

When other imaging methods are needed

A mammogram is the best screening tool used today to find breast cancer early. A mammogram is an X-ray of the breast.

Images of the breast can be captured on film (standard mammography) or on a computer (digital mammography). For women with dense breast tissue, digital mammography may be more accurate than standard mammography.

Sometimes a lump or other breast problem will not show on a mammogram. Or the mammogram might not give your doctor enough information. In these cases, your doctor may recommend a different method in order to get a better picture.

Other imaging tests can provide valuable information that a mammogram cannot. Of these methods, *ultrasound* and *magnetic resonance imaging* (MRI) are used most often. These tests give your doctor an image of your breast. This image may help your doctor make a diagnosis.

These tests are not always able to tell the difference between dense breast tissue, benign (non-cancerous) lumps and cancer. And, sometimes they miss tiny calcium deposits that may be the earliest sign of a tumor. In some cases, these tests might cause a “false alarm” and may lead to more tests. But despite their limitations, these tests play a useful role in breast cancer detection.



Ultrasound is safe and painless.

Ultrasound (or sonogram)

Ultrasound is commonly used with pregnant women to look at a developing baby. When used on the breast, it can tell the difference between types of lumps, such as liquid-filled cysts and solid masses. Doctors use ultrasound to find out the size, shape, texture and density of a breast lump.

MRI

A magnetic resonance imaging (MRI) machine uses a large magnet and radio waves to create an image of the breast. It can sometimes detect cancers in dense breasts that are not seen on mammograms. MRI is often used with mammography for screening women at a high risk of breast cancer. However, MRI can be costly and often finds something that looks abnormal, but turns out to be benign (false positive). MRI can also be used to see if a silicone breast implant has leaked or ruptured.

Other imaging methods

A number of other imaging methods are available for detecting breast cancer. However, they have not been proven to work well enough for routine use. At present, they are used mainly in research studies, and sometimes to get more information about a tumor found by another method. Each of these methods generates a computerized image that is analyzed for the presence of an abnormal breast finding.

Scintigraphy [sin-TiG-ra-fēe]

Also called *scintimammography*, this test uses a special camera to show where a *tracer* (a radioactive chemical) has collected inside a tumor. A scanner is then used to see if the breast lump has picked up more of the radioactive material than the rest of the breast tissue.

Lymphatic mapping

This test also uses a special camera and scanner to see where a tracer has collected. It is used to locate sentinel lymph nodes for cancer staging.

PET scan

Cancer cells grow faster than other cells, so they use energy faster, too. To measure how fast glucose (the body's fuel) is being used, a *tracer* (radioactive glucose) is injected into the body and the body is scanned with a positron emission tomography (PET) machine. The PET machine detects how fast the glucose is being used. If it is being used up faster in certain places, it may indicate the presence of a cancerous tumor.

Stereotactic imaging

This special type of mammography machine is used during a biopsy. After mammograms are taken from different angles to locate the exact area of concern, a computer merges the pictures to make a three-dimensional image of the breast. The image is used to guide a biopsy needle to the suspicious area of the breast.

Ask your doctor

Before you have an imaging test, be sure to find out why you are having it and how much it will cost. Here are some questions you may want to ask your doctor:

- Why do you recommend that I have this test?
- How accurate is the test in my situation?
- When and how will I get the results?
- If a problem is found, what will we do next?
- How much will the test cost and will my insurance cover it?

Related fact sheets in this series:

- Coping with a Cancer Diagnosis
- Biopsy
- Mammography
- When the Diagnosis is Cancer — An Overview