for?
8. What can I do to lessen or prevent side effects? What will you do?
9. What side effects are life-long and irreversible even after completing treatment?
10. What medicines may worsen side effects of treatment?

Questions to ask your doctors about their experience

1. Are you board certified? If yes, in what area?
2. Do you only treat anal cancer? What else do you treat?
3. Is this treatment a major part of your practice?
4. How many of your patients have had complications?
5. What is the experience of those on your team?
6. I would like to get a second opinion. Is there someone you recommend?
7. How many patients like me (of the same age, gender, race) have you treated?
8. Will you be consulting with experts to discuss my care? Whom will you consult?
9. How many procedures like the one you're suggesting have you done?
10. How many of your patients have had complications? What were the complications?

Questions about chemoradiation

1. Which chemotherapy regimen(s) do you recommend? Are they what NCCN recommends?
2. Will I have intensity-modulated radiation therapy (IMRT)?
3. Do you offer IMRT here? If not, can you refer me to someone who does?
4. What will you target?
5. What if I've already had pelvic radiation?
6. How many treatment sessions will I require? Can you do a shorter course of radiation?
7. What short- and long-term side effects can I expect from radiation? Are any permanent?
8. What can be done to minimize or prevent side effects of radiation therapy?
9. Will I need to take steps to ensure the safety of others in my household after radiation therapy?

Questions about abdominoperineal resection (APR)

1. Will I need APR? If so, what will be removed?
2. Will I have muscle flap reconstruction?
3. How long will it take me to recover?
4. How much pain will I be in? What will be done to manage my pain?
5. Who can help with my colostomy?
6. What other side effects can I expect from surgery? What complications can occur from this surgery?
7. What treatment will I have before, during, or after surgery?
8. Is there a hospital or treatment center you can recommend for my surgery?
9. How often will I need check-ups after surgery? What are the chances that the cancer will come back?
10. What happens if all of the cancer cannot be removed during surgery?

Questions about clinical trials

1. Should I consider joining a clinical trial? Why?
2. What clinical trials are available? Am I eligible for any of them? Why or why not?
3. What are the treatments used in the clinical trial?
4. What does the treatment do?
5. Has the treatment been used before? Has it been used for other types of cancer?
6. What are the risks and benefits of this treatment?
7. What side effects should I expect? How will the side effects be controlled?
8. How long will I be on the clinical trial?
9. Will I be able to get other treatment if this doesn't work?
10. Will the clinical trial cost me anything? If so, how much?

Questions about survivorship and late effects

1. What happens after treatment?
2. What are the chances the cancer will return or I will get another type of cancer?
3. Whom do I see for follow-up care? How often? For how many years?
4. What should I do if I have trouble paying for follow-up visits and tests?
5. What tests will I have to monitor my health? Who is responsible for scheduling them?
6. What late effects are caused by this treatment? How will these be screened?
7. I am looking for a survivor support group. What support groups or other resources can you recommend?
8. What happens if I move after treatment and have to change doctors? Will you help me find a doctor?

Resources

American Cancer Society
cancer.org/cancer/anal-cancer.html

Anal Cancer Foundation
analcancerfoundation.org

Cancer Hope Network
cancerhopenetwork.org

Cancer.Net
cancer.net/cancer-types/anal-cancer

CancerCare
cancercare.org/

Cancer Support Community
cancersupportcommunity.org

Colorectal Cancer Alliance
ccalliance.org

Fight Colorectal Cancer
fightcolorectalcancer.org

HPV Cancers Alliance
hpvalliance.org

Love Your Buns
loveyourbuns.org

National Cancer Institute (NCI)
cancer.gov/types/anal

National Coalition for Cancer Survivorship
canceradvocacy.org

PAN Foundation
panfoundation.org

The Anchor Study
anchorstudy.org

U.S. National Library of Medicine (NLM) Clinical Trials Database
clinicaltrials.gov

Let us know what you think!

Please take a moment to complete an online survey about the NCCN Guidelines for Patients.

NCCN.org/patients/response

Words to know

abdominoperineal resection (APR)
A type of surgery that may be needed for anal cancer that does not respond to initial treatment or that returns after treatment. APR removes the anus, rectum, nearby cancerous lymph nodes, and other tissues. A permanent colostomy is needed.

anal canal
The small section of the large intestine that connects the rectum and the anal opening.

anal sphincter
A ring-shaped muscle around the opening of the anus that relaxes or tightens to open or close the anus.

anus
The opening at the end of the large bowel through which stool exits the body.

chemoradiation
The use of both chemotherapy and radiation therapy during the same time period (concurrently) to treat cancer. A commonly used initial treatment for anal cancer.

clinical trial
A research study using investigational treatments that may, in time, be approved by the U.S. Food and Drug Administration (FDA).

colostomy
A surgery that allows stool to leave the body after the anus is removed. The end of the bowel is attached to an opening in the surface of the abdomen. Stool is collected in a disposable bag outside of the body.

groin
The area of the body where the thigh meets the abdomen.

human papillomavirus (HPV)
A virus that affects almost everyone who has been sexually active. HPV can cause abnormal tissue growth (for example, warts) and other changes to cells. Anal cancer is almost always caused by HPV infection.

infertility
The inability to produce children.

inguinal lymph nodes
Lymph nodes in the groin.

intensity-modulated radiation therapy (IMRT)
A type of external radiation therapy that uses many beams of different intensities. A recommended type of radiation therapy for anal cancer.

libido
Sexual desire or the mental energy or emotion related to sex.

perianal region
The anal opening and the skin directly surrounding it.

systemic therapy
Cancer treatment with medicines that travel through the bloodstream, reaching and affecting cells all over the body. Chemotherapy, targeted therapy, and immunotherapy are types of systemic therapy.

vaginal stenosis
A condition in which the vagina becomes narrower and shorter. The lining of the vagina may also be thinner and drier and contain scar tissue. This can cause pain during sex and pelvic exams. Vaginal stenosis is often caused by radiation therapy to the pelvis or some types of surgery.

NCCN Contributors

This patient guide is based on the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Anal Cancer, Version 2.2022. It was adapted, reviewed, and published with help from the following people:

Dorothy A. Shead, MS
Senior Director
Patient Information Operations

Erin Vidic, MA
Senior Medical Writer, Patient Information

Susan Kidney
Senior Graphic Design Specialist

The NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Anal Cancer, Version 2.2022 were developed by the following NCCN Panel Members:

Al B. Benson, III, MD/Chair
Robert H. Lurie Comprehensive Cancer Center of Northwestern University

Alan P. Venook, MD/Vice-Chair
UCSF Helen Diller Family Comprehensive Cancer Center

Mahmoud M. Al-Hawary, MD
University of Michigan Rogel Cancer Center

Nilofer Azad, MD
The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins

Yi-Jen Chen, MD, PhD
City of Hope National Medical Center

*Kristen K. Ciombor, MD
Vanderbilt-Ingram Cancer Center

Stacey Cohen, MD
Fred Hutchinson Cancer Research Center/ Seattle Cancer Care Alliance

Harry S. Cooper, MD
Fox Chase Cancer Center

Dustin Deming, MD
University of Wisconsin Carbone Cancer Center

Linda Farkas, MD
UT Southwestern Simmons Comprehensive Cancer Center

Ignacio Garrido-Laguna, MD, PhD
Huntsman Cancer Institute at the University of Utah

Jean L. Grem, MD
Fred & Pamela Buffett Cancer Center

Andrew Gunn, MD
O'Neal Comprehensive Cancer Center at UAB

J. Randolph Hecht, MD
UCLA Jonsson Comprehensive Cancer Center

Sarah Hoffe, MD
Moffitt Cancer Center

Joleen Hubbard, MD
Mayo Clinic Cancer Center

Steven Hunt, MD
Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine

William Jeck, MD
Duke Cancer Institute

Kimberly L. Johung, MD, PhD
Yale Cancer Center/Smilow Cancer Hospital

Natalie Kirilcuk, MD
Stanford Cancer Institute

Smitha Krishnamurthi, MD
Case Comprehensive Cancer Center/ University Hospitals Seidman Cancer Center and Cleveland Clinic Taussig Cancer Institute

Wells A. Messersmith, MD
University of Colorado Cancer Center

Jeffrey Meyerhardt, MD, MPH
Dana-Farber Brigham and Women's Cancer Center

Eric D. Miller, MD, PhD
The Ohio State University Comprehensive Cancer Center - James Cancer Hospital and Solove Research Institute

Mary F. Mulcahy, MD
Robert H. Lurie Comprehensive Cancer Center of Northwestern University

Steven Nurkin, MD, MS
Roswell Park Comprehensive Cancer Center

Michael J. Overman, MD
The University of Texas MD Anderson Cancer Center

Aparna Parikh, MD
Massachusetts General Hospital Cancer Center

Hitendra Patel, MD
UC San Diego Moores Cancer Center

Katrina Pedersen, MD, MS
Siteman Cancer Center at Barnes Jewish Hospital and Washington University School of Medicine

Elizabeth Raskin, MD
UC Davis Comprehensive Cancer Center

Leonard Saltz, MD
Memorial Sloan Kettering Cancer Center

*Charles Schneider, MD
Abramson Cancer Center at the University of Pennsylvania

*David Shibata, MD
The University of Tennessee Health Science Center

John M. Skibber, MD
The University of Texas MD Anderson Cancer Center

Constantinos T. Sofocleous, MD, PhD
Memorial Sloan Kettering Cancer Center

Elena M. Stoffel, MD, MPH
University of Michigan Rogel Cancer Center

Eden Stotsky-Himelfarb, BSN, RN
The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins

*Christopher G. Willett, MD
Duke Cancer Institute

NCCN Staff

Kristina Gregory, RN, MSN, OCN
Vice President, Clinical Information Programs

Lisa Gurski, PhD
Manager, Licensed Clinical Content

* Reviewed this patient guide. For disclosures, visit NCCN.org/disclosures.

NCCN Cancer Centers

Abramson Cancer Center
at the University of Pennsylvania
Philadelphia, Pennsylvania
800.789.7366 • pennmedicine.org/cancer

Case Comprehensive Cancer Center/
University Hospitals Seidman Cancer
Center and Cleveland Clinic Taussig
Cancer Institute
Cleveland, Ohio
800.641.2422 • UH Seidman Cancer Center
uhhospitals.org/services/cancer-services
866.223.8100 • CC Taussig Cancer Institute
my.clevelandclinic.org/departments/cancer
216.844.8797 • Case CCC
case.edu/cancer

City of Hope National Medical Center
Duarte, California
800.826.4673 • cityofhope.org

Dana-Farber/Brigham and Women's
Cancer Center | Massachusetts General
Hospital Cancer Center
Boston, Massachusetts
617.732.5500 • youhaveus.org
617.726.5130
massgeneral.org/cancer-center

Duke Cancer Institute
Durham, North Carolina
888.275.3853 • dukecancerinstitute.org

Fox Chase Cancer Center
Philadelphia, Pennsylvania
888.369.2427 • foxchase.org

Fred & Pamela Buffett Cancer Center
Omaha, Nebraska
402.559.5600 • unmc.edu/cancercenter

Fred Hutchinson Cancer Center
Seattle, Washington
206.667.5000 • fredhutch.org

Huntsman Cancer Institute
at the University of Utah
Salt Lake City, Utah
800.824.2073 • huntsmancancer.org

Indiana University
Melvin and Bren Simon
Comprehensive Cancer Center
Indianapolis, Indiana
888.600.4822 • www.cancer.iu.edu

Mayo Clinic Cancer Center
Phoenix/Scottsdale, Arizona
Jacksonville, Florida
Rochester, Minnesota
480.301.8000 • Arizona
904.953.0853 • Florida
507.538.3270 • Minnesota
mayoclinic.org/cancercenter

Memorial Sloan Kettering
Cancer Center
New York, New York
800.525.2225 • mskcc.org

Moffitt Cancer Center
Tampa, Florida
888.663.3488 • moffitt.org

O'Neal Comprehensive
Cancer Center at UAB
Birmingham, Alabama
800.822.0933 • uab.edu/onealcancercenter

Robert H. Lurie Comprehensive Cancer
Center of Northwestern University
Chicago, Illinois
866.587.4322 • cancer.northwestern.edu

Roswell Park Comprehensive
Cancer Center
Buffalo, New York
877.275.7724 • roswellpark.org

Siteman Cancer Center at Barnes-
Jewish Hospital and Washington
University School of Medicine
St. Louis, Missouri
800.600.3606 • siteman.wustl.edu

St. Jude Children's
Research Hospital/
The University of Tennessee
Health Science Center
Memphis, Tennessee
866.278.5833 • stjude.org
901.448.5500 • uthsc.edu

Stanford Cancer Institute
Stanford, California
877.668.7535 • cancer.stanford.edu

The Ohio State University
Comprehensive Cancer Center -
James Cancer Hospital and
Solove Research Institute
Columbus, Ohio
800.293.5066 • cancer.osu.edu

The Sidney Kimmel Comprehensive
Cancer Center at Johns Hopkins
Baltimore, Maryland
410.955.8964
www.hopkinskimmelcancercenter.org

The University of Texas
MD Anderson Cancer Center
Houston, Texas
844.269.5922 • mdanderson.org

UC Davis
Comprehensive Cancer Center
Sacramento, California
916.734.5959 • 800.770.9261
health.ucdavis.edu/cancer

UC San Diego Moores Cancer Center
La Jolla, California
858.822.6100 • cancer.ucsd.edu

UCLA Jonsson
Comprehensive Cancer Center
Los Angeles, California
310.825.5268 • cancer.ucla.edu

UCSF Helen Diller Family
Comprehensive Cancer Center
San Francisco, California
800.689.8273 • cancer.ucsf.edu

University of Colorado Cancer Center
Aurora, Colorado
720.848.0300 • coloradocancercenter.org

University of Michigan
Rogel Cancer Center
Ann Arbor, Michigan
800.865.1125 • rogelcancercenter.org

University of Wisconsin
Carbone Cancer Center
Madison, Wisconsin
608.265.1700 • uwhealth.org/cancer

UT Southwestern Simmons
Comprehensive Cancer Center
Dallas, Texas
214.648.3111 • utsouthwestern.edu/simmons

Vanderbilt-Ingram Cancer Center
Nashville, Tennessee
877.936.8422 • vicc.org

Yale Cancer Center/
Smilow Cancer Hospital
New Haven, Connecticut
855.4.SMILOW • yalecancercenter.org

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Anal Cancer

2022

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