Mammogram

A mammogram is an X-ray image of the breast. Mammograms are used to find early signs of breast cancer.

The images of the breast can be captured on film or stored directly on a computer (digital). Most imaging centers now use digital mammography. Digital mammography may be better than film at finding breast cancer in some women. Women who have not gone through menopause, are under age 50 or have dense breast tissue may benefit from digital mammography.

When other imaging methods are needed

Sometimes a lump or other breast problem will not show up on a mammogram. Or the image might not give your doctor enough information. In these cases, your doctor may suggest an additional test.

Along with a mammogram, other imaging tests can provide helpful information. Breast ultrasound and breast magnetic resonance imaging (MRI) are often used. These tests can help tell the difference between dense breast tissue, benign (non-cancerous) lumps and cancer. Despite their limitations, these tests play a vital role in breast cancer detection and diagnosis.

Mammograms, breast MRI and breast ultrasound can sometimes give a “false positive” result (when a test finds something that looks like cancer, but isn’t). This can lead to more tests.

Breast MRI

A breast MRI uses magnetic fields to create an image of the breast. It can sometimes find cancers in dense breasts that are not seen on mammograms. Breast MRI may be used with mammography for screening some women at a high risk of breast cancer. It is not recommended for women at average risk. Breast MRI is more invasive than a mammogram and can be costly.

Breast Ultrasound (or sonogram)

Breast ultrasound uses sound waves to make images of the breast. It is often used as a follow-up test after an abnormal finding on a mammogram or clinical breast exam. Breast ultrasound can tell the difference between a liquid-filled cyst and a solid mass (which may or may not be cancer).
Emerging area in imaging and detection

Breast tomosynthesis (3D digital mammography)

Special imaging machines can take multiple, standard two-dimensional (2D) digital mammograms. Computers combine the 2D X-ray images into a three-dimensional (3D) image. This image is called breast tomosynthesis. A breast tomosynthesis machine provides both a regular digital mammogram and an enhanced 3D image based on the 2D images.

This imaging is under study for use in breast cancer detection. One study found digital mammography plus breast tomosynthesis was better at finding breast cancer than digital mammography alone. However, a special machine is required. Also, radiologists must have special training to read the images. At this time, it is not widely available.

Ask your doctor

Before you have an imaging test, ask your doctor why you need it. Here are some questions you may ask:

• Why do you recommend I have this test?
• How accurate is the test?
• When and how will I get the results?
• If a problem is found, what will we do next?
• Will my insurance cover it?

Related fact sheets in this series:

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

Keep in mind, these tests are used for screening and follow-up on abnormal screening tests. A biopsy is required to get a final diagnosis of breast cancer.