



Breast biopsy

Overview

A breast biopsy is a procedure to remove a small sample of breast tissue for laboratory testing.

A breast biopsy is a way to evaluate a suspicious area in your breast to determine whether it is breast cancer. There are several types of breast biopsy procedures.

A breast biopsy provides a sample of tissue that doctors use to identify and diagnose abnormalities in the cells that make up breast lumps, other unusual breast changes, or suspicious or concerning findings on a mammogram or ultrasound. The lab report from the breast biopsy can help determine whether you need additional surgery or other treatment.

Why it's done

Your doctor may recommend a breast biopsy if:

- You or your doctor feels a lump or thickening in your breast, and your doctor suspects breast cancer
- Your mammogram shows a suspicious area in your breast
- An ultrasound scan reveals a suspicious finding
- Your breast MRI reveals a suspicious finding
- You have unusual nipple or areolar changes, including crusting, scaling, dimpling skin or a bloody discharge

Risks

Risks associated with a breast biopsy include:

- Bruising and swelling of the breast
- Infection or bleeding at the biopsy site
- Altered breast appearance, depending on how much tissue is removed and how your breast heals
- Additional surgery or other treatment, depending on biopsy results

Contact your doctor if you develop a fever, if the biopsy site becomes red or warm, or if you have unusual drainage from the biopsy site. These can be signs of an infection that may require prompt treatment.

How you prepare

Before the breast biopsy, tell your doctor if you:

- Have any allergies
- Have taken aspirin in the last seven days
- Are taking blood-thinning medications (anticoagulants)
- Are unable to lie on your stomach for an extended period of time

If your biopsy will be done using magnetic resonance imaging (MRI), tell your doctor if you have a cardiac pacemaker or other electronic device implanted in your body or if you're pregnant or think you may be pregnant. An MRI generally isn't recommended under these circumstances.

Wear a bra to your appointment. Your health care team may place a cold pack against the biopsy site after the procedure, and the bra can hold the cold pack in place and provide support for your breast.

What you can expect

Several breast biopsy procedures are used to obtain a tissue sample from the breast. Your doctor may recommend a particular procedure based on the size, location and other characteristics of the breast abnormality. If it's not clear why you're having one type of biopsy instead of another, ask your doctor to explain.

For many biopsies, you'll get an injection to numb the area of the breast to be biopsied.

Types of breast biopsy include:

- **Fine-needle aspiration biopsy.** This is the simplest type of breast biopsy and may be used to evaluate a lump that can be felt during a clinical breast exam. For the procedure, you lie on a table. While steadying the lump with one hand, your doctor uses the other hand to direct a very thin needle into the lump.

The needle is attached to a syringe that can collect a sample of cells or fluid from the lump. Fine-needle aspiration is a quick way to distinguish between a fluid-filled cyst and a solid mass and, possibly, to avoid a more invasive biopsy procedure. If, however, the mass is solid, a tissue sample will be obtained.

- **Core needle biopsy.** This type of breast biopsy may be used to assess a breast lump that's visible on a mammogram or ultrasound or that your doctor feels (palpates) during a clinical breast exam. A radiologist or surgeon uses a thin, hollow needle to remove tissue samples from the breast mass, most often using ultrasound guidance.

Several samples, each about the size of a grain of rice, are collected and analyzed to identify features indicating the presence of disease. Depending on the location of the mass, other imaging techniques, such as a mammogram or MRI, may be used to guide the positioning of the needle to obtain the tissue sample.

- **Stereotactic biopsy.** This type of biopsy uses mammograms to pinpoint the location of suspicious areas within the breast. For this procedure, you generally lie facedown on a padded biopsy table with one of your breasts positioned in a hole in the table, or you may have the procedure in a seated position. You may need to remain in this position for 30 minutes to one hour.

The table is raised several feet, and the equipment used by the radiologist is positioned beneath the table. Your breast is firmly compressed between two plates while mammograms are taken to show the radiologist the exact location of the area for biopsy.

The radiologist makes a small incision — about 1/4-inch long (about 6 millimeters) — into your breast. He or she then inserts either a needle or a vacuum-powered probe and removes several samples of tissue. The samples are sent to a lab for analysis.

- **Ultrasound-guided core needle biopsy.** This type of core needle biopsy involves ultrasound — an imaging method that uses high-frequency sound waves to produce precise images of structures within your body. During this procedure, you lie on your back or side on an ultrasound table.

Holding the ultrasound device (transducer) against your breast, the radiologist locates the mass within your breast, makes a small incision to insert the needle and takes several core samples of tissue to be sent to a lab for analysis.

- **MRI-guided core needle biopsy.** This type of core needle biopsy is done under guidance of an MRI — an imaging technique that captures multiple cross-sectional images of your breast and combines them, using a computer, to generate detailed 3-D pictures. During this procedure, you lie facedown on a padded scanning table. Your breasts fit into a hollow depression in the table.

The MRI machine provides images that help determine the exact location for the biopsy. A small incision about 1/4-inch long (about 6 millimeters) is made to allow the core needle to be inserted. Several samples of tissue are taken and sent to a lab for analysis.

At the time of the breast biopsy procedures noted above, a tiny stainless steel marker or clip may be placed in your breast at the biopsy site. This is done so that if your biopsy shows cancer cells or precancerous cells, your doctor or surgeon can locate the biopsy area to remove more breast tissue surgically (known as the surgical biopsy).

- **Surgical biopsy.** During a surgical biopsy, a portion of the breast mass is removed for examination (incisional biopsy) or the entire breast mass may be removed (excisional biopsy, wide local excision or lumpectomy). A surgical biopsy is usually done in an operating room using sedation given through a vein in your hand or arm (intravenously) and a local anesthetic to numb your breast.

If the breast mass can't be felt, your radiologist may use a technique called wire localization to map the route to the mass for the surgeon. During wire localization, the tip of a thin wire is positioned within the breast mass or just through it. This is usually done right before surgery.

During surgery, the surgeon will attempt to remove the entire breast mass along with the wire. To help ensure that the entire mass has been removed, the tissue is sent to the hospital lab to confirm whether breast cancer has been detected and if so, the edges (margins) of the mass are evaluated to determine whether cancer cells are present in the margins (positive margins).

If cancer cells are present at the margins, you will be scheduled for another surgery so more tissue can be removed. If the margins are clear (negative margins), then the cancer has been removed adequately.

After a breast biopsy

With all types of breast biopsy except a surgical biopsy, you'll go home with only bandages and an ice pack over the biopsy site. Although you should take it easy for the rest of the day, you'll be able to resume your normal activities within a day. Bruising is common after core needle biopsy procedures. To ease pain and discomfort after a breast biopsy, you may take a nonaspirin pain reliever containing acetaminophen (Tylenol, others) and apply a cold pack as needed to reduce swelling.

If you have a surgical biopsy, you'll likely have stitches (sutures) to care for. You will go home the same day of your procedure and you can resume usual activities the next day. Your health care team will tell you how to protect your stitches.

Results

It may be several days before the results of a core needle biopsy are available. After the biopsy procedure, your breast tissue is sent to a lab, where a doctor who specializes in analyzing blood and body tissue (pathologist) examines the sample using a microscope and special procedures.

The pathologist prepares a pathology report that is sent to your doctor, who will share the results with you. The pathology report includes details about the size and consistency of the tissue samples, the location of the biopsy site, and whether cancer, noncancerous (benign) changes or precancerous cells were present.

If your breast biopsy reveals normal results or benign breast changes, your doctor will need to see if the radiologist and pathologist agree on the findings. Sometimes the opinions of these two experts differ. For instance, your radiologist may find that your mammogram results suggest a more-suspicious lesion such as breast cancer or precancerous lesion, but your pathology report reveals normal breast tissue. In this case, you may need more surgery to obtain more tissue to further evaluate the area.

If your pathology report says that breast cancer is present, it will include information about the cancer itself, such as what type of breast cancer you have and additional information, such as whether the cancer is hormone receptor positive or negative. You and your doctor can then develop a treatment plan that best suits your needs.

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