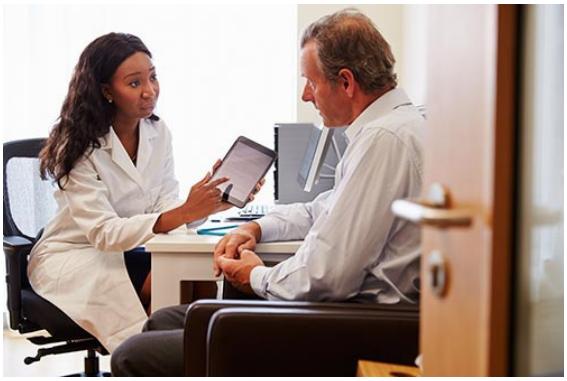
Colorectal Cancer Treatment

Colorectal cancer overview



Colorectal cancer is also known as large bowel cancer. Both terms describe malignant tumors found in the colon and rectum. The colon and rectum are part of the gastrointestinal tract (http://www.radiologyinfo.org) . Typically, the colon is the upper 5 or 6 feet of the large intestine. The rectum is the lower 5 to 7 inches located above the anal canal.

In the United States, colorectal cancer is a leading cause of cancer-related death. However, the number of deaths from the disease continues to fall thanks to improved tests that detect cancer early, when it is most easily treated. Physical activity and a good diet can lower your risk for colorectal cancer.

What are my treatment options?

Treatment options overview

Treatment options depend on the stage (http://www.radiologyinfo.org) of the colon cancer—that is, how far it has spread. The stage also depends on how deeply cancer is affecting the intestinal wall and other tissues and whether it is in the colon or rectum. In general, colon cancer patients receive post-operative chemotherapy if the lymph nodes are positive. Rectal cancer patients with positive nodes or tumors that extend into the fat surrounding the rectum receive chemotherapy plus radiation before surgery. Your doctor will tailor your treatment according to your age, medical history, overall health, and tolerance for specific medications and therapies.

Standard options include:

- Partial colectomy (http://www.radiologyinfo.org) (partial bowel resection)—The surgeon removes the tumor and normal tissue on either side of the diseased area in the colon and reconnects the healthy colon. Sometimes the surgeon may have to create a temporary colostomy (http://www.radiologyinfo.org) until the healthy tissue has healed. The colostomy creates an opening for solid waste from the bowel. The patient wears a special bag outside the body which collects the waste for disposal. At times, the colostomy may be permanent.
- Laparoscopic surgery (http://www.radiologyinfo.org) or “keyhole” surgery—The surgeon inserts small, tube-like instruments and a camera into the abdomen through incisions in the abdominal wall. The surgeon sees what the camera sees on a video monitor. They may remove a large section of the bowel and adjacent tissue, called the mesentery (http://www.radiologyinfo.org) .
- Radiation therapy (http://www.radiologyinfo.org) — High-energy radiation kills cancer cells. Your doctor may use radiation in combination with surgery as definitive therapy (http://www.radiologyinfo.org) . Or, they may use it to reduce (palliate (http://www.radiologyinfo.org)) cancer symptoms such as pain, bleeding, or blockage. Selected rectal cancer patients may receive radiation therapy prior to surgery to improve outcomes. Typically, your doctor may use one of the following radiation therapies:
    - External beam therapy (EBT) (https://www.radiologyinfo.org/en/info/ebt) *:* EBT delivers a beam of high-energy x-rays or protons to the tumor. A machine generates and targets the radiation beam at the tumor site. EBT destroys cancer cells, and conformal treatment plans spare surrounding normal tissues from exposure.

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- *Brachytherapy (https://www.radiologyinfo.org/en/info/brachy) :* the temporary placement of radioactive source(s) within the body to give an extra dose—or boost—of radiation to the area of the excision site or to any residual tumor.
- Doctors use brachytherapy on rare occasions.
- Chemotherapy (http://www.radiologyinfo.org) — Drugs are given through an IV or by mouth to kill cancer cells. Low doses of chemotherapy are often given at the same time as radiation therapy in order to help the radiation work better. Some patients may need higher doses of one or more chemotherapy drugs either before or after surgery to decrease the chance of the tumor returning elsewhere in the body. Like radiation therapy, chemotherapy can also ease disease symptoms and increase length of survival for patients with metastatic (http://www.radiologyinfo.org) or incurable tumors. It is usually given over time and alternated with periods of no treatment. This helps ease potential side effects, such as abnormal blood-cell counts, fatigue, diarrhea, mouth sores, and a compromised or weakened immune system.

How can I choose from among the options?

The team of doctors responsible for your care will provide you with information specific to your care. Your doctors will recommend the appropriate type(s) of treatment for you and will discuss these options with you. Generally, patients undergo a specific therapy because a cancer specialist has recommended it as the best way to treat the cancer.

If you are to undergo radiation therapy, a radiation oncologist will determine how much radiation is needed and where. They will also determine how many treatments will be necessary.

If I choose surgery, will radiation treatment still be required?

Your doctor may use radiation to shrink a tumor before surgery or destroy any remaining cancer cells afterward.

How effective is modern radiation treatment of colorectal cancer?

Surgery is the most effective way to treat colorectal cancer. Radiation therapy is most effective as an additional or adjuvant therapy (http://www.radiologyinfo.org) either before or after surgery. It reduces the chance of cancer spread or recurrence.

Doctors do not normally use radiation as the only "definitive (http://www.radiologyinfo.org) " treatment for colorectal cancer. They usually provide it in combination with chemotherapy to help the radiation work better. Patients may receive chemotherapy intravenously or orally.

What happens during radiation therapy?

Radiation therapy uses high energy x-rays (photons) or a stream of particles. At high doses—much higher than x-ray exams use—it can destroy abnormal cells that cause cancer. It does this by damaging the cell's DNA (http://www.radiologyinfo.org) , which eventually causes the cell to die.

Because of the importance of treating the cancer but sparing healthy tissue, you will visit the medical center before actual therapy for treatment planning (http://www.radiologyinfo.org) and simulation (http://www.radiologyinfo.org) . The best patient positions for radiation exposure are determined for accurate, effective therapeutic results. The doctor may mark your skin with permanent ink. They may create customized lead shields to protect healthy organs or shape the radiation fields for your situation using special blocks inside the radiation machine. CT or MRI scans may help better visualize the tumor and the sensitive normal tissues and aid in treatment planning.

What are possible side effects of radiation therapy?

Side effects that develop during treatment vary from person to person. However, some side effects are typical.

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There are usually no immediate side effects from each radiation treatment. Most patients gradually develop mild fatigue over the course of therapy. This slowly goes away one to two months following treatment. Some patients develop some redness, dryness, and itching of the skin after a few weeks. Other patients develop substantial irritation.

Skin reactions usually heal completely within a few weeks of completing treatment.

Diarrhea, frequent bowel movements, or appetite loss is likely to occur at some point during the course of treatment. Generally, side effects stop gradually once treatment ceases, but bowel function may remain different from what it was before the disease started.

What kind of treatment follow-up should I expect?

Colorectal cancer can recur, or reappear, in a patient previously treated for the disease. Because patients can sometimes be cured after their tumor recurs, follow-up care is critically important.

- Physical exam. Patients will undergo frequent physical exams from a few weeks to many years after treatment. This is especially true if treatment side effects do not go away or new symptoms develop. Pain, unexplained weight loss, or bleeding can occur with tumor recurrence.
- Blood tests. Follow-up evaluation usually includes blood tests. An abnormal result may indicate that the colorectal cancer is back.
- Colonoscopy (http://www.radiologyinfo.org) . About one year after treatment, patients usually undergo colonoscopy to detect recurrence or development of new benign or malignant masses. If exam findings are normal, it should be repeated three years later, then every five years after that.
- Imaging. Also during follow-up exams, a patient may undergo computed tomography (http://www.radiologyinfo.org) (CT) or magnetic resonance imaging (http://www.radiologyinfo.org) (MRI). CT and/or MRI can help determine treatment response and detect disease spread. Occasionally, your doctor may use positron emission tomography (http://www.radiologyinfo.org) (PET) to detect disease spread. However, they will normally only use PET when other symptoms are present..

Are there any new developments in treating my disease?

- Doctors are developing new drugs that enhance the tumor-killing ability of radiation therapy and chemotherapy. These drugs can work in a variety of ways but often enhance the normal cell-killing processes within the body.
- Intensity modulated radiation therapy (IMRT) and proton therapy may allow for treatment with a reduced chance of long-term bowel complications. *See the IMRT page (https://www.radiologyinfo.org/en/info/imrt) and the Proton Therapy page (https://www.radiologyinfo.org/en/info/protonthera) for more information.*
- Doctors are developing drugs to stop angiogenesis. This is the formation of new blood vessels that nourish the cancerous tumor. These drugs can shrink tumors or prevent disease from spreading.
- Immunotherapy (http://www.radiologyinfo.org) enhances the body's immune system and increases the likelihood that the cancer cells will be killed.
- Monoclonal antibodies (http://www.radiologyinfo.org) are manmade proteins that can identify a cancer cell for destruction or prevent the tumor cell from dividing.
- Doctors are developing vaccines that may cause the body to produce more antibodies (http://www.radiologyinfo.org) to kill cancer cells.
- Gene therapy (http://www.radiologyinfo.org) involves altering genetic material. Doctors either introduce a new gene to enhance the body’s ability to kill cancer cells or administer a gene directly to the cancer cells, causing them to die. Getting the gene to the right cells in the body is a major challenge. The treatment is still experimental and in its early stages of development.

Clinical Trials

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For information and resources about clinical trials and to learn about current clinical trials being conducted, see:

- Clinical Trials (https://www.cancer.gov/pediatric-adult-rare-tumor/participate/featured-clinical-trials) - from the National Cancer Institute's Web site

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