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Sarcoma, Soft Tissue - Diagnosis [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board \[2\]](#), 05/2016

ON THIS PAGE: You will find a list of common tests, procedures, and scans that doctors use to find the cause of a medical problem. To see other pages, use the menu.

Doctors use many tests to find, or diagnose, cancer. They also do tests to learn if cancer has spread to another part of the body from where it started. If this happens, it is called metastasis. For example, imaging tests can show if the cancer has spread. Imaging tests show pictures of the inside of the body. Doctors may also do tests to learn which treatments may work best.

For most types of cancer, a biopsy is the only sure way for the doctor to know whether an area of the body has cancer. In a biopsy, the doctor takes a small sample of tissue for testing in a laboratory. If a biopsy is not possible, the doctor may suggest other tests that will help make a diagnosis.

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:

- The type of cancer suspected
- Your signs and symptoms
- Your age and medical condition
- The results of earlier medical tests

There are no standard screening tests for sarcoma. A doctor should examine any unusual or new lumps or bumps that are growing to make sure it is not cancer. Sarcomas are rare. If sarcoma is suspected, it is very important to talk with a doctor who has experience with this type of cancer.

A diagnosis of sarcoma is made by a combination of clinical examination by a doctor and imaging tests. It is confirmed by the results of a biopsy. In addition to a physical examination, some of the following tests may be used to diagnose sarcoma:

Imaging tests

Benign and cancerous tumors may look different on imaging tests, such as an x-ray. In general, a benign tumor has round, smooth, well-defined borders. A cancerous tumor usually has irregular, poorly defined edges.

- **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. X-ray is particularly useful for [bone sarcomas](#) [3].
- **Ultrasound.** An [ultrasound](#) [4] uses sound waves to create a picture of the internal organs.
- **Computed tomography (CT or CAT) scan.** A [CT scan](#) [5] creates a 3-dimensional picture of the inside of the body using x-rays taken from different angles. 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 and/or be a liquid the patient must drink.
- **Magnetic resonance imaging (MRI).** An [MRI](#) [6] 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 and/or be a liquid the patient must drink. Doctors often use MRI as a key test in deciding whether a biopsy is necessary in cases of possible STS.
- **Positron emission tomography (PET) or PET-CT scan.** A PET scan is usually combined with a CT scan (see above), called a [PET-CT scan](#) [7]. However, you may hear your doctor refer to this procedure just as a PET scan. A PET scan 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. This technique can be used to look at both the tumor's structure and how much energy is used by the tumor and normal tissues. This information can be helpful in treatment planning and evaluating how well treatment is working, but it may not be performed in all cases of known or suspected STS.

Biopsy and tissue tests

Imaging tests may suggest the diagnosis of sarcoma, but a biopsy will be needed to confirm the diagnosis and find out the subtype. It is very important for a patient to see a sarcoma specialist before any surgery or biopsy is done.

- **Biopsy.** A [biopsy](#) [8] 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. A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.

Because STS is uncommon, an expert pathologist should review the tissue sample to properly diagnose a sarcoma. Sometimes properly diagnosing a sarcoma requires special tests, and it is best if a specialist who sees this type of cancer every day does this.

There are different types of biopsies. For a needle biopsy, a doctor removes a small sample of tissue from the tumor with a needle-like instrument—usually a core needle biopsy and, less often, a thin needle biopsy. This may be performed with the help of ultrasound, CT scan, or MRI to precisely guide the needle into the tumor. In an incisional biopsy, a surgeon cuts into the tumor and removes a sample of tissue. In an excisional biopsy, the surgeon removes the entire tumor, but second surgeries are often necessary after an excisional biopsy because the tumor may not have been completely removed. Because STS tumors are uncommon, it is important to have an expert pathologist review the sample of tissue removed to appropriately diagnose a sarcoma.

- **Molecular testing of the tumor.** Your doctor or the pathologist looking at the sarcoma 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 what the treatment should be, since each sarcoma can be as different from one another as breast cancer is different from colon cancer (see [Treatment Options](#) [9]).

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 and grading.

The [next section in this guide is Stages and Grades](#) [10]. It explains the system doctors use to describe the extent of the disease. Or, use the menu to choose another section to continue reading this guide.

Links

[1] <http://www.cancer.net/cancer-types/sarcoma-soft-tissue/diagnosis>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancer.net/node/31329>

[4] <http://www.cancer.net/node/24714>

[5] <http://www.cancer.net/node/24486>

[6] <http://www.cancer.net/node/24578>

[7] <http://www.cancer.net/node/24565>

[8] <http://www.cancer.net/node/24406>

[9] <http://www.cancer.net/node/19611>

[10] <http://www.cancer.net/node/19610>