



## Anal Cancer

Anal cancer, also known as anal carcinoma, is cancer of the anus. To help diagnose this condition, your doctor will perform a digital rectal exam and anoscopy. An MRI, CT, PET/CT, or an endoanal ultrasound may also be ordered by your doctor.

Depending on the size, location, and extent of the cancer, treatments may include surgery, radiation therapy and chemotherapy.



## What is anal cancer?

Anal cancer is a cancer that begins in the anus, the opening at the end of the gastrointestinal tract through which stool, or solid waste, leaves the body. The anus begins at the bottom of the rectum, which is the last part of the large intestine (also called the colon).

Anal cancer usually affects adults over age 60 and women more often than men. More than 8,000 people in the U.S. are diagnosed with anal cancer each year.

Anal cancer symptoms may include changes in bowel habits and changes in and around the anal area, including:

- bleeding and itching
- pain or pressure
- unusual discharge
- a lump or mass
- fecal incontinence
- fistulae.

Some patients with anal cancers do not experience any symptoms. Some non-cancerous conditions, such as hemorrhoids and fissures, may cause similar symptoms.

## How is anal cancer diagnosed and evaluated?

To diagnose the cause of symptoms, your doctor may perform:

**Digital rectal examination (DRE):** Digital Rectal Exam (DRE): This test examines the lower rectum and the prostate gland in males to check for abnormalities in size, shape or texture. The term "digital" refers to the clinician's use of a gloved lubricated finger to conduct the exam. A DRE is used to examine the anal lesion and adjacent lymph nodes. In women, a vaginal examination may also be performed to determine the site and size of the lesion, involvement of the vagina, and presence of a fistula .

**Anoscopy:** This procedure uses a special camera at the end of a tube that allows the doctor to see inside the anus and rectum and to perform a biopsy of the anal lesion and determine anatomical relations to surrounding structures for accurate clinical staging. If the area is painful, this exam may be performed under anesthesia.

**Magnetic Resonance Imaging (MRI) of the Pelvis:** This imaging test uses a magnetic field and radio frequency pulses to produce detailed pictures of the internal organs and is helpful for determining tumor size, involvement of lymph nodes, and invasion of adjacent organs. No radiation is involved.

**Endoanal ultrasound:** This imaging procedure uses high frequency sounds waves generated from a probe inserted into the anus and rectum to produce images that help evaluate the structure of the sphincter and the thickness of the muscles surrounding the anal canal. This test is also used to identify a tear in the sphincter muscles and to evaluate a tumor's size and the depth of invasion.

**Computed Tomography (CT) of the Abdomen and Pelvis:** This imaging exam uses x-rays to determine the amount of cancer spread and may be used to create pictures of the chest, abdomen and pelvis.

**PET/CT:** Positron emission tomography (PET) is a type of nuclear medicine scan that uses a small amount of radioactive material to image body functions. A PET/CT exam fuses images from PET and CT scans to detect and anatomically localize cancer and determine the amount of cancer spread.

## How is anal cancer treated?

Anal cancer is curable when found early. Treatment options depend on the:

- type of cancer cell present
- stage of the cancer
- tumor location
- patient's human immunodeficiency virus (HIV) status
- recurrence of the cancer following treatment
- patient's preference and overall health.

The primary goal of treatment is to cure the disease and preserve anal function with the best possible quality of life. Treatments differ depending on whether the tumor involves the anal canal or anal margin.

## Anal canal

There are two types of standard treatment for anal cancer of the anal canal—radiation therapy and chemotherapy.

Radiation therapy is a cancer treatment that uses high-energy x-rays or other types of radiation to kill cancer cells.

Two types of radiation therapy are used to treat anal cancer:

- external beam therapy, in which high-energy x-ray beams generated by a machine are directed at the tumor from outside the body.
- internal radiation, also called brachytherapy, in which the radioactive material is placed directly into or near to the tumor.

Chemotherapy is a cancer treatment that uses chemical substances or drugs to kill cancer cells or stop them from dividing. It is usually given over time and alternated with periods of no treatment. Side effects, such as abnormal blood-cell counts, fatigue, diarrhea, mouth sores, and a compromised immune system may occur.

Surgery is not typically performed as an initial standard treatment because it would result in removal of the anal sphincter and a permanent colostomy, in which the end of the intestine is attached to an opening in the surface of the abdomen and body waste is collected in a disposable bag outside of the body.

An abdominoperineal resection may be performed if the tumor does not respond to chemoradiation therapy or if the anal sphincter does not work well. In this surgical procedure, the anus, rectum, and part of the large intestine are removed through an incision made in the abdomen. Lymph nodes that contain cancer may also be removed.

## Anal margin

Standard treatment for cancer of the anal margin may be a local resection if the tumor is small and does not involved lymph nodes or have distant spread. Chemoradiation may be used as a supplemental treatment if the tumor is close to or involves the surgical margin.

Chemoradiation therapy is a standard treatment for all other types of tumors involving the anal margin. See the Anal Cancer Treatment page for more information.

## Disclaimer

This information is copied from the RadiologyInfo Web site (<http://www.radiologyinfo.org>) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in

several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at <http://www.radiologyinfo.org> to view or download the latest information.

**Note:** Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

## Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright © 2019 Radiological Society of North America, Inc.