



[cancer.org](https://www.cancer.org) | 1.800.227.2345

Colorectal Cancer Early Detection, Diagnosis, and Staging

Detection and Diagnosis

Finding cancer early, when it's small and hasn't spread, often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that's not always the case.

- [Can Colorectal Polyps and Cancer Be Found Early?](#)
- [American Cancer Society Guideline for Colorectal Cancer Screening](#)
- [Colorectal Cancer Screening Tests](#)
- [Insurance Coverage for Colorectal Cancer Screening](#)
- [Colorectal Cancer Signs and Symptoms](#)
- [Tests to Diagnose and Stage Colorectal Cancer](#)
- [Understanding Your Pathology Report](#)

Stages and Outlook (Prognosis)

After a cancer diagnosis, staging provides important information about the extent of cancer in the body and anticipated response to treatment.

- [Colorectal Cancer Stages](#)
- [Survival Rates for Colorectal Cancer](#)

Questions to Ask About Colorectal Cancer

Here are some questions you can ask your cancer care team to help you better understand your cancer diagnosis and treatment options.

- [Questions to Ask About Colorectal Cancer](#)

Can Colorectal Polyps and Cancer Be Found Early?

Screening is the process of looking for cancer or pre-cancer in people who have no symptoms of the disease. Regular colorectal cancer screening is one of the most powerful tools against colorectal cancer.

Screening can often find colorectal cancer early, when it's small, hasn't spread, and might be easier to treat. **Regular screening can even prevent colorectal cancer.** A polyp can take as many as 10 to 15 years to develop into cancer. With screening, doctors can find and remove polyps before they have the chance to turn into cancer.

Why is colorectal cancer screening important?

Colorectal cancer is a leading cause of cancer death in the US. But the [death rate](#)¹ (the number of deaths per 100,000 people per year) of colorectal cancer has been dropping for several decades. One reason for this is that colorectal polyps are now more often found by screening and removed before they can develop into cancers.

When colorectal cancer is found at an early stage before it has spread, the 5-year relative survival rate is about 90%. But only about 4 out of 10 colorectal cancers are found at this early stage. When cancer has spread outside the colon or rectum, survival rates are lower.

Unfortunately, about 1 in 3 people in the US who should get tested for colorectal cancer have never been screened. This may be because they don't know that regular testing could save their lives from this disease, or due to things like cost and health insurance coverage issues.

See [Colorectal Cancer Screening Tests](#) for more on the tests used to screen for colorectal cancer. [American Cancer Society Recommendations for Colorectal Cancer Early Detection](#) has our guidelines for using these tests to find colorectal cancer and polyps.

Hyperlinks

1. www.cancer.org/cancer/colon-rectal-cancer/about/key-statistics.html

References

American Cancer Society. *Cancer Facts & Figures 2020*. Atlanta, American Cancer Society; 2020.

American Cancer Society. *Colorectal Cancer Facts & Figures 2020-2022*. Atlanta, American Cancer Society; 2020.

Howlander N, Noone AM, Krapcho M, Miller D, Brest A, Yu M, Ruhl J, Tatalovich Z, Mariotto A, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2016, National Cancer Institute. Bethesda, MD, https://seer.cancer.gov/csr/1975_2016/, based on November 2018 SEER data submission, posted to the SEER web site, April 2019.

Last Revised: June 29, 2020

American Cancer Society Guideline for Colorectal Cancer Screening

For people at average risk

The COVID-19 pandemic has resulted in many elective procedures being put on hold, and this has led to a substantial decline in cancer screening. Health care facilities are providing cancer screening during the pandemic with many safety precautions in place. Learn how you can talk to your doctor and what steps you can take to plan, schedule, and get your regular cancer screenings in [Cancer Screening During the COVID-19 Pandemic¹](#).

The ACS recommends that people at average risk* of colorectal cancer **start regular screening at age 45**. This can be done either with a sensitive test that looks for signs of

cancer in a person's stool (a stool-based test), or with an exam that looks at the colon and rectum (a visual exam). These options are listed below.

People who are in good health and with a life expectancy of more than 10 years should continue regular colorectal cancer screening through the **age of 75**.

For people **ages 76 through 85**, the decision to be screened should be based on a person's preferences, life expectancy, overall health, and prior screening history.

People **over 85** should no longer get colorectal cancer screening.

*For screening, people are considered to be at average risk if they **do not** have:

- A personal history of colorectal cancer or certain types of polyps
- A family history of colorectal cancer
- A personal history of inflammatory bowel disease (ulcerative colitis or Crohn's disease)
- A confirmed or suspected hereditary colorectal cancer syndrome, such as familial adenomatous polyposis (FAP) or Lynch syndrome (hereditary non-polyposis colon cancer or HNPCC)
- A personal history of getting radiation to the abdomen (belly) or pelvic area to treat a prior cancer

Test options for colorectal cancer screening

Several test options are available for colorectal cancer screening:

Stool-based tests

- Highly sensitive fecal immunochemical test (FIT) every year
- Highly sensitive guaiac-based fecal occult blood test (gFOBT) every year
- Multi-targeted stool DNA test (mt-sDNA) every 3 years

Visual (structural) exams of the colon and rectum

- Colonoscopy every 10 years
- CT colonography (virtual colonoscopy) every 5 years

- Flexible sigmoidoscopy (FSIG) every 5 years

There are some differences between these tests to consider (see [Colorectal Cancer Screening Tests](#)), but **the most important thing is to get screened, no matter which test you choose**. Talk to your health care provider about which tests might be good options for you, and to your [insurance provider about your coverage](#).

If a person chooses to be screened with a test other than colonoscopy, any abnormal test result should be followed up with a timely colonoscopy.

For people at increased or high risk

People at increased or high risk of colorectal cancer might need to start colorectal cancer screening before age 45, be screened more often, and/or get specific tests. This includes people with:

- A strong family history of colorectal cancer or certain types of polyps (see [Colorectal Cancer Risk Factors²](#))
- A personal history of colorectal cancer or certain types of polyps
- A personal history of inflammatory bowel disease (ulcerative colitis or Crohn's disease)
- A known family history of a hereditary colorectal cancer syndrome such as familial adenomatous polyposis (FAP) or Lynch syndrome (also known as hereditary non-polyposis colon cancer or HNPCC)
- A personal history of radiation to the abdomen (belly) or pelvic area to treat a prior cancer

The American Cancer Society does not have screening guidelines specifically for people at increased or high risk of colorectal cancer. However, some other professional medical organizations, such as the US Multi-Society Task Force on Colorectal Cancer (USMSTF), do put out such guidelines. These guidelines are complex and are best looked at along with your health care provider. In general, these guidelines put people into several groups (although the details depend on each person's specific risk factors).

People at increased risk for colorectal cancer

People with one or more family members who have had colon or rectal cancer

Screening recommendations for these people depend on who in the family had cancer and how old they were when it was diagnosed. Some people with a family history will be able to follow the recommendations for average risk adults, but others might need to get a colonoscopy (and not any other type of test) more often, and possibly starting before age 45.

People who have had certain types of polyps removed during a colonoscopy

Most of these people will need to get a colonoscopy again after 3 years, but some people might need to get one earlier (or later) than 3 years, depending on the type, size, and number of polyps.

People who have had colon or rectal cancer

Most of these people will need to start having colonoscopies regularly about one year after surgery to remove the cancer. Other procedures like MRI or proctoscopy with ultrasound might also be recommended for some people with rectal cancer, depending on the type of surgery they had.

People who have had radiation to the abdomen (belly) or pelvic area to treat a prior cancer

Most of these people will need to start having colorectal screening (colonoscopy or stool based testing) at an earlier age (depending on how old they were when they got the radiation). Screening often begins 5 years after the radiation was given or at age 30, whichever comes last. These people might also need to be screened more often than normal (such as at least every 3 to 5 years).

People at high risk for colorectal cancer

People with inflammatory bowel disease (Crohn's disease or ulcerative colitis)

These people generally need to get colonoscopies (not any other type of test) starting at least 8 years after they are diagnosed with inflammatory bowel disease. Follow-up colonoscopies should be done every 1 to 3 years, depending on the person's risk factors for colorectal cancer and the findings on the previous colonoscopy.

People known or suspected to have certain genetic syndromes

These people generally need to have colonoscopy (not any of the other tests).

Screening is often recommended to begin at a young age, possibly as early as the teenage years for some syndromes – and needs to be done much more frequently. Specifics depend on which genetic syndrome you have, and other factors.

If you're at increased or high risk of colorectal cancer (or think you might be), talk to your health care provider to learn more. Your provider can suggest the best screening option for you, as well as determine what type of screening schedule you should follow, based on your individual risk.

Hyperlinks

1. www.cancer.org/healthy/find-cancer-early/cancer-screening-during-covid-19-pandemic.html
2. www.cancer.org/cancer/colon-rectal-cancer/causes-risks-prevention/risk-factors.html

References

Children's Oncology Group. Long-Term Follow-Up Guidelines for Survivors of Childhood, Adolescent, and Young Adult Cancer. Version 5.0 - October 2018. Accessed at http://www.survivorshipguidelines.org/pdf/2018/COG_LTFU_Guidelines_v5.pdf on Feb 11, 2020.

Lichtenstein GR, Loftus EV, Isaacs KL, Regueiro MD, Gerson LB, Sands BE. ACG Clinical Guideline: Management of Crohn's Disease in Adults. *Am J Gastroenterol*. 2018 Apr;113(4):481-517. doi: 10.1038/ajg.2018.27. Epub 2018 Mar 27.

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Genetic/Familial High-Risk Assessment: Colorectal. V.3.2019. Accessed at https://www.nccn.org/professionals/physician_gls/pdf/genetics_colon.pdf on Feb 10, 2020.

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Rectal Cancer. V.1.2020. Accessed at https://www.nccn.org/professionals/physician_gls/pdf/rectal.pdf on Feb 10, 2020.

Rubin DT, Ananthakrishnan AN, Siegel CA, Sauer BG, Long MD. ACG Clinical Guideline: Ulcerative Colitis in Adults. *Am J Gastroenterol*. 2019 Mar;114(3):384-413. doi: 10.14309/ajg.000000000000152.

Screening for colon and rectal cancer in average-risk adults. *CA Cancer J Clin.* 2018 Jul;68(4):282-283. doi: 10.3322/caac.21458. Epub 2018 May 30.

Smith RA, Andrews KS, Brooks D, Fedewa SA, Manassaram-Baptiste D, Saslow D et al. Cancer screening in the United States, 2018: A review of current American Cancer Society guidelines and current issues in cancer screening. *CA: Cancer J Clin.* 2018;68(4):297-316. doi: 10.3322/caac.21446. Epub 2018 May 30.

Wolf AMD, Fontham ETH, Church TR, Flowers CR, Guerra CE, LaMonte SJ, Colorectal cancer screening for average-risk adults: 2018 guideline update from the American Cancer Society. *CA Cancer J Clin.* 2018 Jul;68(4):250-281. doi: 10.3322/caac.21457. Epub 2018 May 30.

Last Revised: November 17, 2020

Colorectal Cancer Screening Tests

Screening is the process of looking for cancer in people who have no symptoms. Several tests can be used to screen for colorectal cancer (see [American Cancer Society Guideline for Colorectal Cancer Screening](#)). **The most important thing is to get screened, no matter which test you choose.**

These tests can be divided into 2 main groups:

- **Stool-based tests:** These tests check the stool (feces) for signs of cancer. These tests are less invasive and easier to have done, but they need to be done more often.
- **Visual (structural) exams:** These tests look at the structure of the colon and rectum for any abnormal areas. This is done either with a scope (a tube-like instrument with a light and tiny video camera on the end) put into the rectum, or with special imaging (x-ray) tests.

These tests each have different risks and benefits (see the table below), and some of them might be better options for you than others.

If you choose to be screened with a test other than colonoscopy, any abnormal

test result should be followed up with a timely colonoscopy.

Some of these tests might also be used if you have [symptoms of colorectal cancer](#) or other digestive diseases such as inflammatory bowel disease.

Stool-based tests

These tests look at the stool (feces) for possible signs of colorectal cancer or polyps. These tests are typically done at home, so many people find them easier than tests like a colonoscopy. But these tests need to be done more often. And if the result from one of these stool tests is positive (abnormal), you will still need a colonoscopy to see if you have cancer.

Fecal immunochemical test (FIT)

One way to test for colorectal cancer is to look for occult (hidden) blood in the stool. The idea behind this type of test is that blood vessels in larger colorectal polyps or cancers are often fragile and easily damaged by the passage of stool. The damaged vessels usually bleed into the colon or rectum, but only rarely is there enough bleeding for blood to be seen by the naked eye in the stool.

The fecal immunochemical test (FIT) checks for hidden blood in the stool from the lower intestines. This test must be done every year, unlike some other tests (like the visual tests described below). It can be done in the privacy of your own home.

Unlike the gFOBT (see below), there are no drug or dietary restrictions before the FIT test (because vitamins and foods do not affect the test), and collecting the samples may be easier. This test is also less likely to react to bleeding from the upper parts of the digestive tract, such as the stomach.

Collecting the samples: Your health care provider will give you the supplies you need for testing. Have all of your supplies ready and in one place. Supplies typically include a test kit, test cards or tubes, long brushes or other collecting devices, waste bags, and a mailing envelope. The kit will give you detailed instructions on how to collect the samples. **Be sure to follow the instructions that come with your kit, as different kits might have different instructions.** If you have any questions about how to use your kit, contact your health care provider's office or clinic. Once you have collected the samples, return them as instructed in the kit.

If the test result is positive (that is, if hidden blood is found), a colonoscopy will need to be done to investigate further. Although blood in the stool can be from cancer or polyps,

it can also be from other causes, such as ulcers, hemorrhoids, or other conditions.

Guaiaac-based fecal occult blood test (gFOBT)

The guaiac-based fecal occult blood test (gFOBT) finds occult (hidden) blood in the stool through a chemical reaction. It works differently from the FIT, but like the FIT, the gFOBT can't tell if the blood is from the colon or from other parts of the digestive tract (such as the stomach).

This test must be done every year, unlike some other tests (like the visual tests described below). This test can be done in the privacy of your own home. It checks more than one stool sample.

If gFOBT is chosen for colorectal screening, the American Cancer Society recommends the highly sensitive versions of this test be used.

Before the test: Some foods or drugs can affect the results of this test, so you may be instructed to avoid the following before this test:

- Non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen (Advil), naproxen (Aleve), or aspirin, for 7 days before testing. (They can cause bleeding, which can lead to a false-positive result.) **Note:** People should try to avoid taking NSAIDs for minor aches prior to the test. But if you take these medicines daily for heart problems or other conditions, don't stop them for this test without talking to your health care provider first.
- Vitamin C more than 250 mg a day from either supplements or citrus fruits and juices for 3 to 7 days before testing. (This can affect the chemicals in the test and make the result negative, even if blood is present.)
- Red meats (beef, lamb, or liver) for 3 days before testing. (Components of blood in the meat may cause a positive test result.)

Some people who are given the test never do it or don't return it because they worry that something they ate may affect the test. Even if you are concerned that something you ate may alter the test, the most important thing is to get the test done.

Collecting the samples: You will get a kit with instructions from your health care provider's office or clinic. The kit will explain how to take stool samples at home (usually samples from 3 separate bowel movements are smeared onto small paper cards). The kit is then returned to the doctor's office or medical lab for testing.

When doing this test, have all of your supplies ready and in one place. Supplies typically include a test kit, test cards, either a brush or wooden applicator, and a mailing envelope. The kit will give you detailed instructions on how to collect the stool samples. **Be sure to follow the instructions that come with your kit, as different kits might have different instructions.** If you have any questions about how to use your kit, contact your health care provider's office or clinic. Once you have collected the samples, return them as instructed in the kit.

If the test result is positive (if hidden blood is found), a colonoscopy will be needed to find the reason for the bleeding.

A FOBT done during a digital rectal exam in the doctor's office (which only checks one stool sample) is not enough for proper screening, because it is likely to miss most colorectal cancers.

Stool DNA test

A stool DNA test (also known as a *multitargeted stool DNA test* [MT-sDNA] or *FIT-DNA*) looks for certain abnormal sections of DNA from cancer or polyp cells and also for occult (hidden) blood. Colorectal cancer or polyp cells often have DNA mutations (changes) in certain genes. Cells with these mutations often get into the stool, where tests may be able to find them. Cologuard, the only test currently available in the US, tests for both DNA changes and blood in the stool (FIT).

This test should be done every 3 years and can be done in the privacy of your own home. It tests a full stool sample. There are no drug or dietary restrictions before taking the test.

Collecting the samples: You'll get a kit in the mail to use to collect your entire stool sample at home. The kit will have a sample container, a bracket for holding the container in the toilet, a bottle of liquid preservative, a tube, labels, and a shipping box. The kit has detailed instructions on how to collect the sample. **Be sure to follow the instructions that come with your kit.** If you have any questions about how to use your kit, contact your doctor's office or clinic. Once you have collected the sample, return it as instructed in the kit.

If the test is positive (if it finds DNA changes or blood), a colonoscopy will be needed to be done.

Visual (structural) exams

These tests look at the inside of the colon and rectum for any abnormal areas that might be cancer or polyps. These tests can be done less often than stool-based tests, but they require more preparation ahead of time, and can have some risks not seen with stool-based tests.

Colonoscopy

For this test, the doctor looks at the entire length of the colon and rectum with a colonoscope, a flexible tube about the width of a finger with a light and small video camera on the end. It's put in through the anus and into the rectum and colon. Special instruments can be passed through the colonoscope to biopsy (take a sample) or remove any suspicious-looking areas such as polyps, if needed.

To see a visual animation of a colonoscopy as well as learn more details about how to prepare for the procedure, how the procedure is done, and potential side effects, see [Colonoscopy](#)¹.

(Note: This test is different from a virtual colonoscopy (also known as *CT colonography*), which is a type of [CT scan](#)².)

CT colonography (virtual colonoscopy)

This test is an advanced type of computed tomography (CT) scan of the colon and rectum that can show abnormal areas, like polyps or cancer. Special computer programs use both x-rays and a CT scan to make 3-dimensional pictures of the inside of the colon and rectum. It does not require sedation (medicine to sleep) or any type of instrument or scope being put into the rectum or colon.

This test may be useful for some people who can't have or don't want to have a more invasive test such as a colonoscopy. It can be done fairly quickly, but it requires the same type of bowel prep as for a colonoscopy.

If polyps or other suspicious areas are seen on this test, a colonoscopy will still be needed to remove them or to explore the area fully.

Before the test: It's important that the colon and rectum are emptied before this test to get the best images. You'll probably be told to follow the same instructions to clean out the intestines as someone getting a colonoscopy.

During the test: This test is done in a special room with a CT scanner. It takes about 10 minutes. You may be asked to drink a contrast solution before the test to help

identify any stool left in the colon or rectum, which helps the doctor when looking at the images. You'll be asked to lie on a narrow table that's part of the CT scanner, and will have a small, flexible tube put into your rectum. Air is pumped through the tube into the colon and rectum to expand them to provide better pictures. The table then slides into the CT scanner, and you'll be asked to hold your breath for about 15 seconds while the scan is done. You'll likely have 2 scans: one while you're lying on your back and one while you're on your stomach or side.

Possible side effects and complications: There are usually few side effects after this test. You may feel bloated or have cramps because of the air in the colon and rectum, but this should go away once the air passes from the body. There's a very small risk that inflating the colon with air could injure or puncture it, but this risk is thought to be much less than with colonoscopy. Like other types of CT scans, this test also exposes you to a small amount of radiation.

Flexible sigmoidoscopy

A flexible sigmoidoscopy is similar to a colonoscopy except it doesn't examine the entire colon. A sigmoidoscope (a flexible, lighted tube about the thickness of a finger with a small video camera on the end) is put in through the anus, into the rectum and then moved into the lower part of the colon. But the sigmoidoscope is only about 2 feet (60cm) long, so the doctor can only see less than half of the colon and the entire rectum. Images from the scope are seen on a video screen so the doctor can find and possibly remove any abnormal areas.

This test is not widely used as a screening tool for colorectal cancer in the United States.

Before the test:

The colon and rectum should be emptied before this test to get the best pictures. You'll probably be told to follow similar instructions to clean out the intestines as someone getting a colonoscopy.

During the test: A sigmoidoscopy usually takes about 10 to 20 minutes. Most people don't need to be sedated for this test, but this might be an option you can discuss with your doctor. Sedation may make the test less uncomfortable, but you'll need some time to recover from it and you'll need someone with you to take you home after the test.

You'll probably be asked to lie on a table on your left side with your knees pulled up near your chest. Before the test, your doctor may put a gloved, lubricated finger into your rectum to examine it. The sigmoidoscope is first lubricated to make it easier to put

into the rectum. Air is then pumped into the colon and rectum through the sigmoidoscope so the doctor can see the inner lining better. This may cause some discomfort, but it should not be painful. Be sure to let your doctor know if you feel pain during the procedure.

If you are not sedated during the procedure, you might feel pressure and slight cramping in your lower belly. To ease discomfort and the urge to have a bowel movement, it may help to breathe deeply and slowly through your mouth. You'll feel better after the test once the air leaves your bowels.

If any polyps are found during the test, the doctor may remove them with a small instrument passed through the scope. The polyps will be looked at in the lab. **If a pre-cancerous polyp (an adenoma) or colorectal cancer is found, you'll need to have a colonoscopy later to look for polyps or cancer in the rest of the colon.**

Possible complications and side effects: You might see a small amount of blood in your bowel movements for a day or 2 after the test. More serious bleeding and puncture of the colon or rectum are possible, but they are not common.

What are some of the benefits and limits of colorectal cancer screening tests?

Test	Benefits	Limits
Fecal immunochemical test (FIT)	<ul style="list-style-type: none"> No direct risk to the colon No bowel prep No pre-test diet or medication changes needed Sampling done at home Fairly inexpensive 	<ul style="list-style-type: none"> Can miss many polyps and some cancers Can have false-positive test results Needs to be done every year Colonoscopy will be needed if abnormal
Guaiac-based fecal occult blood test (gFOBT)	<ul style="list-style-type: none"> No direct risk to the colon No bowel prep 	<ul style="list-style-type: none"> Can miss many polyps and some cancers Can have false-positive test results

	<p>Sampling done at home</p> <p>Inexpensive</p>	<p>Pre-test diet changes (and possibly medication changes) are needed</p> <p>Needs to be done every year</p> <p>Colonoscopy will be needed if abnormal</p>
Stool DNA test	<p>No direct risk to the colon</p> <p>No bowel prep</p> <p>No pre-test diet or medication changes needed</p> <p>Sampling done at home</p>	<p>Can miss many polyps and some cancers</p> <p>Can have false-positive test results</p> <p>Should be done every 3 years</p> <p>Colonoscopy will be needed if abnormal</p> <p>Still fairly new – may have insurance coverage issues</p>
Colonoscopy	<p>Can usually look at the entire colon</p> <p>Can biopsy and remove polyps</p> <p>Done every 10 years</p> <p>Can help find some other diseases</p>	<p>Can miss small polyps</p> <p>Full bowel prep needed</p> <p>Costs more on a one-time basis than other forms of testing</p> <p>Sedation is usually needed, in which case you will need someone to drive you home</p> <p>You may miss a day of work</p> <p>Small risk of bleeding, bowel tears, or infection</p>
CT colonography (virtual colonoscopy)	<p>Fairly quick and safe</p> <p>Can usually see the entire colon</p> <p>Done every 5 years</p> <p>No sedation needed</p>	<p>Can miss small polyps</p> <p>Full bowel prep needed</p> <p>Some false-positive test results</p> <p>Exposure to a small amount of radiation</p>

		<p>Can't remove polyps during testing</p> <p>Colonoscopy will be needed if abnormal</p> <p>Still fairly new – may have insurance coverage issues</p>
Flexible sigmoidoscopy	<p>Fairly quick and safe</p> <p>Usually doesn't require full bowel prep</p> <p>Sedation usually not used</p> <p>Does not require a specialist</p> <p>Done every 5 years</p>	<p>Not widely used as a screening test</p> <p>Looks at only about a third of the colon</p> <p>Can miss small polyps</p> <p>Can't remove all polyps</p> <p>May be some discomfort</p> <p>Very small risk of bleeding, infection, or bowel tear</p> <p>Colonoscopy will be needed if abnormal</p>

Hyperlinks

1. www.cancer.org/treatment/understanding-your-diagnosis/tests/endoscopy/colonoscopy.html
2. www.cancer.org/treatment/understanding-your-diagnosis/tests/ct-scan-for-cancer.html

References

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Colorectal Cancer Screening. V.2.2019. Accessed at https://www.nccn.org/professionals/physician_gls/pdf/colorectal_screening.pdf on Feb 11, 2020.

Smith RA, Andrews KS, Brooks D, Fedewa SA, Manassaram-Baptiste D, Saslow D et al. Cancer screening in the United States, 2018: A review of current American Cancer

Society guidelines and current issues in cancer screening. *CA: Cancer J Clin.* 2018;68(4):297-316. doi: 10.3322/caac.21446. Epub 2018 May 30.

Last Revised: June 29, 2020

Insurance Coverage for Colorectal Cancer Screening

The American Cancer Society believes that all people should have access to cancer screenings, without regard to health insurance coverage. Limitations on coverage should not keep someone from the benefits of early detection of cancer. The Society supports policies that give all people access to and coverage of early detection tests for cancer. Such policies should be age- and risk-appropriate and based on current scientific evidence as outlined in the [American Cancer Society's Early Detection Guidelines](#)¹.

Federal law

The [Affordable Care Act](#)² (ACA) requires both private insurers and Medicare to cover the costs of colorectal cancer screening tests, because these tests are recommended by the United States Preventive Services Task Force (USPSTF). The law stipulates that there should be no out-of-pocket costs for patients, such as co-pays or deductibles, for these screening tests. But the definition of a "screening" test can sometimes be confusing, as discussed below.

The USPSTF currently recommends that people at average risk starting screening at age 45.

The ACA doesn't apply to health plans that were in place before it was passed in 2010, which are called "grandfathered plans." You can find out if your insurance plan is "grandfathered" by contacting your health insurance company or your employer's human resources department. Even if you have a "grandfathered plan," it may still have coverage requirements from state laws, which vary, and other federal laws.

Private health insurance coverage for colorectal cancer screening

The Affordable Care Act requires health plans that started on or after September 23, 2010 to cover [colorectal cancer screening tests](#), which includes a range of test options. In most cases there should be no out-of-pocket costs (such as co-pays or deductibles) for these tests.

For people who choose to be screened with colonoscopy

Many people choose to be screened with colonoscopy. While it might not be right for everyone, it can have some advantages, such as only needing to be done once every 10 years. And if the doctor sees something abnormal during the colonoscopy, it can be biopsied or removed at that time, most likely without needing any other test.

Although many private insurance plans cover the costs for colonoscopy as a screening test, you still might be charged for some services. Review your health insurance plan for specific details, including if your doctor is on your insurance company's list of "in-network" providers. If the doctor is not in the plan's network, you may have to pay more out-of-pocket. **Call your insurer if there's anything you're not sure about.**

Soon after the ACA became law, some insurance companies considered a colonoscopy to no longer be just a 'screening' test if a polyp was removed during the procedure. It would then be a 'diagnostic' test, and would therefore be subject to co-pays and deductibles. However, the US Department of Health and Human Services has clarified that removal of a polyp is an integral part of a screening colonoscopy, and therefore patients with private insurance should not have to pay out-of-pocket for it (although this does not apply to Medicare, as discussed below).

Before you get a screening colonoscopy, ask your insurance company how much (if anything) you should expect to pay for it. Find out if this amount could change based on what's found during the test. This can help you avoid surprise costs. If you do have large bills afterward, you may be able to appeal the insurance company's decision.

For people who choose to be screened with a different test

Test options other than colonoscopy are also available, and people might choose one of these other tests for a variety of reasons. Again, the screening test itself should be covered, with no out-of-pocket costs such as co-pays or deductibles. But if you have a screening test other than colonoscopy and the result is positive (abnormal), you will need to have a colonoscopy. Some insurers consider this to be a **diagnostic** (not screening) colonoscopy, so you may have to pay the usual deductible and co-pay.

Before you get a screening test, check with your insurance provider about what it might mean if you need a colonoscopy as a result of the test, and how much (if anything) you should expect to pay for it. This can help you avoid surprise costs. If you do have large bills afterward, you may be able to appeal the insurance company's decision.

Medicare coverage for colorectal cancer screening

[Medicare](#)³ covers an initial preventive physical exam for all new Medicare beneficiaries. It must be done within one year of enrolling in Medicare. The "Welcome to Medicare" physical includes referrals for preventive services already covered under Medicare, including colorectal cancer screening tests.

If you've had Medicare Part B for longer than 12 months, a yearly "wellness" visit is covered without any cost. This visit is used to develop or update a personalized prevention plan to prevent disease and disability. Your provider should discuss a screening schedule (like a checklist) with you for preventive services you should have, including colorectal cancer screening.

What colorectal cancer screening tests does Medicare cover?

Medicare covers the following tests, generally starting at age 50:

Fecal occult blood test (FOBT) or fecal immunochemical test (FIT) once every 12 months.

Stool DNA test (Cologuard) every 3 years for people 50 to 85 years old who do not have symptoms of colorectal cancer and who do not have an increased risk of colorectal cancer.

Flexible sigmoidoscopy every 4 years, but not within 10 years of a previous colonoscopy.

Colonoscopy

- Once every 2 years for those at high risk (regardless of age)
- Once every 10 years for those who are at average risk
- 4 years after a flexible sigmoidoscopy for those who are at average risk

Double-contrast barium enema if a doctor determines that its screening value is equal

to or better than flexible sigmoidoscopy or colonoscopy:

- Once every 2 years for those who are at high risk
- Once every 4 years for those who are at average risk

At this time, Medicare does not cover the cost of **virtual colonoscopy** (CT colonography).

If you have questions about your costs, including deductibles or co-pays, it's best to speak with your insurer.

What would someone on Medicare expect to pay for a colorectal cancer screening test?

- **FOBT/FIT:** Covered at no cost for those age 50 or older* (no co-insurance or Part B deductible).
- **Stool DNA test (Cologuard):** Covered at no cost* for those age 50 to 85 as long as they are not at increased risk of colorectal cancer and don't have symptoms of colorectal cancer (no co-insurance or Part B deductible).
- **Flexible sigmoidoscopy:** Covered at no cost* (no co-insurance, co-payment, or Part B deductible) when the test is done for screening. **Note:** If the test results in the biopsy or removal of a growth, it's no longer a "screening" test, and you will be charged the co-insurance and/or a co-pay (but you don't have to pay the Part B deductible).
- **Colonoscopy:** Covered at no cost* at any age (no co-insurance, co-payment, or Part B deductible) when the test is done for screening. **Note:** If the test results in the biopsy or removal of a growth, it's no longer a "screening" test, and you will be charged the 20% co-insurance and/or a co-pay (but you don't have to pay the deductible).
- **Double-contrast barium enema:** You pay 20% of the Medicare approved amount for the doctor services. If the test is done in an outpatient hospital department or ambulatory surgical center, you also pay the hospital co-payment (but you don't have to pay the Part B deductible).

If you're getting a screening colonoscopy (or sigmoidoscopy), be sure to find out how much you might have to pay for it. Also ask how much you will have to pay if a polyp is removed or a biopsy is done. This can help you avoid surprise costs. You may still have to pay for the bowel prep kit, anesthesia or sedation, pathology costs, and facility fee. You may get one or more bills for different parts of the procedure from

different practices and hospital providers.

It's important to understand that if you have a screening test other than colonoscopy and the result is positive (abnormal), you will need to have a colonoscopy. This is typically considered a **diagnostic** (not screening) colonoscopy, so you may have to pay the usual deductible and co-pay.

**This service is covered at no cost as long as the doctor accepts assignment (the amount Medicare pays as the full payment). Doctors that do not accept assignment are required to tell you up front.*

Medicaid coverage for colorectal cancer screening

States are authorized to cover colorectal screening under their Medicaid programs. But unlike Medicare, there's no federal assurance that all state Medicaid programs must cover colorectal cancer screening in people without symptoms. Medicaid coverage for colorectal cancer screening varies by state. Some states cover fecal occult blood testing (FOBT), while others cover colorectal cancer screening if a doctor determines the test is medically necessary. In some states, coverage varies according to which Medicaid managed care plan a person is enrolled in.

Hyperlinks

1. www.cancer.org/healthy/find-cancer-early/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html
2. www.cancer.org/treatment/finding-and-paying-for-treatment/health-insurance-laws/the-health-care-law.html
3. www.cancer.org/treatment/finding-and-paying-for-treatment/understanding-health-insurance/government-funded-programs/medicare-medicaid/medicare-coverage-for-cancer-prevention-and-early-detection.html

References

Centers for Medicare & Medicaid Services. Affordable Care Act Implementation FAQs - Set 12. cms.gov. Accessed at https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/aca_implementation_faqs12 on March 24, 2022.

Centers for Medicare & Medicaid Services. Decision Memo for Screening for Colorectal Cancer - Stool DNA Testing (CAG-00440N). Accessed at <https://www.cms.gov/medicare-coverage-database/details/nca-decision->

memo.aspx?NCAId=277.

The Official US Government Site for Medicare. Medicare.gov. Multi-target stool DNA tests. Accessed at <https://www.medicare.gov/coverage/multi-target-stool-dna-tests> on Feb 11, 2020.

The Official US Government Site for Medicare. Medicare.gov. Screening colonoscopies. Accessed at <https://www.medicare.gov/coverage/screening-colonoscopies> on Feb 11, 2020.

The Official US Government Site for Medicare. Medicare.gov. Screening fecal occult blood tests. Accessed at <https://www.medicare.gov/coverage/screening-fecal-occult-blood-tests> on Feb 11, 2020.

The Official US Government Site for Medicare. Medicare.gov. Screening flexible sigmoidoscopies. Accessed at <https://www.medicare.gov/coverage/screening-flexible-sigmoidoscopies> on Feb 11, 2020.

Wolf AM, Fontham ET, Church TR, et al. Colorectal cancer screening for average risk adults: 2018 guideline update from the American Cancer Society. *CA: Cancer J Clin*. 2018 [Epub ahead of print].

Last Revised: May 19, 2021

Colorectal Cancer Signs and Symptoms

Colorectal cancer might not cause symptoms right away, but if it does, it may cause one or more of these symptoms:

- A change in bowel habits, such as diarrhea, constipation, or narrowing of the stool, that lasts for more than a few days
- A feeling that you need to have a bowel movement that's not relieved by having one
- Rectal bleeding with bright red blood
- Blood in the stool, which might make the stool look dark brown or black
- Cramping or abdominal (belly) pain
- Weakness and fatigue

- Unintended weight loss

Colorectal cancers can often bleed into the digestive tract. Sometimes the blood can be seen in the stool or make it look darker, but often the stool looks normal. But over time, the blood loss can build up and can lead to low red blood cell counts (anemia). Sometimes the first sign of colorectal cancer is a blood test showing a low red blood cell count.

Some people may have signs that the cancer has spread to the liver with a large liver felt on exam, jaundice (yellowing of the skin or whites of the eyes), or trouble breathing from cancer spread to the lungs.

Many of these symptoms can be caused by conditions other than colorectal cancer, such as infection, hemorrhoids, or irritable bowel syndrome. Still, if you have any of these problems, it's important to see your doctor right away so the cause can be found and treated, if needed. See [Tests to Diagnose Colorectal Cancer](#).

References

National Cancer Institute. Physician Data Query (PDQ). Colon Cancer Treatment. 2020. Accessed at <https://www.cancer.gov/types/colorectal/patient/colorectal-treatment-pdq> on February 12, 2020.

National Cancer Institute. Physician Data Query (PDQ). Rectal Cancer Treatment. 2020. Accessed at <https://www.cancer.gov/types/colorectal/patient/colorectal-treatment-pdq> on February 12, 2020.

Last Revised: June 29, 2020

Tests to Diagnose and Stage Colorectal Cancer

If you have [symptoms](#) that might be from colorectal cancer, or if a [screening test](#) shows

something abnormal, your doctor will recommend one or more of the exams and tests below to find the cause.

Medical history and physical exam

Your doctor will ask about your medical history to learn about possible risk factors, including your family history. You will also be asked if you're having any symptoms and, if so, when they started and how long you've had them.

As part of a physical exam, your doctor will feel your abdomen for masses or enlarged organs, and also examine the rest of your body. You may also have a digital rectal exam (DRE). During this test, the doctor inserts a lubricated, gloved finger into your rectum to feel for any abnormal areas.

Tests to look for blood in your stool

If you are seeing the doctor because of anemia or symptoms you are having (other than obvious bleeding from your rectum or blood in your stools), a stool test might be recommended to check for blood that isn't visible to the naked eye (occult blood), which might be a sign of cancer. These types of tests – a fecal occult blood test (FOBT) or fecal immunochemical test (FIT) – are done at home, and require you to collect 1 to 3 samples of stool from a bowel movement. For more on how these tests are done, see [Colorectal Cancer Screening Tests](#).

(A stool blood test should **not** be the next test done if you've already had an abnormal screening test, in which case you should have a diagnostic colonoscopy, which is described below.)

Blood tests

Your doctor might also order certain blood tests to help determine if you have colorectal cancer. These tests also can be used to help monitor your disease if you've been diagnosed with cancer.

Complete blood count (CBC): This test measures the different types of cells in your blood. It can show if you have [anemia](#)¹ (too few red blood cells). Some people with colorectal cancer become anemic because the tumor has been bleeding for a long time.

Liver enzymes: You may also have a blood test to check your liver function, because colorectal cancer can spread to the liver.

Tumor markers: Colorectal cancer cells sometimes make substances called tumor markers that can be found in the blood. The most common tumor marker for colorectal cancer is carcinoembryonic antigen (CEA).

Blood tests for this tumor marker can sometimes suggest someone might have colorectal cancer, but they can't be used alone to screen for or diagnose cancer. This is because tumor marker levels can sometimes be normal in someone who has cancer and can be abnormal for reasons other than cancer.

Tumor marker tests are used most often along with other tests to monitor patients who have already been diagnosed with colorectal cancer. They may help show how well treatment is working or provide an early warning that a cancer has returned.

Diagnostic colonoscopy

A diagnostic colonoscopy is just like a screening colonoscopy, but it's done because a person is having symptoms, or because something abnormal was found on another type of screening test.

For this test, the doctor looks at the entire length of the colon and rectum with a colonoscope, a thin, flexible, lighted tube with a small video camera on the end. It is inserted through the anus and into the rectum and the colon. Special instruments can be passed through the colonoscope to biopsy or remove any suspicious-looking areas such as polyps, if needed.

Colonoscopy may be done in a hospital outpatient department, in a clinic, or in a doctor's office.

To learn more about colonoscopy, how it's done, and what to expect if you have one, see [Colonoscopy²](#).

Proctoscopy

This test may be done if rectal cancer is suspected. For this test, the doctor looks inside the rectum with a proctoscope, a thin, rigid, lighted tube with a small video camera on the end. It's put in through the anus. The doctor can look closely at the inside lining of the rectum through the scope. The tumor can be seen, measured, and its exact location can be determined. For instance, the doctor can see how close the tumor is to the sphincter muscles that control the passing of stool.

Biopsy

Usually if a suspected colorectal cancer is found by any screening or diagnostic test, it is biopsied during a colonoscopy. In a biopsy, the doctor removes a small piece of tissue with a special instrument passed through the scope. Less often, part of the colon may need to be surgically removed to make the diagnosis. See [Testing Biopsy and Cytology Specimens for Cancer](#)³ to learn more about the types of biopsies, how the tissue is used in the lab to diagnose cancer, and what the results may show.

Lab tests of biopsy samples

Biopsy samples (from colonoscopy or surgery) are sent to the lab where they are looked at closely. If cancer is found, other lab tests may also be done on the biopsy samples to help better classify the cancer and possibly find specific treatment options.

Gene tests: If the cancer has spread (metastasized), doctors will probably look for specific gene changes in the cancer cells that might help determine which drugs will be more helpful in treatment than others. For example, doctors now typically test the cancer cells for changes in the *KRAS*, *NRAS*, and *BRAF* genes. Patients whose cancers have mutations in these genes typically do not benefit from treatment with certain [targeted therapy](#)⁴ drugs. In the case of tumors that have the BRAF V600E mutation, they are not only less likely to respond to certain targeted drugs, but may need a different type of targeted drug added for treatment to work.

MSI and MMR testing: Colorectal cancer cells are typically tested to see if they show high levels of gene changes called *microsatellite instability* (MSI). Testing might also be done to see if the cancer cells have changes in any of the mismatch repair (MMR) genes (*MLH1*, *MSH2*, *MSH6*, and *PMS2*). *EPCAM*, another gene related to *MSH2*, is also routinely checked with the 4 MMR genes.

Changes in MSI or in MMR genes (or both) are often seen in people with [Lynch syndrome](#)⁵ (HNPCC). Most colorectal cancers do not have high levels of MSI or changes in MMR genes. But most colorectal cancers that are linked to Lynch syndrome do.

There are 2 possible reasons to test colorectal cancers for MSI or for MMR gene changes:

- To identify patients who should be tested for Lynch syndrome. A diagnosis of Lynch syndrome can help schedule other cancer screenings for the patient (for example, women with Lynch syndrome may need to be screened for [endometrial cancer](#)⁶).

Also, if a patient has Lynch syndrome, their relatives could also have it, and may want to be tested for it.

- To determine treatment options for colorectal cancer.

For more on lab tests that might be done on biopsy samples, see [Understanding Your Pathology Report: Colon Pathology](#).⁷

Imaging tests to look for colorectal cancer

Imaging tests use sound waves, x-rays, magnetic fields, or radioactive substances to create pictures of the inside of your body. Imaging tests may be done for a number of reasons, such as:

- To look at suspicious areas that might be cancer
- To learn how far cancer might have spread
- To help determine if treatment is working
- To look for signs of cancer coming back after treatment

Computed tomography (CT or CAT) scan

A [CT scan](#)⁸ uses x-rays to make detailed cross-sectional images of your body. This test can help tell if colorectal cancer has spread to nearby lymph nodes or to your liver, lungs, or other organs.

CT-guided needle biopsy: If a liver or lung biopsy is needed to check for cancer spread, this test can also be used to guide a biopsy needle into the mass (lump) to get a tissue sample to check for cancer.

Ultrasound

[Ultrasound](#)⁹ uses sound waves and their echoes to create images of the inside of the body. A small microphone-like instrument called a **transducer** gives off sound waves and picks up the echoes as they bounce off organs. The echoes are converted by a computer into an image on a screen.

Abdominal ultrasound: For this exam, a technician moves the transducer along the skin over your abdomen. This type of ultrasound can be used to look for tumors in your liver, gallbladder, pancreas, or elsewhere in your abdomen, but it can't look for tumors

of the colon or rectum.

Endorectal ultrasound: This test uses a special transducer that is inserted into the rectum. It is used to see how far through the rectal wall a cancer has grown and whether it has reached nearby organs or lymph nodes.

Intraoperative ultrasound: This exam is done during surgery. The transducer is placed directly against the surface of the liver, making this test very useful for detecting the spread of colorectal cancer to the liver. This allows the surgeon to biopsy the tumor, if one is found, while the patient is asleep.

Magnetic resonance imaging (MRI) scan

Like CT scans, [MRI scans](#)¹⁰ show detailed images of soft tissues in the body. But MRI scans use radio waves and strong magnets instead of x-rays. A contrast material called *gadolinium* may be injected into a vein before the scan to get clear pictures.

MRI can be used to look at abnormal areas in the liver or the brain and spinal cord that could be cancer spread.

Endorectal MRI: A MRI scan of the pelvis can be used in patients with rectal cancer to see if the tumor has spread into nearby structures. This can help plan surgery and other treatments. To improve the accuracy of the test, some doctors use an endorectal MRI. For this test the doctor places a probe, called an *endorectal coil*, inside the rectum. This stays in place for 30 to 45 minutes during the test and might be uncomfortable.

Chest x-ray

An [x-ray](#)¹¹ might be done after colorectal cancer has been diagnosed to see if cancer has spread to the lungs, but more often a CT scan of the lungs is done since it tends to give more detailed pictures.

Positron emission tomography (PET) scan

For a [PET scan](#)¹², a slightly radioactive form of sugar (known as FDG) is injected into the blood and collects mainly in cancer cells. PET scans are not routinely done in people diagnosed with colorectal cancer. CT scans and MRIs are used more often.

Angiography

Angiography is an [x-ray test](#)¹³ for looking at blood vessels. A contrast dye is injected

into an artery, and then x-rays are taken. The dye outlines the blood vessels on x-rays.

If your cancer has spread to the liver, this test can show the arteries that supply blood to those tumors. This can help surgeons decide if the liver tumors can be removed and if so, it can help plan the operation. Angiography can also help in planning other treatments for cancer spread to the liver, like [embolization](#)¹⁴.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/low-blood-counts/anemia.html
2. www.cancer.org/treatment/understanding-your-diagnosis/tests/endoscopy/colonoscopy.html
3. www.cancer.org/treatment/understanding-your-diagnosis/tests/testing-biopsy-and-cytology-specimens-for-cancer.html
4. www.cancer.org/cancer/colon-rectal-cancer/treating/targeted-therapy.html
5. www.cancer.org/cancer/colon-rectal-cancer/causes-risks-prevention/risk-factors.html
6. www.cancer.org/cancer/endometrial-cancer.html
7. www.cancer.org/treatment/understanding-your-diagnosis/tests/understanding-your-pathology-report/colon-pathology.html
8. www.cancer.org/treatment/understanding-your-diagnosis/tests/ct-scan-for-cancer.html
9. www.cancer.org/treatment/understanding-your-diagnosis/tests/ultrasound-for-cancer.html
10. www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html
11. www.cancer.org/treatment/understanding-your-diagnosis/tests/x-rays-and-other-radiographic-tests.html
12. www.cancer.org/treatment/understanding-your-diagnosis/tests/nuclear-medicine-scans-for-cancer.html
13. www.cancer.org/treatment/understanding-your-diagnosis/tests/x-rays-and-other-radiographic-tests.html
14. www.cancer.org/cancer/colon-rectal-cancer/treating/ablation-embolization.html

References

Lawler M, Johnston B, Van Schaeybroeck S, Salto-Tellez M, Wilson R, Dunlop M, and

Johnston PG. Chapter 74 – Colorectal Cancer. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 6th ed. Philadelphia, Pa. Elsevier: 2020.

Libutti SK, Saltz LB, Willett CG, and Levine RA. Ch 62 - Cancer of the Colon. In: DeVita VT, Hellman S, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 11th ed. Philadelphia, Pa: Lippincott-Williams & Wilkins; 2019.

Libutti SK, Willett CG, Saltz LB, and Levine RA. Ch 63 - Cancer of the Rectum. In: DeVita VT, Hellman S, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 11th ed. Philadelphia, Pa: Lippincott-Williams & Wilkins; 2019.

National Cancer Institute. (2020). *Colon Cancer Treatment (PDQ®)–Patient Version*. [online] Available at: https://www.cancer.gov/types/colorectal/patient/colon-treatment-pdq#_93 [Accessed 12 Feb. 2020].

National Cancer Institute. Physician Data Query (PDQ). Rectal Cancer Treatment. 2020. Accessed at <https://www.cancer.gov/types/colorectal/patient/colorectal-treatment-pdq> on February 12, 2020.

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Colon Cancer. V.1.2020. Accessed at https://www.nccn.org/professionals/physician_gls/pdf/colon.pdf on Feb 12, 2020.

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Rectal Cancer. V.1.2020. Accessed at https://www.nccn.org/professionals/physician_gls/pdf/rectal.pdf on Feb 10, 2020.

Steele SR, Johnson EK, Champagne B et al. Endoscopy and polyps-diagnostic and therapeutic advances in management. *World J Gastroenterol*. 2013; 19(27): 4277-4288.

Tanaka A, Sadahiro S, Suzuki T, Okada K, Saito G. Comparisons of Rigid Proctoscopy, Flexible Colonoscopy, and Digital Rectal Examination for Determining the Localization of Rectal Cancers. *Dis Colon Rectum*. 2018;61(2):202-206.

Last Revised: June 29, 2020

Colorectal Cancer Stages

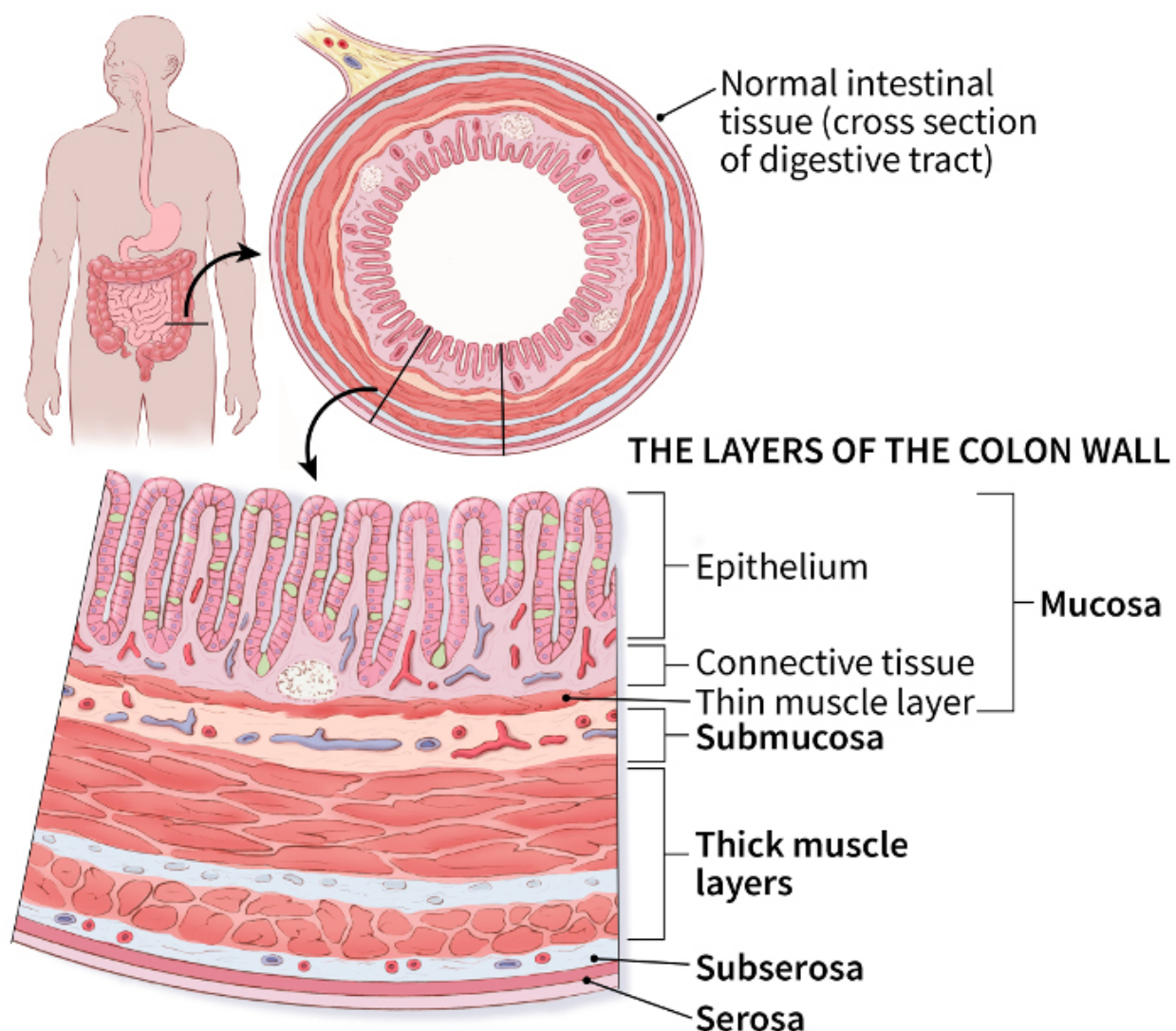
After someone is diagnosed with colorectal cancer, doctors will try to figure out if it has spread, and if so, how far. This process is called *staging*. The stage of a cancer describes how much cancer is in the body. It helps determine how serious the cancer is and [how best to treat it](#)¹. Doctors also use a cancer's stage when talking about survival statistics.

The earliest stage colorectal cancers are called stage 0 (a very early cancer), and then range from stages I (1) through IV (4). As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV, means cancer has spread more. And within a stage, an earlier letter means a lower stage. Although each person's cancer experience is unique, cancers with similar stages tend to have a similar outlook and are often treated in much the same way.

How is the stage determined?

The staging system most often used for colorectal cancer is the American Joint Committee on Cancer (AJCC) **TNM** system, which is based on 3 key pieces of information:

- The extent (size) of the **tumor (T)**: How far has the cancer grown into the wall of the colon or rectum? These layers, from the inner to the outer, include: The inner lining (mucosa), which is the layer in which nearly all colorectal cancers start. This includes a thin muscle layer (muscularis mucosa). The fibrous tissue beneath this muscle layer (submucosa) A thick muscle layer (muscularis propria) The thin, outermost layers of connective tissue (subserosa and serosa) that cover most of the colon but not the rectum



- The spread to nearby lymph nodes (**N**): Has the cancer spread to nearby lymph nodes?
- The spread (**metastasis**) to distant sites (**M**): Has the cancer spread to distant lymph nodes or distant organs such as the liver or lungs?

The system described below is the most recent AJCC system effective January 2018. It uses the *pathologic stage* (also called the *surgical stage*) which is determined by examining tissue removed during an operation. This is also known as *surgical staging*. This is likely to be more accurate than *clinical staging*, which takes into account the results of a [physical exam, biopsies, and imaging tests](#), done *before* surgery.

Numbers or letters after T, N, and M provide more details about each of these factors. Higher numbers mean the cancer is more advanced. Once a person's T, N, and M categories have been determined, this information is combined in a process called *stage grouping* to assign an overall stage. For more information see [Cancer Staging](#)².

Cancer staging can be complex, so ask your doctor to explain it to you in a way you understand.

AJC C Stag e	Stage grouping	Stage description*
0	Tis N0 M0	The cancer is in its earliest stage. This stage is also known as carcinoma in situ or intramucosal carcinoma (Tis). It has not grown beyond the inner layer (mucosa) of the colon or rectum.
I	T1 or T2 N0 M0	The cancer has grown through the muscularis mucosa into the submucosa (T1), and it may also have grown into the muscularis propria (T2). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).
IIA	T3 N0 M0	The cancer has grown into the outermost layers of the colon or rectum but has not gone through them (T3). It has not reached nearby organs. It has not spread to nearby lymph nodes (N0) or to distant sites (M0).
IIB	T4a N0 M0	The cancer has grown through the wall of the colon or rectum but has not grown into other nearby tissues or organs (T4a). It has not yet spread to nearby lymph nodes (N0) or to distant sites (M0).
IIC	T4b N0 M0	The cancer has grown through the wall of the colon or rectum and is attached to or has grown into other nearby tissues or organs (T4b). It has not yet spread to nearby lymph nodes (N0) or to distant sites (M0).
	T1 or T2 N1/N1c	The cancer has grown through the mucosa into the submucosa (T1), and it may also have grown into the muscularis propria (T2). It has spread to 1 to 3 nearby lymph nodes (N1) or into areas of

IIIA	M0	fat near the lymph nodes but not the nodes themselves (N1c). It has not spread to distant sites (M0).
	OR	
	T1 N2a M0	The cancer has grown through the mucosa into the submucosa (T1). It has spread to 4 to 6 nearby lymph nodes (N2a). It has not spread to distant sites (M0).
IIIB	T3 or T4a N1/N1c M0	The cancer has grown into the outermost layers of the colon or rectum (T3) or through the visceral peritoneum (T4a) but has not reached nearby organs. It has spread to 1 to 3 nearby lymph nodes (N1a or N1b) or into areas of fat near the lymph nodes but not the nodes themselves (N1c). It has not spread to distant sites (M0).
	OR	
	T2 or T3 N2a M0	The cancer has grown into the muscularis propria (T2) or into the outermost layers of the colon or rectum (T3). It has spread to 4 to 6 nearby lymph nodes (N2a). It has not spread to distant sites (M0).
	OR	
	T1 or T2 N2b M0	The cancer has grown through the mucosa into the submucosa (T1), and it might also have grown into the muscularis propria (T2). It has spread to 7 or more nearby lymph nodes (N2b). It has not spread to distant sites (M0).
IIIC	T4a N2a M0	The cancer has grown through the wall of the colon or rectum (including the visceral peritoneum) but has not reached nearby organs (T4a). It has spread to 4 to 6 nearby lymph nodes (N2a). It has not spread to distant sites (M0).
	OR	
	T3 or T4a N2b M0	The cancer has grown into the outermost layers of the colon or rectum (T3) or through the visceral peritoneum (T4a) but has not reached nearby organs. It has spread to 7 or more nearby lymph nodes (N2b). It has not spread to distant sites (M0).

	OR	
	T4b N1 or N2 M0	The cancer has grown through the wall of the colon or rectum and is attached to or has grown into other nearby tissues or organs (T4b). It has spread to at least one nearby lymph node or into areas of fat near the lymph nodes (N1 or N2). It has not spread to distant sites (M0).
IVA	Any T Any N M1a	The cancer may or may not have grown through the wall of the colon or rectum (Any T). It might or might not have spread to nearby lymph nodes. (Any N). It has spread to 1 distant organ (such as the liver or lung) or distant set of lymph nodes, but not to distant parts of the peritoneum (the lining of the abdominal cavity) (M1a).
IVB	Any T Any N M1b	The cancer might or might not have grown through the wall of the colon or rectum (Any T). It might or might not have spread to nearby lymph nodes (Any N). It has spread to more than 1 distant organ (such as the liver or lung) or distant set of lymph nodes, but not to distant parts of the peritoneum (the lining of the abdominal cavity) (M1b).
IVC	Any T Any N M1c	The cancer might or might not have grown through the wall of the colon or rectum (Any T). It might or might not have spread to nearby lymph nodes (Any N). It has spread to distant parts of the peritoneum (the lining of the abdominal cavity), and may or may not have spread to distant organs or lymph nodes (M1c).

* The following additional categories are not listed in the table above:

- **TX:** Main tumor cannot be assessed due to lack of information.
- **T0:** No evidence of a primary tumor.
- **NX:** Regional lymph nodes cannot be assessed due to lack of information.

Hyperlinks

1. www.cancer.org/cancer/colon-rectal-cancer/treating.html
2. www.cancer.org/treatment/understanding-your-diagnosis/staging.html

References

American Joint Committee on Cancer. Chapter 20 - Colon and Rectum. In: *AJCC Cancer Staging Manual*. 8th ed. New York, NY: Springer; 2017.

Last Revised: June 29, 2020

Survival Rates for Colorectal Cancer

Survival rates can give you an idea of what percentage of people with the same type and stage of cancer are still alive a certain amount of time (usually 5 years) after they were diagnosed. They can't tell you how long you will live, but they may help give you a better understanding of how likely it is that your treatment will be successful.

Keep in mind that survival rates are estimates and are often based on previous outcomes of large numbers of people who had a specific cancer, but they can't predict what will happen in any particular person's case. These statistics can be confusing and may lead you to have more questions. Your doctor is familiar with your situation, ask how these numbers may apply to you.

What is a 5-year relative survival rate?

A **relative survival rate** compares people with the same type and stage of cancer to people in the overall population. For example, if the **5-year relative survival rate** for a specific stage of colon or rectal cancer is 80%, it means that people who have that cancer are, on average, about 80% as likely as people who don't have that cancer to live for at least 5 years after being diagnosed.

Where do these numbers come from?

The American Cancer Society relies on information from the SEER* database, maintained by the National Cancer Institute (NCI), to provide survival statistics for different types of cancer.

The SEER database tracks 5-year relative survival rates for colon and rectal cancer in the United States, based on how far the cancer has spread. The SEER database, however, does not group cancers by [AJCC TNM stages](#) (stage 1, stage 2, stage 3, etc.). Instead, it groups cancers into localized, regional, and distant stages:

- **Localized:** There is no sign that the cancer has spread outside of the colon or rectum.
- **Regional:** The cancer has spread outside the colon or rectum to nearby structures or lymph nodes.
- **Distant:** The cancer has spread to distant parts of the body such as the liver, lungs, or distant lymph nodes.

5-year relative survival rates for colon cancer

These numbers are based on people diagnosed with cancers of the colon between 2011 and 2017.

SEER stage	5-year relative survival rate
Localized	91%
Regional	72%
Distant	14%
All SEER stages combined	64%

5-year relative survival rates for rectal cancer

These numbers are based on people diagnosed with cancers of the rectum between 2011 and 2017.

SEER stage	5-year relative survival rate
Localized	90%
Regional	73%
Distant	17%
All SEER stages combined	67%

Understanding the numbers

- **These numbers apply only to the stage of the cancer when it is first diagnosed.** They do not apply later on if the cancer grows, spreads, or comes back after treatment.
- **These numbers don't take everything into account.** Survival rates are grouped based on how far the cancer has spread, but your age, overall health, how well the cancer responds to treatment, whether the cancer started on the left or right side of the colon, and other factors can also affect your outlook.
- **People now being diagnosed with colon or rectal cancer may have a better outlook than these numbers show.** Treatments improve over time, and these numbers are based on people who were diagnosed and treated at least five years earlier.

*SEER = Surveillance, Epidemiology, and End Results

References

American Cancer Society. *Cancer Facts & Figures 2022*. Atlanta, Ga: American Cancer Society; 2022.

Howlander N, Noone AM, Krapcho M, et al (eds). SEER Cancer Statistics Review, 1975-2016, National Cancer Institute, Bethesda, MD, https://seer.cancer.gov/csr/1975_2016/, based on November 2018 SEER data submission, posted to the SEER website, April 2019.

Petrelli F, Tomasello G, Borgonovo K, Ghidini M, Turati L, Dallera P, et al. Prognostic Survival Associated With Left-Sided vs Right-Sided Colon Cancer: A Systematic Review and Meta-analysis. *JAMA Oncol*. 2017 Feb 1;3(2):211-219. doi: 10.1001/jamaoncol.2016.4227.

Last Revised: March 1, 2022

Questions to Ask About Colorectal

Cancer

It's important to have honest, open discussions with your cancer care team. They want to answer all of your questions, so that you can make informed treatment and life decisions. For instance, consider these questions:

When you're told you have colorectal cancer

- Where is the cancer located?
- Has the cancer spread beyond where it started?
- What is the cancer's [stage](#) (extent), and what does that mean?
- Will I need other [tests](#) before we can decide on treatment?
- Has my cancer been checked for gene changes that could help you choose my treatment options?
- Do I need to see any other doctors or health professionals?
- If I'm concerned about the costs and insurance coverage for my diagnosis and treatment, who can help me?

When deciding on a treatment plan

- What are my [treatment options](#)¹?
- If surgery is part of my treatment, will I need an ostomy? If so, will it be temporary or permanent? Who will teach me how to care for it?
- What do you recommend and why?
- How much experience do you have treating this type of cancer?
- Should I get a second opinion? How do I do that? Can you recommend someone?
- What would the goal of the treatment be?
- How quickly do we need to decide on treatment?
- What should I do to be ready for treatment?
- How long will treatment last? What will it be like? Where will it be done?
- What risks or side effects are there to the treatments you suggest? Are there things I can do to reduce these side effects?
- How might treatment affect my daily activities? Can I still work full time?
- What are the chances that I can be cured of this cancer with these treatment options?
- What would my options be if the treatment doesn't work or if the cancer comes

back (recurs) after treatment?

- What if I have transportation problems getting to and from treatment?

During treatment

Once treatment begins, you'll need to know what to expect and what to look for. Not all of these questions may apply to you, but asking the ones that do may be helpful.

- How will I know if the treatment is working?
- Is there anything I can do to help manage side effects?
- What symptoms or side effects should I tell you about right away?
- How can I reach you on nights, holidays, or weekends?
- Do I need to change what I eat during treatment?
- Are there any limits on what I can do or what I can eat?
- Can I exercise during treatment? If so, what kind should I do, and how often?
- Can you suggest a mental health professional I can see if I start to feel overwhelmed, depressed, or distressed?
- What if I need social support during treatment because my family lives far away?

After treatment

- Do I need a special diet after treatment?
- Are there any limits on what I can do?
- What symptoms should I watch for?
- What kind of exercise should I do now?
- What type of follow-up will I need after treatment?
- How often will I need to have follow-up exams and imaging tests?
- When should my next colonoscopy be done?
- Will I need any blood tests?
- How will we know if the cancer has come back? What should I watch for?
- What will my options be if the cancer comes back?

Along with these sample questions, be sure to write down some of your own. For instance, you might want more information about recovery times. Or you may want to ask about [clinical trials](#)² for which you may qualify.

Keep in mind that doctors aren't the only ones who can give you information. Other health care professionals, such as nurses and social workers, can answer some of your questions. To find out more about speaking with your health care team, see [The Doctor-Patient Relationship](#)³.

Hyperlinks

1. www.cancer.org/cancer/colon-rectal-cancer/treating.html
2. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html
3. www.cancer.org/treatment/treatments-and-side-effects/choosing-your-treatment-team/the-doctor-patient-relationship.html

Last Revised: June 29, 2020

Written by

The American Cancer Society medical and editorial content team
(www.cancer.org/cancer/acs-medical-content-and-news-staff.html)

Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as journalists, editors, and translators with extensive experience in medical writing.

American Cancer Society medical information is copyrighted material. For reprint requests, please see our Content Usage Policy (www.cancer.org/about-us/policies/content-usage.html).

cancer.org | 1.800.227.2345