



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 an abdominal and pelvic CT, PET/CT, body MRI or an endorectal ultrasound.

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. Typically, the colon is the upper five or six feet of the large intestine, and the rectum is the lower five to seven inches located 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 which gradually grow and may turn into cancer. Many early stage colon cancers do not initially 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 consider talking 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 bowel passage

How is colorectal cancer diagnosed and evaluated?

In order to diagnose the cause of symptoms, your doctor may order:

- **Colonoscopy:** This examination uses a flexible tube with a tiny camera at the end, which is inserted 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:** A small tube is inserted into the rectum and air is used to inflate the colon. Then, low dose CT images of the abdomen and pelvis are obtained with the patient lying on their back and then stomach. Software can then create a three-dimensional (3-D) interior view of the colon, allowing specially trained radiologists to look for abnormalities (such as polyps) in the large intestine.
- **Air-contrast barium enema:** 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 any abnormal growths.

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

- **Abdominal and Pelvic CT:** This imaging procedure uses x-rays to quickly identify sources of pain or abnormalities within the gastrointestinal tract.
- **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.
- **Magnetic Resonance Imaging (MRI) of the Body:** This imaging test uses a magnetic field and radio frequency pulses to produce detailed pictures of the internal organs and is helpful for detecting diseases of the small intestine, colon, rectum and anus. 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 such as:

- External Beam Therapy (EBT): This treatment is a form of radiation therapy done by aiming several beams or high-energy x-rays directly at a patient's tumor. 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.

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.

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