



GENERAL COLON CANCER INFORMATION



What is colorectal cancer?

Colorectal cancer (CRC) is cancer that develops in the colon or the rectum. The colon and rectum are parts of the digestive system, which is also called the gastrointestinal, or GI, tract. The digestive system processes food for energy and rids the body of solid waste. Colorectal cancer usually develops slowly over a period of many years. Before a true cancer develops, it usually begins as a non-cancerous polyp which may eventually change into cancer. A polyp is a growth of tissue that develops on the lining of the colon or rectum. Certain kinds of polyps, called adenomas, are most likely to become cancerous.

The extent to which a colorectal cancer has spread is described as its stage. The process of staging involves performing exams and tests to learn the extent of the cancer within the body, especially whether the disease has spread from the original site to other parts of the body. It is important to know the stage of the disease in order to plan the best treatment.

Who gets colorectal cancer?

Anyone can get colorectal cancer. CRC is the third most commonly diagnosed cancer and the second most common cause of cancer death in the United States, with about 145,290 new diagnosed cases and 56,290 deaths expected in 2005. When men and women are considered separately, CRC is the third most common cause of cancer death in each sex.

What are the known risk factors for colorectal cancer?

- *Age:* Although colorectal cancer can strike at any age, 91% of new cases and 94% of deaths occur in individuals older than 50. The incidence rate of colorectal cancer is more than 50 times higher in people aged 60-79 than in those younger than 40.
- *Gender:* Colorectal cancer affects both men and women, but overall, CRC incidence and mortality rates are about 35% higher in men than in women.
- *Ethnic background and Race:* CRC incidence and mortality rates are currently highest in African-American men and women, and Jews of Eastern European descent currently also have a higher rate of colon cancer than Caucasian men and women. However, because of disproportionate screening, minorities, particularly African-Americans and Hispanics, are more likely to be diagnosed with colorectal cancer in advanced stages. As a result, death rates are higher for these populations.
- *Diet:* A diet made up mostly of foods that are high in fat, especially from animal sources, can increase the risk of colorectal cancer. Eating a varied diet, choosing most foods from plant sources, and limiting the intake of foods high in saturated fat will help protect people from developing colorectal cancer.
- *Exercise:* People who are not active have a higher risk of colorectal cancer. Engaging in at least moderate activity for 30 minutes or more on 5 or more days per week will reduce colorectal cancer risk.
- *Smoking and Alcohol:* Recent studies show that smokers are 30% to 40% more likely than nonsmokers to die of colorectal cancer. Moderate to heavy use of alcohol, or 4 or more drinks per week, has also been linked to colorectal cancer.
- *Personal history of bowel disease:* A personal history of colon cancer or intestinal polyps and diseases such as chronic ulcerative colitis, Crohn's

Disease, and Inflammatory Bowel Disease increase a person's risk of developing colorectal cancer.

- *Family history/genetic factors:* A person who has a specific inherited gene syndrome (such as Familial Adenomatous Polyposis (FAP) or Hereditary Non-Polyposis Colon Cancer (HNPCC)) is at increased risk for developing colorectal cancer. People with a strong family history of colorectal cancer (defined as cancer or polyps in a first-degree relative - parent or brother or sister - younger than 60 or two first-degree relatives of any age) are also at increased risk for developing colorectal cancer. However, 75% of cases occur in people with no family history of colorectal cancer.

What are the symptoms of colorectal cancer?

The following symptoms might indicate colorectal cancer:

- Change in bowel habits
- Diarrhea, constipation, vomiting
- Narrower than normal stools
- Unexplained weight loss
- Constant tiredness
- Blood in the stool
- Feeling that the bowel does not empty completely
- Abdominal discomfort - gas, bloating, fullness, cramps
- Unexplained anemia

If you experience any of these symptoms for more than a few days, talk with a certified gastroenterologist about them. Colorectal cancer can be present in people without symptoms, known family history, or predisposing conditions, such as inflammatory bowel disease. Regular screening will help identify

precancerous polyps and colorectal cancers earlier. Visit www.askasge.org and click on “Find a Doctor” to locate a qualified gastroenterologist in your area.

Why is screening for colorectal cancer important?

Colorectal cancer screening saves lives in two important ways:

1. By finding and removing precancerous polyps before they become cancerous
2. By detecting the cancer early when it is most treatable

All men and women over the age of 50 should be routinely screened for colorectal cancer. People with a high risk for CRC and those with family history should talk with their gastroenterologist about being screened at an earlier age.

What are the screening tests for colorectal cancer?

Screening is done on individuals who do not necessarily have any signs or symptoms that may indicate cancer. If symptoms exist, then diagnostic workups are done rather than screening. These are the tests available in screening for colorectal cancer and some general pros and cons for each:

Stool blood test (fecal occult blood test--FOBT): This test is used to find small amounts of hidden (occult) blood in the stool. A sample of stool is tested for traces of blood. People having this test will receive a kit with instructions that explain how to take stool samples at home. The kit is then sent to a lab for testing. If the test is positive, further tests will be done to pinpoint the exact cause of the bleeding.

A newer kind of stool blood test is known as FIT (fecal immunochemical test). It is very much like the FOBT but is perhaps a little easier to do and it gives a fewer number of false positive results.

PROS:

- Simple
- Cost-effective
- Can be done in the doctor's office as a quick test but full test must be done at home

CONS:

- Viewed as unsanitary by some
- Patient must retrieve samples from stool in toilet bowl
- DOES NOT DETECT CANCER, only detects blood presence in stool

Flexible sigmoidoscopy (flex-sig): A sigmoidoscope is a slender, lighted tube about the thickness of a finger. It is placed into the lower part of the colon through the rectum. This allows the gastroenterologist to look at the inside of the rectum and part of the colon for cancer or polyps. Because the tube is only about 2 feet long, the doctor is only able to see about half of the colon. The test can be uncomfortable but it should not be painful. Before the test, you will need to take an enema to clean out the lower colon.

PROS:

- More cost effective than the more thorough and complete tests

CONS:

- Can only examine the lower third of the colon
- Research has repeatedly demonstrated that in actual practice this test is not being used to its full effectiveness and therefore is rarely examining the entire third of the colon that it could view
- If positive diagnosis of polyps is found, MUST BE FOLLOWED UP WITH A COLONOSCOPY

Colonoscopy: A colonoscope is a longer version of the sigmoidoscope. It allows the doctor to see the entire colon. If a polyp is found, the gastroenterologist may remove it. If anything else looks abnormal, a biopsy might be done. To do this, a small piece of tissue is taken out through the colonoscope. The tissue is sent to

the lab to see if cancer cells are present. This test can be uncomfortable, but not painful. To avoid this, you will be given medicine through a vein to make you feel relaxed and sleepy.

PROS:

- Examines the entire colon, making this the most thorough method for evaluating the colorectal area
- High detection rate for polyps, and ability to remove them immediately during the procedure, rather than scheduling a second exam
- Biopsies can be taken of any abnormal areas at the same time as the screening or diagnostic test is being done
- Given the “Gold Standard” rating above all other screening options by: American Society for Gastrointestinal Endoscopy (ASGE), American Gastroenterological Association (AGA), American College of Gastroenterology (ACG), and the American Cancer Society (ACS)

CONS:

- More expensive than other types of screening if not covered by insurance

Barium enema with air contrast: A chalky substance is used to partly fill and open up the colon. Air is then pumped in to cause the colon to expand. This allows good x-ray films to be taken. Laxatives must be used the night before the exam and an enema is given the morning of the exam.

PROS:

- Lower cost than colonoscopy if neither is covered by insurance

CONS:

- Radiation has health risks associated with it
- In practice, it is frequently not used effectively
- Misses too many polyps
- If positive diagnosis for polyps is found, **MUST BE FOLLOWED UP WITH A COLONOSCOPY**

Virtual colonoscopy (CT Colonography): You might think of this as a super x-ray of the colon. Air is pumped into the colon to cause it to expand, and then a special CT scan is done. This test is not among those recommended by ASGE or the ACS for finding colon cancer early. More studies are needed to find out if it is as good as other existing methods of finding colon cancer early.

PROS:

- Examines the entire colon
- High detection rate for polyps

CONS:

- More expensive than other types of screening
- Cannot remove polyps
- Cannot take a biopsy
- If polyps or anything abnormal is found, **MUST BE FOLLOWED UP WITH A COLONOSCOPY**

Where should you go to get Screened?

A board certified gastroenterologist is the person most capable of proper screening for colorectal cancer. A gastroenterologist is a physician with dedicated training and unique experience in the management of diseases of the GI tract. A gastroenterologist must first complete a three-year internal medicine residency and is then eligible for additional specialized training (fellowship) in gastroenterology. This fellowship is generally 2-3 years long, and is an intense, rigorous program where future gastroenterologists learn directly from nationally recognized experts in the field and develop a detailed understanding of GI diseases. By the time gastroenterologists have completed their training, they have had 5-6 years of additional specialized education beyond medical school.

Furthermore, gastroenterologists receive dedicated training in Endoscopy by expert instructors. Endoscopy is the use of narrow, flexible lighted tubes with

built-in video cameras to visualize the inside of the intestinal tract. This specialized training includes detailed and intensive study of how and when to perform Endoscopy, optimal methods to complete these tests safely and effectively, and use of sedating medications to ensure the comfort and safety of patients. These gastroenterologists specializing in Endoscopy learn how to accurately interpret the findings and biopsy results of their studies. The most critical emphasis during this exhaustive training is attention to detail and incorporation of their comprehensive knowledge of the entire GI tract to provide the highest quality Endoscopy, such as colonoscopy, and consultative services. The final product is a highly trained specialist with a unique combination of broad scientific knowledge, general internal medicine training, superior endoscopic skills and experience, and the ability to integrate these elements to provide optimal health care for patients.

The American Society for Gastrointestinal Endoscopy carefully scrutinizes the education experience of Endoscopists all over the world to ensure that they receive the highest quality training prior to being Board Certified. All of the more than 8,500 ASGE members worldwide specialize in GI Endoscopy, including colonoscopy and other procedures relating to maintaining your gastrointestinal health. Visit www.askasge.org and click on "Find a Doctor" to locate an expertly trained GI Endoscopist in your area to perform your colonoscopy.

Who should be screened?

Colorectal cancer screening should be a part of routine healthcare for people over the age of 50. People at higher risk for colorectal cancer should be screened earlier. These people should discuss colorectal cancer screening with their certified Gastroenterologist to determine the right plan for them.

The bottom line is, screening saves lives. Colorectal cancers almost always develop from precancerous polyps (abnormal growths) in the colon or rectum. Screening tests can find polyps, so that they can be removed before they turn into cancer. Screening tests also can find colorectal cancer early, when treatment works best and the chance for a full recovery is very high.

Having regular screening tests beginning at age 50 could save your life.

How many people are being screened for colorectal cancer?

Unfortunately, screening rates are low. In a recent survey of Americans over 50 conducted by the Centers for Disease Control (CDC), only 41% reported having had either an FOBT (the take-home stool card test) or a partial colon exam (by sigmoidoscopy) within the time intervals recommended by major professional groups such as ASGE. This number falls far short of the 86% of women who were screened for breast cancer.

Some reasons for low colorectal cancer screening rates include:

- Lack of public awareness about colorectal cancer and the benefits of regular screening
- Inconsistent promotion of screening by medical care providers
- Uncertainty among healthcare providers and consumers about insurance benefits
- Characteristics of the screening procedures (e.g., imperfect tests, negative attitudes towards the screening procedures)
- Absence of social support for openly discussing and doing something about "the disease down there"

How is colorectal cancer diagnosed?

If something suspicious turns up as a result of screening or if you have symptoms, you will need further tests. Symptoms of colorectal cancer include:

- Change in bowel habits such as diarrhea, constipation, or narrowing of the stool that lasts for more than a few days
- Feeling that you need to have a bowel movement that doesn't go away after doing so
- bleeding from the rectum or blood in the stool (often, though, the stool will look normal)
- cramping or steady stomach pain
- weakness and tiredness

Just because you have these symptoms does not mean you have cancer. But, you need to talk to your GI doctor to be sure. It is also possible to have colon cancer and not have any symptoms.

If there is any reason to suspect colon or rectal cancer, the Gastroenterologist will ask you questions about your symptoms and risk factors (take a medical history) and do a physical exam. Then you will need to have further tests to find out if the disease is really present and if so, to see how far it has spread. Some of these tests are the same ones that are used for screening people who do not have symptoms.

How is colorectal cancer treated?

Treatment for colorectal cancer is most effective when the cancer is found early. Colorectal cancer treatment may include surgery, radiation, chemotherapy, or any combination of these. Surgery is the first line of defense against colorectal cancer. Some patients may have radiation and/or chemotherapy prior to surgery. Others might have one or both afterwards, and some will not have either.

Medicare Coverage

Not long ago, Medicare started paying for colonoscopy for people 50 and older. In the past, Medicare only covered the exam for people at high risk. The American Cancer Society led the efforts to expand coverage of this test. People on Medicare now have more choices for screening tests.

For people on Medicare, this is what is covered:

Stool blood test (FOBT or FIT) each year for those 50 and over

Flexible sigmoidoscopy (flex-sig) every 4 years for those 50 and over at average risk

Colonoscopy every 2 years for those at high risk

Colonoscopy once every 10 years for those 50 and over at average risk

Barium enema with air contrast instead if a doctor believes that it is as good as or better than flex-sig or colonoscopy.

Colorectal Cancer Survival Rates

Nine out of 10 people whose colorectal cancer is found and treated at an early stage, before it has spread, live at least five years. Once the cancer has spread to nearby organs or lymph nodes, the 5-year survival rate goes down. The 5-year survival rate is the percentage of patients who are alive 5 years after diagnosis (leaving out those who die of other causes). Of course, patients might live more than 5 years after diagnosis.

*Colon cancer survival rates**

<u>Stage</u>	<u>Survival Rate</u>
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- Stage I 93%
- Stage IIA 85%
- Stage IIB 72%
- Stage IIIA 83%
- Stage IIIB 64%
- Stage IIIC 44%
- Stage IV 8%

* Based on the American Joint Committee on Cancer (AJCC) staging system which divides stages II and III into sub-stages. Rectal cancer survival is about the same. Check with your GI doctor to find out the exact stage of your disease.

These numbers provide an overall picture, but keep in mind that every person's situation is unique and the statistics can't predict exactly what will happen in your case. Talk with your cancer care team if you have questions about your own chances of a cure, or how long you might survive your cancer. They know your situation best.

What is being done to find better ways to treat colorectal cancer?

Scientists are looking for ways to prevent this cancer, as well as ways to improve early detection treatments.

Researchers have found natural substances in the body that promote cell growth. These are known as growth factors. Some cancer cells grow especially fast because they respond more to growth factors than normal cells do. New drugs that can spot these types of cells are now being tested in clinical trials. The drugs might prevent cancer cells from growing so quickly. Another drug which interferes with the formation of blood vessels that nourish the tumors, has also been FDA-approved.

Chemoprevention is the use of natural or man-made chemicals to lower a person's risk of getting cancer. Researchers are testing whether substances such as fiber, minerals, vitamins, or drugs can lower colorectal cancer risk.

Studies of vitamin supplements and colorectal cancer risk have given conflicting results. Some studies have found that people who take multivitamins with folic acid (folate) have a lower colorectal cancer risk. Recent studies have found that people who took vitamin D supplements had a lower rate of colorectal cancer. And, eating extra amounts of low-fat dairy products or using calcium supplements may reduce the formation of colorectal adenomatous polyps. Most experts say that people should not take large doses of vitamins or minerals unless they are part of a study or are under the care of a Board Certified Gastroenterologist.

It appears that a diet high in fruits and vegetables may lower colorectal cancer risk as well as the risk of several other diseases. This hasn't been completely proven by all studies. Nearly all experts agree that it is better to eat more fruits and vegetables rather than to add fiber supplements to the diet.

Scientists are learning more about some of the changes in DNA that cause cells of the colon and rectum to become cancerous. Understanding how these genes work should lead to new drugs and treatments to correct these problems. Early phases of gene therapy trials are already going on throughout North America.

Studies are going on to look at how well current colorectal cancer screening methods work and to explore new ways to inform the public about the importance of using these methods. **Fewer than half of Americans over 50 have any colorectal cancer testing at all. If everyone were tested, tens of thousands of lives could be saved each year.** Meanwhile, new tests are also being developed.

Treatments that boost a person's immune system to fight colorectal cancer better are being tested in clinical trials. Also, many trials are going on to test new combinations of chemotherapy drugs and to test the best ways to combine chemotherapy with radiation therapy or immunotherapy.

CRC Key Statistics:

Excluding skin cancers, colorectal cancer is the third most common cancer diagnosed in men and in women in the United States. Colorectal cancer is the second leading cause of cancer-related deaths in the United States and is expected to cause about 56,290 deaths (28,540 men and 27,750 women) during 2005.

The death rate from colorectal cancer has been dropping for the past 15 years. There are a number of likely reasons for this. One reason is probably because polyps are being found by screening before they can develop into cancers. Also, colorectal cancer is being found earlier when it is easier to cure, and treatments have improved. Because of this, there are approximately 1 million survivors of colorectal cancer in the United States, and this number continues to grow.

The 5-year relative survival rate for people whose colorectal cancer is treated in an early stage, before it has spread, is greater than 90%. But, only 39% of colorectal cancers are found at that early stage. Once the cancer has spread to nearby organs or lymph nodes, the 5-year relative survival rate goes down.