

Colorectal Cancer

Colorectal cancer or colorectal carcinoma is cancer of the colon and/or rectum. Your doctor may perform a colonoscopy, CT colonography (also known as virtual colonoscopy) or an air-contrast barium enema to help diagnose your condition. Your doctor also may order blood tests, an abdominal and pelvic CT, chest CT, PET/CT, pelvic MRI or an endorectal ultrasound to help assess the cancer and look for any signs of spread.

Depending on the size, extent and stage of the cancer, surgery may be required. Advanced cases may require treatment with radiation therapy such as external beam therapy (EBT). Your doctor may also prescribe chemotherapy to decrease the chance of the tumor returning elsewhere in the body.

What is colorectal carcinoma?

Colorectal carcinoma is a cancer, or malignant tumor, of the large intestine, which may affect the colon or rectum. The colon (also called the large intestine) is broken up into a few different anatomic segments and attached to your small intestine. The colon is composed of the cecum/ascending colon (on the right side of your body), the transverse colon (in the middle part of your body), the descending colon (on the left side of your body), and the sigmoid colon (in your pelvis area). The sigmoid colon connects to your rectum which is the lowest part of the large intestine that is located right above the anal canal.

Factors such as age, race, personal or family history of colon disease and diet can play a significant role in having an increased risk of developing colorectal cancer.

Many colon cancers develop over a long period of time, often arising from pre-cancerous colon polyps that gradually grow and can turn into cancer. Many early stage colon cancers do not cause any symptoms at all. Therefore, various methods of colon cancer screening are currently recommended in the hope of finding the polyp or cancer at a time when it can be removed and cured. You should talk to your physician about if and when colon cancer screening would be appropriate.

If the cancer has grown to a size where it causes symptoms, these may include:

- Abdominal pain, cramps or gas
- Weight loss
- Fatigue
- Changes in bowel movements such as diarrhea, constipation, bloating or very thin stool
- Blood in the stool or rectal bleeding
- Partial or complete blockage of stool/feces passage



How is colorectal cancer diagnosed and evaluated?

In order to diagnose colon cancer your doctor may order:

- **Colonoscopy:** This examination uses a flexible tube with a tiny camera at the end, which is inserted through the anus into the colon. The camera captures images of the interior of the large intestine. Polyps and/or tissue samples may be removed and evaluated to determine whether they are cancerous.
- **CT Colonography** (https://www.radiologyinfo.org/en/info/ct_colo) : A small tube is inserted into the rectum and air is used to inflate the colon. Then, low radiation dose CT images of the abdomen and pelvis are obtained while you lie on your back and then stomach. You may also be asked to lie on your side. Specially trained radiologists will usually interpret this exam using software designed for CT colonography. This exam can also detect polyps and masses. If abnormalities are found, you will typically need to get a regular colonoscopy.
- **Air-contrast barium enema** (<https://www.radiologyinfo.org/en/info/lowergi>) : Also called a lower GI (gastrointestinal exam), this x-ray exam of the large intestine allows radiologists to view the colon and rectum in real-time and detect abnormal growths. This test is rarely performed for colon cancer screening in the United States as better tests are now available.

Other types of imaging exams that your doctor may order include:

- **Abdominal and Pelvic CT** (<https://www.radiologyinfo.org/en/info/abdominect>) : This imaging procedure uses x-rays to quickly identify sources of pain or abnormalities within the gastrointestinal tract.
- **PET/CT** (<https://www.radiologyinfo.org/en/info/pet>) : Positron emission tomography (PET) is a type of nuclear medicine scan that uses a small amount of radioactive material to localize areas of inflammation or cancer in the body. A PET/CT exam combines images from PET and CT scans.
- **Magnetic Resonance Imaging (MRI) of the Body** (<https://www.radiologyinfo.org/en/info/bodymr>) : This imaging test uses a large magnet to produce detailed pictures of the internal organs. It may determine the extent of disease if the patient has been diagnosed with rectal cancer, look at the stage of the tumor or assess other organs for signs of cancer spread (metastatic disease). No radiation is involved.
- **Endorectal Ultrasound:** This imaging test uses high frequency sound waves generated from a probe, which is inserted into the rectum. The sound waves create a picture of the rectal wall and surrounding tissue. No radiation is involved. This test may be used to determine the local extent of disease if the patient has been diagnosed with rectal cancer.

How is colorectal cancer treated?

Depending on the size and extent of spread of the cancer, patients may need to undergo a surgery, removing part or all of the colon, in order to remove the tumor. For some patients, an ileostomy or colostomy may be needed, which diverts bowel content into an external bag. Advanced cases may require radiation therapy treatments (usually combined with chemotherapy) prior to surgery. This is usually given as:

- **External Beam Therapy (EBT)** (<https://www.radiologyinfo.org/en/info/ebt>) : This treatment is a form of radiation therapy done by aiming several beams of high-energy x-rays directly at a patient's tumor over the course of one to six weeks. These x-rays deliver radiation to the patient's tumor in order to destroy the cancer cells while minimizing the effects on the surrounding healthy tissues. Most common side effects are fatigue and changes in bowel movement frequency.

In many cases, chemotherapy may be used, either as a standalone treatment or in combination with radiation therapy. Chemotherapy is given to decrease the chance of the tumor returning elsewhere in the body or to decrease the amount of tumor throughout the body if all of the tumor(s) cannot be removed surgically. 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.

Which test, procedure or treatment is best for me?

- Staging of Colorectal Cancer (<https://www.radiologyinfo.org/en/info/acs-staging-of-colorectal-cancer>)

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 © 2024 Radiological Society of North America, Inc.