

# Colon Cancer

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## What is it?

Colon cancer, also known as *colorectal cancer*, is one or more tumors growing in the *colon* or *rectum*. The colon is also called the large intestine or bowel. The rectum is at the end of the colon, forming the passageway for bowel movements to pass out of the body. Cancer (or *malignant* tumor) is the uncontrolled growth of disorganized cells which have been damaged.

If colon cancer cells spread to other parts of the body such as the liver, and begin new tumors there, it is still colon cancer, not liver cancer. The tumors are called *metastatic* (spreading) colon cancer.

## What causes it?

Researchers are still trying to figure out exactly what causes a person to develop colon cancer. Most colorectal cancers occur in persons at average risk, but 20% occur among patients with specific risk factors. More than 80% of colon cancers arise from *adenomatous polyps* (smooth, finger-like growths). Although fewer than 1% of polyps less than 1 cm will eventually develop into cancer, 10% of adenomatous polyps greater than 1 cm become malignant within 10 years, and about 25% become malignant after 20 years. At age 50, 20-25% of people have adenomatous polyps.

### Risk factors

- Adenomatous Polyps
- Age 50 and over
- Family history in close relatives
- Diet high in fat and low in fiber
- Ulcerative colitis

## Who gets it?

Colorectal cancers are the 3<sup>rd</sup> most common cancers in the US and the 2<sup>nd</sup> leading cause of cancer death. Each year more than 148,000 people in the US learn they have colon cancer. About 56,000 will die from it. An individual's lifetime risk of developing colon cancer

is 6% with over 90% of cases occurring in persons over age 50. The average patient dying of colorectal cancer loses 13 years of life.

A small proportion (6% of all cases) of people have inherited genetic mutations that predispose them to develop colon cancer. *Familial Adenomatous Polyposis* is diagnosed when more than 100 polyps are found in the colon. Nearly 100 % of these people develop colon cancer. *Hereditary Nonpolyposis Colorectal Cancer* is a cancer syndrome where few, if any, polyps are found. These people tend to have right-sided cancers and also develop cancers elsewhere in the body.

## What are the symptoms?

The symptoms and signs of colon cancer are all non-specific. They can also be caused by conditions other than colon cancer.

### Symptoms

- Constipation
- Diarrhea
- Bloody stools
- Narrow stools
- Stomach discomfort, including bloating
- Sensation of incomplete bowel emptying
- Unintentional weight loss
- Fatigue

## How do you prevent it?

While early detection does not necessarily prevent colon cancer, it does increase the chances of successful treatment. Study findings indicate that at least one-third of colon cancer deaths could be prevented with regular screening. The US Preventive Services Task Force strongly recommends men and women 50 years of age or older be screened for colon cancer. The American Cancer Society and the American Academy of Family Physicians issue similar recommendations. The appropriate age at which screening should be discontinued is not known. Trials suggest a life expectancy of at least 5 years is needed to benefit.

There are currently 4 different recommended options for colon cancer screening. Each option has advantages and disadvantages that vary for each person. While the best choice remains controversial, what is clear is that screening by any of these methods is better than no screening at all. The choice of which screening strategy should be selected by the patient.

**Fecal occult blood testing (FOBT)** – Recent studies show that annual screening with FOBT (followed by colonoscopy for positive tests) over 10-15 years detected 49% of all cancers and reduced colorectal cancer death by 33%. The test is performed yearly on a stool sample smeared on a paper card at home.

**Flexible sigmoidoscopy (Flex sig)** – The procedure uses a thin endoscope passed into the anus up to the lower colon. Past studies show a colon cancer risk reduction of about 40% even though only about 40-45% of the colon can be looked at with flex sig. It is recommended to be repeated every 5 years.

**Double-contrast barium enema (DCBE)** – In the National Polyp Study, DCBE detected 48% of clinically significant polyps greater than 1 cm. DCBE is an X-ray exam and should be repeated every 5 years.

**Colonoscopy** – Colonoscopy is more likely to detect cancer than flex sig and FOBT for detecting cancer and is considered the gold standard. After an overnight bowel clean out preparation, a flexible tube, light and camera are passed through the anus and throughout the colon all the way to the appendix. Estimates are that 90% of all significant polyps and cancers are detected. A major advantage of colonoscopy is that polyps can be removed during the same exam. If your test shows no abnormalities and you do not have any high risk factors, the recommendation is to repeat colonoscopy only once every 10 years. Significant risks include perforation of the colon, bleeding, and cardiac complications during sedation used for the procedure. It is unclear whether the increased accuracy of colonoscopy compared with alternative screening methods are large enough to justify the procedure's additional complications, inconvenience and costs.

There are also 2 newer methods for screening that have not been fully studied or compared, but hold exciting new promise.

**DNA stool test** – Testing for genetic markers of colon cancer in a stool sample collected at home without special preparation detects 92% of cancers and 42% of advanced adenomas. It costs about \$500. It should be repeated every 3 years.

**Virtual colonoscopy** – Also known as computed tomographic colonography, this technology uses a CT scanner with a computer to generate a 3D image of the colon. It is able to detect 90% of clinically significant tumors and polyps. It is less invasive than traditional

colonoscopy and no IV's or sedation are necessary. However, colonograph involves radiation exposure. It costs about \$1000. Most insurance plans do not currently cover it, and if anything is found, a follow up colonoscopy is needed as well.

## Can it be treated?

Treatment for colon cancer is traditionally a combination of therapies. Ongoing trials are modifying treatment approaches to try and minimize side effects while preventing progression of the cancer.

- **Surgery** is the most common treatment for colon cancer. The surgery involves removing the portion of your colon containing the cancer, and stitching back together the remaining healthy portions. Sometimes this is not possible right away and a *colostomy* must be done. A colostomy creates an opening in your abdomen through which bowel movements pass. Only about 15% of patients have a permanent colostomy.

- **Chemotherapy** uses drugs to kill the cancerous cells. The drugs affect your whole body because they circulate in your bloodstream. Chemotherapy may be used on its own or after surgery to try and prevent the cancer from spreading. It is usually given in cycles so that you can recover between doses.

- **Radiation** uses high-energy light waves to damage and stop the growth of cancer cells. It is often used after surgery to make sure any remaining cancer cells are destroyed.

## Are there complications?

Colorectal cancer can be cured about half of the time. The cure rate depends largely on how deeply the cancer has spread in the colon wall and whether it has spread to other sites, like the liver, lung and bone.

### In summary

- Colon cancer is the 3rd most common cancer and second leading cause of cancer death.
- The symptoms of colon cancer can be vague.
- The US Preventive Services Task Force strongly recommends that all persons 50 and older be screened for colon cancer.
- For more information, call the NIH Cancer Information Service at (800) 4-CANCER or [www.cancer.gov](http://www.cancer.gov) or the American Cancer Society at (800) 227-2345 or [www.cancer.org](http://www.cancer.org).

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