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Colorectal Cancer - Diagnosis [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board \[2\]](#), 08/2015

ON THIS PAGE: You will find a list of the common tests, procedures, and scans that doctors can use to find out what's wrong and identify the cause of the problem. To see other pages, use the menu on the side of your screen.

Doctors use many tests to diagnose cancer and to find out if it has spread to another part of the body, called metastasis. Some tests may also determine which treatments may be the most effective. For most types of cancer, a biopsy is the only way to make a definitive diagnosis of cancer. If a biopsy is not possible, the doctor may suggest other tests that will help make a diagnosis. Imaging tests may be used to find out whether the cancer has spread.

This list describes options for diagnosing this type of cancer, and not all tests listed will be used for every person. Your doctor may consider these factors when choosing a diagnostic test:

- Age and medical condition
- Type of cancer suspected
- Signs and symptoms
- Previous test results

In addition to a physical examination, the following tests may be used to diagnose colorectal

cancer. The doctor will also ask about your medical and family history.

- **Colonoscopy.** As described in [Screening](#) [3], a [colonoscopy](#) [4] allows the doctor to look inside the entire rectum and colon while a patient is sedated. A colonoscopist is a doctor who specializes in performing this test. If colorectal cancer is found, a complete diagnosis that accurately describes the location and spread of the cancer may not be possible until the tumor is surgically removed.
- **Biopsy.** A [biopsy](#) [5] is the removal of a small amount of tissue for examination under a microscope. Other tests can suggest that cancer is present, but only a biopsy can make a definite diagnosis of colorectal cancer. A pathologist then analyzes the sample(s). A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease. A biopsy may be performed during a colonoscopy, or it may be done on any tissue that is removed during surgery. Sometimes, a CT scan or ultrasound is used to help perform a needle biopsy. A needle biopsy removes tissue through the skin with a needle that is guided into the tumor.
- **Molecular testing of the tumor.** Your doctor may recommend running laboratory tests on a tumor sample to identify specific genes, proteins, and other factors unique to the tumor. Results of these tests will help decide whether your treatment options include a type of treatment called targeted therapy (see [Treatment Options](#) [6]).
- **Blood tests.** Because colorectal cancer often bleeds into the large intestine or rectum, people with the disease may become anemic. A test of the number of red cells in the blood, which is part of [a complete blood count \(CBC\)](#) [7], can indicate that bleeding may be occurring.

Another blood test detects the levels of a protein called carcinoembryonic antigen (CEA). High levels of CEA may indicate that a cancer has spread to other parts of the body. CEA is not an absolute test for colorectal cancer because levels are high for only about 60% of people with colorectal cancer that has spread to other organs from the colon. In addition, other medical conditions can cause CEA to increase. A CEA test is most often used to monitor colorectal cancer for patients already receiving treatment, instead of as a screening test. Learn more about [tumor markers for colorectal cancer](#) [8].

- **Computed tomography (CT or CAT) scan.** A [CT scan](#) [9] creates a three-dimensional picture of the inside of the body with an x-ray machine. A computer then combines these images into a detailed, cross-sectional view that shows any abnormalities or tumors. A CT scan can also be used to measure the tumor's size. Sometimes a special dye called a contrast medium is given before the scan to provide better detail on the image. This dye

can be injected into a patient's vein or given as a pill to swallow. In a person with colon cancer, a CT scan can check for the spread of cancer in the lungs, liver, and other organs. It is often done before surgery (see [Treatment Options](#) [6]).

- **Magnetic resonance imaging (MRI).** An [MRI](#) [10] uses magnetic fields, not x-rays, to produce detailed images of the body. MRI can also be used to measure the tumor's size. A special dye called a contrast medium is given before the scan to create a clearer picture. This dye can be injected into a patient's vein or given as a pill to swallow. MRI is the best imaging test to find where the colorectal cancer has grown.
- **Ultrasound.** [Ultrasound](#) [11] is a procedure that uses sound waves to create a picture of the internal organs to find out if cancer has spread. Endorectal ultrasound is commonly used to find out how deeply rectal cancer has grown and can be used to help plan treatment; however, this test cannot accurately detect cancer that has spread to nearby lymph nodes or beyond the pelvis. Ultrasound can also be used to view the liver, although CT scans or MRIs (see above) are preferred because they are better for finding tumors in the liver.
- **Chest x-ray.** An x-ray is a way to create a picture of the structures inside of the body, using a small amount of radiation. An x-ray of the chest can help doctors find out if the cancer has spread to the lungs.
- **Positron emission tomography (PET) scan.** A [PET scan](#) [12] is a way to create pictures of organs and tissues inside the body. A small amount of a radioactive sugar substance is injected into the patient's body. This sugar substance is taken up by cells that use the most energy. Because cancer tends to use energy actively, it absorbs more of the radioactive substance. A scanner then detects this substance to produce images of the inside of the body. PET scans are not regularly used for all patients with colorectal cancer, but there are specific situations that your doctor may find them useful.

After diagnostic tests are done, your doctor will review all of the results with you. If the diagnosis is cancer, these results also help the doctor describe the cancer; this is called staging.

The [next section in this guide is Stages](#) [13], and it explains the system doctors use to describe the extent of the disease. Or, use the menu on the side of your screen to choose another section to continue reading this guide.

Links

[1] <http://www.cancer.net/cancer-types/colorectal-cancer/diagnosis>

- [2] <http://www.cancer.net/about-us>
- [3] <http://www.cancer.net/node/34081>
- [4] <http://www.cancer.net/node/24481>
- [5] <http://www.cancer.net/navigating-cancer-care/diagnosing-cancer/tests-and-procedures/biopsy>
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