Anal Cancer Early Detection, Diagnosis, and Staging

Know the signs and symptoms of anal cancer. Find out how anal cancer is tested for, diagnosed, and staged.

Detection and Diagnosis

Finding cancer early often allows for more treatment options. Some early cancers may cause signs and symptoms that can be noticed, but that's not always the case.

- Can Anal Cancer Be Found Early?
- Signs and Symptoms of Anal Cancer
- Tests for Anal Cancer

Staging

After a cancer diagnosis, staging provides important information about the extent of cancer in the body and anticipated response to treatment.

- Anal Cancer Stages
- Anal Cancer Survival Rates

Questions to Ask About Anal Cancer

Here are some questions you can ask your cancer care team to help you better understand your cancer diagnosis and treatment options.

- Questions to Ask About Anal Cancer
Can Anal Cancer Be Found Early?

- **Screening people at high risk**

Many anal cancers can be found early. Early anal cancers often have **signs and symptoms** that lead people to see a doctor. Unfortunately, some anal cancers may not cause symptoms until they reach an advanced stage. Other anal cancers can cause symptoms like those of diseases other than cancer. This may delay their diagnosis.

Anal cancers develop in a part of the digestive tract that your doctor can easily see and get to. A digital rectal exam (DRE) can find some cases of anal cancer early. In this exam, the doctor inserts a gloved, lubricated finger into the anus to feel for unusual lumps or growths. This test is sometimes used to look for prostate cancer in men (because the prostate gland can be felt through the rectum). The rectal exam is also done routinely as part of a pelvic exam on women.

The odds that anal cancer can be found early depend on the location and type of the cancer. Cancers that begin higher up in the anal canal are less likely to cause symptoms and be found early. Anal melanomas tend to spread earlier than other cancers, making them harder to diagnose them early.

**Screening people at high risk**

Looking for a disease like cancer in someone with no symptoms is called **screening**. The goal of screening is to find cancer at an early stage, when treatment is likely to be most helpful. Anal cancer is not common in the United States, so screening the general public for anal cancer is not widely recommended at this time.

Still, some people at increased risk for **anal intraepithelial neoplasia** (AIN, a potentially pre-cancerous condition) and anal cancer might benefit from screening. This includes men who have sex with men (regardless of HIV status), women who have had **cervical cancer, vaginal cancer, or vulvar cancer**, anyone who is HIV-positive, and anyone who is immunocompromised (such as people who have received an organ transplant or are on long-term steroids). Some experts also recommend screening for anyone with a history of anal warts and women older than 45 years old who are HPV 16 positive.

For these people, some experts recommend screening with regular anal cytology testing (also known as an **anal Pap test** or **anal Pap smear** because it is much like a Pap test for cervical cancer). For an anal Pap test, the anal lining is swabbed, and cells...
that come off on the swab are looked at closely in the lab. The anal pap test can then be followed by a DRE or a procedure called an anoscopy.

The anal Pap test has not been studied enough to know how often it should be done, or if it actually reduces the risk of anal cancer by catching AIN early. Some experts recommend that the test be done every year in at-risk people who are HIV-positive, and every 2 to 3 years in at-risk people who are HIV-negative. But there is no widespread agreement on the best screening schedule, or even exactly which groups of people can benefit from screening.

Patients with positive results on an anal Pap test should be referred for a biopsy. If AIN is found on the biopsy, it might need to be treated (especially if it is high-grade).

Hyperlinks


References


Signs and Symptoms of Anal Cancer

Sometimes anal cancer causes no symptoms at all. But bleeding is often the first sign of the disease. The bleeding is usually minor. At first, most people assume the bleeding is caused by hemorrhoids (painful, swollen veins in the anus and rectum that may bleed). Hemorrhoids are a benign and fairly common cause of rectal bleeding.

Important symptoms of anal cancer include:

- Bleeding from the rectum
- Itching in or around the rectum
- A lump or mass at the anal opening
- Pain or a feeling of fullness in the anal area
- Narrowing of stool or other changes in bowel movements
- Abnormal discharge from the anus
- Incontinence of stool (loss of bowel control)
- Swollen lymph nodes in the anal or groin areas

Most often these types of symptoms are more likely to be caused by benign (non-cancer) conditions, like hemorrhoids, anal fissures, or anal warts. Still, if you have any of these symptoms, it’s important to have them checked by a doctor so that the cause can be found and treated, if needed.

References
Tests for Anal Cancer

- Medical history and physical exam
- Anoscopy
- Endoscopy
- Biopsy
- Blood tests
- Imaging tests

Some people at high risk for anal cancer are diagnosed by screening tests, such as the digital rectal exam and/or anal Pap test (described in Can Anal Cancer Be Found Early?). Sometimes a doctor will find anal cancer during a routine physical exam or during a minor procedure, such as removing a hemorrhoid. Treating cancers found this way is often very effective because the tumors are found early. (This means they’re small and haven’t spread.) But most often anal cancers are found because of signs or symptoms a person is having.

If anal cancer is suspected, exams and tests will be needed to confirm the diagnosis. If
cancer is found, more tests will be done to help determine the extent (stage) of the cancer.

Medical history and physical exam

If you have symptoms that might be caused by anal cancer, the doctor will ask about your medical history to check for possible risk factors and learn more about your symptoms.

Your doctor will also examine you to look for signs of anal cancer or other health problems. For women, this will include a pelvic exam and Pap test. A digital rectal exam will probably be done, too. (This is when the doctor puts a gloved, lubricated finger into your anus and rectum to feel for lumps or other changes). Attention will also be focused on the groin area to see if any large lymph nodes are felt.

If problems or changes are found, your doctor might do other exams or tests to help find the cause. If you’re being seen by your primary care doctor, you might be referred to a specialist such as a colorectal surgeon or a gastroenterologist (doctors specializing in diseases of the colon, rectum, and anus) for more tests and, if needed, treatment.

Anoscopy

For anoscopy the doctor uses a short, hollow, firm tube called an anoscope. It's 3 to 4 inches long and about 1 inch in diameter and may have a light on the end of it. The doctor coats the anoscope with a gel and then gently pushes it into the anus and lower rectum. By shining a light into this tube, the doctor has a clear view of the lining of the lower rectum and anus. Samples from abnormal areas (a biopsy) can be taken at the same time. You will be awake during this test, but it doesn't usually hurt.

Rigid proctosigmoidoscopy

The rigid proctosigmoidoscope is a lot like an anoscope, except that it's longer (about 10 inches long). It lets the doctor see the anus, rectum, and the lower part of the sigmoid colon. You might need to take laxatives or have an enema before this test to make sure your bowels are empty so the doctor can see any abnormal areas clearly.

Endoscopy

Endoscopy uses a thin, flexible tube with a light and tiny video camera on the end to look inside part of the body. Many types of endoscopy can be used to look for the cause
of anal symptoms. A common type is a colonoscopy that can see the anus, rectum, and entire colon. It can also be used to get tissue samples from inside the anal canal, the rectum, and colon (described below under Biopsy). A flexible sigmoidoscopy might be done instead of a colonoscopy, but this only looks at the anal canal, rectum, and lower part of the colon. Drugs may be used to make you sleepy during these tests.

**Biopsy**

If a change or growth is seen during an endoscopic exam, your doctor will need to take out a piece of it to see if it's cancer. This is called a biopsy. If the growth is in the anal canal, this can often be done through the scope itself. Drugs may be used to numb the area before the biopsy is taken. Then, a small piece of the tissue is cut out and sent to the lab. If the tumor is very small, your doctor might try to remove the entire tumor during the biopsy.

A doctor called a pathologist will look at the tissue sample under a microscope. If there is cancer, the pathologist will send back a report with the cell type and other details of the cancer, including whether it is related to an HPV infection.

Anal cancer sometimes spreads to nearby lymph nodes (bean-sized collections of immune system cells). Swollen lymph nodes in the groin can be a sign that cancer has spread. Lymph nodes may also become swollen from an infection. Biopsies may be needed to check for cancer spread to nearby lymph nodes.

There are many different ways to do a biopsy. A type called fine-needle aspiration (FNA) is often used to check lymph nodes that might have cancer in them. To do this, a small sample of tissue is taken out of the lymph node using a thin, hollow needle. A pathologist checks this tissue for cancer cells. If cancer is found in a lymph node, surgery may be done to remove the lymph nodes in that area.

**Blood tests**

**HIV test:** If you have risk factors for HIV, your doctor might order a blood test to check for it. This information is important because HIV positive patients might need to start treatment for HIV so that their immune system is as normal as possible, before starting cancer treatment.

**Imaging tests**

Imaging tests use x-rays, magnetic fields, sound waves, or radioactive substances to
create pictures of the inside of your body. Imaging tests might be done for a number of reasons both before and after a diagnosis of anal cancer, including:

- To help find cancer
- To learn how far cancer has spread
- To help see if treatment is working
- To look for signs of cancer coming back after treatment

**Ultrasound**

*Ultrasound* uses sound waves to make pictures of internal organs or masses. This test can be used to see how deep the cancer has grown into the tissues near the anus.

For most ultrasound exams a wand-like transducer is moved around on the skin. But for anal cancer, the transducer is put into the rectum. This is called a *transrectal* or *endorectal ultrasound*. The test can be uncomfortable, but it usually doesn’t hurt.

**Computed tomography (CT) scan**

*CT scans* use x-rays to make detailed cross-sectional images of your body. This is a common test for people with anal cancer. This test can help tell if the cancer has spread into the lymph nodes or to other parts of the body, such as the liver, lungs, or other organs.

*CT-guided needle biopsy:* A CT scan can also be used to guide a biopsy needle right into an area that could be cancer.

**Magnetic resonance imaging (MRI)**

*MRI scans* use radio waves and strong magnets instead of x-rays. A contrast material called *gadolinium* may be injected into a vein before the scan to see details better.

This test is sometimes used to see if nearby lymph nodes are enlarged, which might be a sign the cancer has spread there. MRI can also be used to look at abnormal areas in the liver or the brain and spinal cord that could be cancer spread.

**Chest x-ray**

A regular *x-ray* might be done to find out if the cancer has spread to the lungs. It usually
isn’t needed if a CT scan of the chest is done.

**Positron emission tomography (PET) scan**

For a PET scan, a slightly radioactive form of sugar (known as FDG) is injected into your blood. It collects mainly in cancer cells, which makes the cancer show up on the PET scan.

**PET/CT scan:** A CT scan can show more details than a PET scan, so a PET scan is often combined with a CT scan using a special machine that can do both at the same time. This lets the doctor compare areas of higher radioactivity on the PET scan with the more detailed image of that area on the CT scan.

PET/CT scans can be useful:

- If your doctor thinks the cancer might have spread but doesn’t know where. They can show spread of cancer to the liver, bones, lymph nodes in the pelvis, or other organs. They are not as useful for looking at the brain or spinal cord.
- In staging anal cancer when you are first diagnosed. But their role in checking whether treatment is working or after completion of treatment is unproven. Most doctors do not recommend PET/CT scans for routine follow up after anal cancer treatment, and most often will order CT or MRI scans to watch for cancer recurrence.

**Hyperlinks**

specimens-for-cancer.html

References


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How is the stage determined?

After someone is diagnosed with anal cancer, doctors will try to figure out if it has spread, and if so, how far. This process is called staging. The stage of a cancer describes how much cancer is in the body. It helps determine how serious the cancer is and how best to treat it. Doctors also use a cancer's stage when talking about survival statistics.

The stages of anal cancer range from stage I (1) through IV (4). As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV, means cancer has spread more. And within a stage, an earlier letter means a lower stage. Although each person’s cancer experience is unique, cancers with similar stages tend to have a similar outlook and are often treated in much the same way.

How is the stage determined?

The staging system most often used for anal cancer is the American Joint Committee on Cancer (AJCC) TNM system, which is based on 3 key pieces of information:

- The extent of the main (primary) tumor (T): What is the size of the tumor? Has it grown into nearby structures or organs?
- The spread to nearby lymph nodes (N): Has the cancer spread to nearby lymph nodes?
- The spread (metastasis) to distant sites (M): Has the cancer spread to distant lymph nodes or distant organs such as the liver or lungs?

Numbers or letters after T, N, and M provide more details about each of these factors. Higher numbers mean the cancer is more advanced. Once a person’s T, N, and M categories have been determined, this information is combined in a process called stage grouping to assign an overall stage. For more information see Cancer Staging.

Anal cancer is usually staged based on the results of a physical exam, biopsy, and imaging tests. This is called a clinical stage. If surgery is done, the pathologic stage (also called the surgical stage) is determined by examining tissue removed during an operation.

The system described below is the most recent AJCC staging system for anal cancer,
effective as of January 2023. It is used for tumors in the anal canal and perianal area (also called the anal margin).

Cancer staging can be complex, so ask your doctor to explain it to you in a way you understand.

<table>
<thead>
<tr>
<th>AJCC Stage</th>
<th>Stage grouping</th>
<th>Stage description*</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>T1 N0 M0</td>
<td>The cancer is no more than 2 cm (about 4/5 inch) across (T1). It has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).</td>
</tr>
<tr>
<td></td>
<td>T2 N0 M0</td>
<td>The cancer is more than 2 cm (about 4/5 inch) but not more than 5 cm (about 2 inches) across (T2). The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).</td>
</tr>
<tr>
<td>IIA</td>
<td>T1-T2 N1 M0</td>
<td>The cancer is no more than 5 cm (about 2 inches) across (T1 or T2) AND it has spread to lymph nodes near the rectum (N1) but not to distant parts of the body (M0).</td>
</tr>
<tr>
<td>IIB</td>
<td>T3 N0 M0</td>
<td>The cancer is larger than 5 cm (about 2 inches) across (T3). It has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).</td>
</tr>
<tr>
<td></td>
<td>T3 N1 M0</td>
<td>The cancer is larger than 5 cm (about 2 inches) across (T3) AND it has spread to lymph nodes near the rectum (N1) but not to distant parts of the body (M0).</td>
</tr>
<tr>
<td>IIIA</td>
<td>T4 N0 M0</td>
<td>The cancer is any size and is growing into nearby organ(s), such as the vagina, urethra (the tube that carries urine out of the bladder), prostate gland, or bladder (T4). It has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).</td>
</tr>
<tr>
<td>Stage</td>
<td>T</td>
<td>N</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>IIIC</td>
<td>T4</td>
<td>N1</td>
</tr>
<tr>
<td>IV</td>
<td>Any T</td>
<td>Any N</td>
</tr>
</tbody>
</table>

*The following additional categories are not listed on the table above:

- **TX**: Main tumor cannot be assessed due to lack of information.
- **T0**: No evidence of a primary tumor.
- **NX**: Regional lymph nodes cannot be assessed due to lack of information.

**Hyperlinks**


**References**


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**Anal Cancer Survival Rates**
Survival rates can give you an idea of what percentage of people with the same type and stage of cancer are still alive a certain amount of time (usually 5 years) after they were diagnosed. They can’t tell you how long you will live, but they may help give you a better understanding of how likely it is that your treatment will be successful.

Keep in mind that survival rates are estimates and are often based on previous outcomes of large numbers of people who had a specific cancer, but they can’t predict what will happen in any particular person’s case. These statistics can be confusing and may lead you to have more questions. Ask your doctor how these numbers may apply to you.

What is a 5-year relative survival rate?

A relative survival rate compares people with the same type and stage of cancer to people in the overall population. For example, if the 5-year relative survival rate for a specific stage of anal cancer is 80%, it means that people who have that cancer are, on average, about 80% as likely as people who don’t have that cancer to live for at least 5 years after being diagnosed.

Where do these numbers come from?

The American Cancer Society relies on information from the Surveillance, Epidemiology, and End Results (SEER) database, maintained by the National Cancer Institute (NCI), to provide survival statistics for different types of cancer.

The SEER database tracks 5-year relative survival rates for anal cancer in the United States, based on how far the cancer has spread. The SEER database, however, does not group cancers by AJCC TNM stages (stage 1, stage 2, stage 3, etc.). Instead, it groups cancers into localized, regional, and distant stages:

- **Localized:** There is no sign that the cancer has spread outside of the anal area.
- **Regional:** The cancer has spread outside the anal area to nearby structures or lymph nodes.
- **Distant:** The cancer has spread to distant parts of the body, such as the liver or lungs.

5-year relative survival rates for anal cancer

These numbers are based on people diagnosed with anal cancer between 2012 and 2018.
<table>
<thead>
<tr>
<th>SEER* stage</th>
<th>5-year relative survival rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localized</td>
<td>83%</td>
</tr>
<tr>
<td>Regional</td>
<td>67%</td>
</tr>
<tr>
<td>Distant</td>
<td>36%</td>
</tr>
<tr>
<td>All SEER stages combined</td>
<td>70%</td>
</tr>
</tbody>
</table>

*SEER = Surveillance, Epidemiology, and End Results

Understanding the numbers

- **These numbers apply only to the stage of the cancer when it is first diagnosed.** They do not apply later on if the cancer grows, spreads, or comes back after treatment.
- **These numbers don’t take everything into account.** Survival rates are grouped based on how far the cancer has spread. But other factors, such as your age and overall health, the type of anal cancer you have, and how well the cancer responds to treatment, can also affect your outlook.
- **People now being diagnosed with anal cancer may have a better outlook than these numbers show.** Treatments improve over time, and these numbers are based on people who were diagnosed and treated at least five years earlier.

Hyperlinks


References

Questions to Ask About Anal Cancer

- When you’re told you have anal cancer
- When deciding on a treatment plan
- During treatment
- After treatment

It’s important to have honest, open discussions with your cancer care team. They want to answer all your questions, so that you can make informed treatment and life decisions. For instance, consider these questions:

**When you’re told you have anal cancer**

- What kind of anal cancer do I have?
- Has my cancer spread beyond where it started?
- What is the stage of my cancer and what does this mean in my case?
- Will I need other tests before we can decide on treatment?
- Will I need to see other doctors?
- If I’m concerned about the costs and insurance coverage for my diagnosis and treatment, who can help me?

**When deciding on a treatment plan**

- How much experience do you have treating this type of cancer?
- Should I get a second opinion? How do I do that? Can you recommend someone or a cancer center?
- What are my treatment choices?
- What treatment would you recommend for me? Why?
- What is the goal of each treatment?
- What are the chances my cancer can be cured with these options?
- How quickly do I need to decide on treatment?
- What should I do to be ready for treatment?
• How long will treatment last? What will it be like? Where will it be done?
• What are the risks or side effects of the treatments you suggest? How long are they likely to last?
• Will I need to have a colostomy?
• How soon do I need to start treatment?
• Will treatment affect my daily activities?
• What would my options be if the treatment doesn't work or if the cancer comes back after treatment?

During treatment

• How will we know if the treatment is working?
• Is there anything I can do to help manage side effects?
• What symptoms or side effects should I tell you about right away?
• How can I reach you on nights, holidays, or weekends?
• Do I need to change what I eat during treatment?
• Are there any limits on what I can do?
• Can you suggest a mental health professional I can see if I start to feel overwhelmed, depressed, or distressed?

After treatment

• Are there any limits on what I can do?
• What symptoms should I watch for?
• What kind of exercise should I do now?
• What type of follow-up will I need after treatment?
• How often will I need to have follow-up exams and imaging tests?
• Will I need any blood tests?
• How will we know if the cancer has come back? What should I watch for?
• What will my options be if the cancer comes back?
• How soon after treatment can I return to my normal activities, such as work, school, exercise, or sex?

Along with these sample questions, be sure to write down some of your own. For instance, you might want more information about recovery times. Or you might want to
ask if you qualify for a clinical trial.

Doctors are not the only ones who can provide you with information. Other health care professionals, such as nurses and social workers, can also answer some of your questions. You can find out more about communicating with your health care team in The Doctor-Patient Relationship.

Hyperlinks


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