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Biopsy [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 11/2015



Listen to the [Cancer.Net Podcast: Biopsy - What to Expect](#) [3], adapted from this feature

For most types of cancer, a biopsy is the main way doctors diagnose cancer. A biopsy 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.

Your doctor may recommend a biopsy if something suspicious is found during a physical exam or other tests. You may have the biopsy in your doctor's office. Sometimes, a biopsy may be performed with the help of an imaging test, such as an ultrasound, CT scan, or MRI (see below). Occasionally, surgery may be needed to get a tissue sample. The type of biopsy you receive depends on where the possible tumor is located. An explanation of the different types of biopsies is below.

Types of biopsies

The types of biopsies include:

- **Fine needle aspiration biopsy.** For this type of biopsy, the doctor uses a very thin, hollow needle attached to a syringe. A small amount of tissue is collected from the suspicious area for examination and further testing. This biopsy may be used for a mass that can be felt through the skin or used with image-guided biopsy (see further below).

- **Core needle biopsy.** Similar to a fine needle biopsy, a core needle biopsy uses a larger needle to remove a larger sample of tissue.
- **Vacuum-assisted biopsy.** This type of biopsy uses suction to collect a tissue sample through a specially designed needle. This means the doctor does not have to insert the needle more than one time. The doctor can collect multiple or larger samples from the same biopsy site with this method.
- **Image-guided biopsy.** This biopsy may be used when a tumor cannot be felt by the doctor or when the area is deeper inside the body, but appears on an imaging scan. During this procedure, a needle is guided to the location with the help of an imaging technique. An image-guided biopsy can be done using a fine needle, core, or vacuum-assisted biopsy, depending on the amount of tissue needed. The type of scan used depends on the location and other factors. One of the following imaging scans may be used.
 - [Ultrasound](#) [4]
 - Fluoroscopy
 - [Computed Tomography \(CT\) scan](#) [5]
 - X-ray
 - [Magnetic Resonance Imaging \(MRI\) scan](#) [6]
- **Excisional biopsy.** An excisional biopsy is the removal of the entire suspicious area. This type of biopsy is common for suspicious changes on the skin. It is also sometimes used for a small lump under the skin when it is able to be easily removed. However, fine needle aspiration or a core biopsy are more common for lumps that cannot be seen or felt through the skin.
- **Shave biopsy.** For this type of biopsy, the doctor uses a sharp tool to scrape tissue from the surface of the skin.
- **Punch biopsy.** During a punch biopsy, the doctor uses a sharp, circular tool that is inserted into the skin to take a sample from below the surface of the skin.

- **Endoscopic biopsy.** An endoscope is a thin, lighted, flexible tube with a camera. Doctors use endoscopes to view the inside of the body, including the bladder, abdomen, joints, or gastrointestinal (GI) tract. Endoscopes are inserted into the body through the mouth or through a tiny surgical incision. The attached camera helps the doctor see any abnormal areas. It can also be used to take tiny samples of the tissue using forceps. The forceps are also a part of the endoscope. Find out more about the different [endoscopic techniques](#) [7].
- **Bone marrow aspiration and biopsy.** These two procedures are similar and often done at the same time to examine the bone marrow. Bone marrow has both a solid and a liquid part. A bone marrow aspiration removes a sample of the fluid with a needle. A bone marrow biopsy is the removal of a small amount of solid tissue using a needle. These procedures are used to find out if a person has a blood disorder or blood cancer. Blood cancers include leukemia, lymphoma, or multiple myeloma.

A common site for a bone marrow aspiration and biopsy is the pelvic bone, which is located in the lower back by the hip. The skin in that area is usually numbed with medication beforehand. Other types of anesthesia (medication to block the awareness of pain) may be used. Learn more about [what to expect during a bone marrow biopsy](#) [8].

Who does a biopsy and who analyzes the sample?

Because there are different types of biopsies, members of the medical team involved in the procedure may vary.

The doctor who performs your biopsy depends on the type of biopsy you need and what part of the body is being examined:

- Surgeon
- Radiologist, who specializes in taking and reading medical images
- Oncologist, the doctor who specializes in treating cancer
- Gastroenterologist, the doctor who specializes in the function and disorders of the gastrointestinal tract. The gastrointestinal, or GI, tract includes the stomach, intestines, and associated organs.
- Pathologist, the doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease. The pathologist analyzes the tissue sample(s)

removed during a biopsy.

- A cytologist may perform a fine needle aspiration. This is a professional who specializes in the study of cells.
- Dermatologist, a doctor who specializes in skin conditions
- Gynecologist, a doctor who specializes in conditions related to a woman's reproductive system
- Family practice doctor
- Other specialists

Getting ready for a biopsy

Preparation for a biopsy depends on the type of biopsy you will have. For example, there is little preparation for a fine needle biopsy performed in a doctor's office. In some cases, you will need to remove your clothing and given a gown to wear.

Ask your doctor or nurse whether you can eat or drink anything before the biopsy procedure. You should also ask if you should take your regular medications that day. Tell your doctor about all medications and supplements you are taking. Tell your doctor about any drug allergies or other medical conditions you may have.

A member of your health care team will explain the procedure to you. You will be asked to sign a consent form that states you understand the benefits and risks of the biopsy and agree to have the test done. Talk with your doctor about any concerns you may have.

During the procedure

Depending on the part of your body that will be biopsied, you may lay on your stomach or back or sit up during the procedure. In addition, for some types of biopsies, you may need to hold your breath while a biopsy needle is inserted or remain still. Your health care team will let you know ahead of time what to expect during the procedure.

Before the procedure, you will receive a type of anesthesia. Anesthesia is medication to block the awareness of pain. The type of anesthesia used depends on the type of procedure and where in the body the biopsy is needed. The following types of anesthesia may be used:

- Local, which is an injection that numbs the area where a procedure is being done. You may feel some slight, stinging pain when a local anesthetic is injected by needle to numb the area.
- Conscious sedation or monitored anesthesia care, which uses medication to relax you in combination with a local or regional anesthesia.
- General anesthesia, which makes a person unconscious during a major procedure, such as surgery. If you receive a general anesthetic, you will not be aware of the procedure.

Learn more about types of [anesthesia](#) [9].

After the procedure

Your recovery period depends on the type of biopsy. The least invasive procedures require no recovery time. You may be able to go back to your normal activities immediately after the procedure. For a more invasive procedure, you may need a longer recovery time. In addition, if you receive general anesthesia, you will need someone to drive you home after the procedure.

After a biopsy, talk with your doctor or nurse about taking care of the biopsy area. In addition, be aware of the symptoms of complications from the procedure. Contact your doctor's office if you experience signs of infection, severe pain, fever, or bleeding.

Getting your results

The amount of time it will take for you to receive the results of the biopsy depends on how many tests are needed on the sample to make a diagnosis. Based on this analysis, a pathologist determines whether the tissue removed contains a tumor. A tumor can be benign or malignant. A benign tumor is noncancerous. A malignant tumor is cancerous and can spread to other parts of the body. The pathologist can help determine the type of tumor and if it is noncancerous or cancerous.

A straightforward, uncomplicated result can often be given within 2 to 3 days after the biopsy. A more complicated result can take 7 to 10 days if more testing on the tissue is needed. Talk with your doctor about how you will receive the results of your biopsy and who will explain these results to you.

Questions to ask your doctor

Before having a biopsy, consider asking your doctor the following questions:

- Why do you recommend that I have a biopsy?

- What are the risks of not having the test?
- When will I learn the results of the biopsy? How will I receive the information? Who will explain the results to me?
- What will happen during the biopsy?
- Who will perform the biopsy?
- How long will the procedure take?
- Will I receive local or general anesthesia?
- Will it be painful?
- Is there a risk of infection, bleeding, or other side effects after the biopsy?
- Will the biopsy leave a scar on my body?
- Will I need to stay in the hospital after the biopsy?
- Will I need to avoid any activities after the biopsy?
- Will I need to have someone drive me home after the biopsy?
- Will I need to undergo any additional tests or procedures?
- How do I need to prepare for the biopsy? Are there any restrictions on what I may eat or drink the day before?

More Information

[Tests and Procedures](#) [10]

[After a Biopsy: Making a Diagnosis](#) [11]

[Reading a Pathology Report](#) [12]

[The Oncology Team](#) [13]

Links

[1] <http://www.cancer.net/navigating-cancer-care/diagnosing-cancer/tests-and-procedures/biopsy>

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

[3] <http://www.cancer.net/node/30366>

[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/24511>

[8] <http://www.cancer.net/node/24409>

[9] <http://www.cancer.net/node/24375>

[10] <http://www.cancer.net/node/24959>

[11] <http://www.cancer.net/node/24371>

[12] <http://www.cancer.net/node/24715>

[13] <http://www.cancer.net/node/24957>