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Colorectal Cancer Early Detection, Diagnosis, and Staging

Know the signs and symptoms of colorectal cancer. Find out how colorectal cancer is tested for, diagnosed, and staged.

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 precancer in people who have no symptoms of the disease.

[Screening for colorectal cancer](#)

health insurance coverage issues.

American Cancer Society Guideline for Colorectal Cancer Screening

- [For people at average risk](#)
- [Test options for colorectal cancer screening](#)
- [For people at increased or high risk](#)

For people at average risk

The American Cancer Society 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 **age 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

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

Visual (structural) exams of the colon and rectum

- Colonoscopy every 10 years

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 reviewed 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 1 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 10 years after the radiation was given or at age 35, 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 colonoscopies (not any 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. They 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

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Rectal Cancer. V.6.2023. Accessed at https://www.nccn.org/professionals/physician_gls/pdf/rectal.pdf on Jan 29, 2024.

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.

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Last Revised: January 29, 2024

Colorectal Cancer Screening Tests

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.**

- [Test options for colorectal cancer screening](#)
- [Stool-based tests](#)
- [Visual \(structural\) exams](#)
- [What are some of the benefits and limits of colorectal cancer screening tests?](#)

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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 (generally within 24 hours) 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 fecal immunochemical test (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:

- Nonsteroidal 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.)

kit, contact your doctor's office or clinic. Once you have collected the sample, return it as instructed in the kit. The goal is to have the sample arrive to the lab for testing within 72 hours from when it was collected.

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

What is the difference between screening with a stool DNA test and a colonoscopy?

- A stool DNA test (Cologuard) can detect the presence of blood or abnormal DNA in the stool, which may be caused by cancer or precancerous polyps that could turn into cancer. A stool DNA test is a screening test (not used for prevention) because it can find cancer cells after it has developed.
- A colonoscopy can be used for both screening and prevention of colon cancer. It can find colon cancer in a person who has no symptoms (screening) and can also remove suspicious looking polyps before they develop into colon cancer (prevention).

For more detailed information on the differences between these procedures, see the table below.

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 [Colonoscopy¹](#).

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 a scope to be put into the rectum or colon. A small catheter is placed into your rectum to fill your colon with air or carbon dioxide. This allows for clearer CT pictures.

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 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

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 the entire rectum and less than half of the colon. 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. This is because a sigmoidoscopy looks only at the lower portion (left side) of your colon, while at least 40% of colorectal cancers start in the upper portion (right side) of the colon.

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)	No direct risk to the colon No bowel prep No pre-test diet or medication changes needed Sampling done at home Fairly inexpensive	Can miss many polyps and some

	<p>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>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 results are abnormal</p>
Sigmoidoscopy	<p>Fairly quick and safe</p> <p>Sedation usually not used</p> <p>Done every 5 years</p>	<p>Not widely used as a screening test</p> <p>Bowel prep may still be requested</p> <p>Looks at only about a third of the colon</p> <p>Can miss small polyps and/or colorectal cancer</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 results are abnormal</p>

Hyperlinks

1. www.cancer.org/cancer/diagnosis-staging/tests/endoscopy/colonoscopy.html
2. www.cancer.org/cancer/diagnosis-staging/tests/imaging-tests/ct-scan-for-cancer.html

References

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Colorectal Cancer Screening. V.1.2023. Accessed at https://www.nccn.org/professionals/physician_gls/pdf/colorectal_screening.pdf on Jan 29, 2024.

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

Insurance Coverage for Colorectal Cancer Screening

People should have the option of screening

Limitations on coverage should not keep someone from the benefits of early detection of cancer. ACS 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 Guideline for Colorectal Cancer Screening](#).

Federal law

The [Affordable Care Act](#)¹ (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 should start colorectal cancer screening at age 45.

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 of 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 you have a question or aren't sure about**

something.

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

should have, including colorectal cancer screening.

What colorectal cancer screening tests does Medicare cover?

Medicare covers the following tests, generally starting at age 45:

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

Stool DNA test (Cologuard) every 3 years for people ages 45 to 85 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
- Four 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 45 or older* (no co-insurance or Part B deductible)
- **Stool DNA test (Cologuard):** Covered at no cost* for those age 45 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)

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.

- [Common signs and symptoms of colorectal cancer](#)
- [Signs of colorectal cancer that has spread](#)
- [Do colon polyps cause symptoms?](#)
- [If you have signs or symptoms](#)

Common signs and symptoms of colorectal cancer

- A change in bowel habits, such as diarrhea, constipation, or narrowing of the stool, that lasts for more than a few days

- Bleeding from the rectum
- Change in stool color, either red or black
- Change in bowel movement, either prolonged constipation or diarrhea
- Low red blood cell count due to low iron (iron deficiency anemia)
- Abdominal (belly) pain

These symptoms can also be due to other causes, such as foods, medicines, or other medical conditions. If these symptoms are present, you should discuss further with your doctor.

If you have signs or symptoms

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. 2024. Accessed at <https://www.cancer.gov/types/colorectal/hp/colon-treatment-pdq> on Jan 29, 2024.

National Cancer Institute. Physician Data Query (PDQ). Rectal Cancer Treatment. 2023. Accessed at <https://www.cancer.gov/types/colorectal/hp/rectal-treatment-pdq> on Jan 29, 2024.

Last Revised: January 29, 2024

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](#)
- [Tests to look for blood in your stool](#)
- [Diagnostic colonoscopy](#)
- [Proctoscopy](#)
- [Biopsy](#)
- [Imaging tests to look for colorectal cancer](#)

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 bowel movements. 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 the 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 and are receiving treatment. They

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

If a suspected colorectal tumor is found during a screening or diagnostic test, it usually is biopsied. 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 [Biopsy and Cytology Tests 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 guide specific treatment options.

Molecular tests: If the cancer is advanced, the cancer cells will probably be tested for specific gene and protein changes that might help tell if targeted therapy drugs could be options for treatment. For example, the cancer cells are typically tested for changes (mutations) in the **KRAS, NRAS, and BRAF genes**, as well as other gene and protein changes.

- If the cancer cells are *not* found to have a mutation(s) in the *KRAS*, *NRAS*, or *BRAF* genes, then treatment with drugs that target EGFR proteins might be helpful.
- If the cancer cells are found to have a mutation in the *BRAF* gene, known as **BRAF V600E**, then treatment with drugs that target the BRAF and EGFR proteins might be helpful.
- Some colorectal cancers that don't have mutations in the *KRAS*, *NRAS*, or *BRAF* genes might be tested to see if they make too much of the **HER2 protein**. For these cancers, treatment with drugs that target HER2 might be helpful.
- Colorectal cancers that don't have mutations in the *KRAS*, *NRAS*, or *BRAF* genes might also be tested for changes in the **NTRK genes**. These gene changes can lead to abnormal cell growth. For cancers that have one of these gene changes, drugs that target the proteins coded for by the *NTRK* genes might be helpful.

For more on the targeted drugs that might be used, see [Targeted Therapy Drugs for](#)

[Colorectal Cancer](#)⁴.

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

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 determine if certain [immunotherapy](#)⁶ drugs might be options for treatment
- To identify people who should be tested for Lynch syndrome. People with Lynch syndrome are at higher risk for some other cancers, so they are typically advised to get other cancer screenings (for example, women with Lynch syndrome may need to be screened for [endometrial cancer](#)⁷). Also, if a person has Lynch syndrome, their relatives could have it as well, and may want to be tested for it.

For more on lab tests that might be done on biopsy samples, see [Colon and Rectal Pathology](#)⁸.

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

A [CT scan](#)⁹ 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 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](#)¹⁰ 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](#)¹¹ 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: An MRI scan of the pelvis can be used in patients with rectal cancer to see if the tumor has spread into nearby structures. 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. The endorectal MRI helps stage rectal cancer and guides decision-making in regard to surgery and treatment.

Chest x-ray

An [x-ray](#)¹² 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](#)¹³, a slightly radioactive form of sugar (known as FDG) is injected into the blood and collects mainly in cancer cells. PET scans are generally done to help see if the cancer has spread to other parts of the body, outside of the colon or rectum. However, they do not show if cancer has spread to the brain.

Angiography

Angiography is an [x-ray test](#)¹⁴ 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](#)¹⁵.

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/side-effects/low-blood-counts/anemia.html
2. www.cancer.org/cancer/diagnosis-staging/tests/endoscopy/colonoscopy.html
3. www.cancer.org/cancer/diagnosis-staging/tests/biopsy-and-cytology-tests.html
4. www.cancer.org/cancer/types/colon-rectal-cancer/treating/targeted-therapy.html
5. www.cancer.org/cancer/types/colon-rectal-cancer/causes-risks-prevention/risk-factors.html
6. www.cancer.org/cancer/types/colon-rectal-cancer/treating/immunotherapy.html

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Last Revised: January 29, 2024

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 of colorectal cancers is 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.

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

II C	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 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 spread to 1 to 3 nearby lymph nodes (N1) or into areas of fat near the lymph nodes but not the nodes themselves (N1c). It has not spread to distant sites (M0).
III A	OR	
	T1 N2a M0	The cancer has grown through the muscularis mucosa into the submucosa (T1). It has spread to 4 to 6 nearby lymph nodes (N2a). It has not spread to distant sites (M0).
III B	T3 or T4a N1/N1c M0	The cancer has grown into the outermost layers of the colon or rectum (T3) or through the wall of the colon or rectum (including 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 muscularis 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).
	T4a N2a	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



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 Surveillance, Epidemiology, and End Results (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. However, the SEER database 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 2012 and 2018.

SEER stage	5-year relative survival rate
Localized	91%
Regional	72%
Distant	13%
All SEER stages combined	63%

5-year relative survival rates for rectal cancer

These numbers are based on people diagnosed with cancers of the rectum between 2012 and 2018.

SEER stage	5-year relative survival rate
Localized	90%
Regional	74%
Distant	17%
All SEER stages combined	68%

Understanding the numbers

2017 Feb 1;3(2):211-219. doi: 10.1001/jamaoncol.2016.4227.

Last Revised: January 29, 2024

Questions to Ask About Colorectal Cancer

It's important to have honest, open discussions with your cancer care team.

- [When you're told you have colorectal cancer](#)
- [When deciding on a treatment plan](#)
- [During treatment](#)
- [After treatment](#)

When you're told you have colorectal cancer

- 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?
- If considering having children in the future, does this treatment affect my fertility and family planning?
- 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?
- 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/types/colon-rectal-cancer/treating.html
2. www.cancer.org/cancer/managing-cancer/making-treatment-decisions/clinical-trials.html
3. www.cancer.org/cancer/managing-cancer/finding-care/the-doctor-patient-relationship.html

Last Revised: January 29, 2024

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