

## Mammogram

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

In the past, images were stored on film. Now, they are usually stored on a computer (digital). Digital mammography may be better than film at finding breast cancer in women who:

- have not gone through menopause,
- are under age 50 or
- have dense breast tissue.

## When other imaging methods are needed

Sometimes a mammogram image may not give your doctor enough information. In these cases, you may need an additional test. This could be another mammogram or a different test.

For example, breast ultrasound and breast magnetic resonance imaging (MRI) may be done. These tests may help tell the difference between dense breast tissue, benign (not cancer) lumps and cancer.

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



*Breast ultrasound is safe and painless.*

## 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).

## 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 (such as those with a *BRCA1/2* gene mutation). It is not recommended for screening women at average risk. Breast MRI is more invasive than a mammogram. It can also be costly.

## Emerging area in imaging and detection

### Breast tomosynthesis (3D digital mammography)

Special imaging machines can take many standard two-dimensional (2D) digital mammograms. Computer software combines the 2D images into a three-dimensional (3D) image. This is called breast tomosynthesis. These machines provide both a digital mammogram and an enhanced 3D image based on the 2D images. Radiologists need special training to read the 3D images.

Some studies suggest that 2D mammography plus breast tomosynthesis may find a few more breast cancers than 2D mammography alone. Yet, it is still not clear whether 2D mammography plus breast tomosynthesis is a better screening tool than 2D mammography alone. Although 2D mammography plus breast tomosynthesis is available at some centers, it is still under study and not considered standard of care at this time.

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

## Ask your doctor

Before you have any 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 Cancer Diagnosis
- Mammography
- When the Diagnosis is Cancer — An Overview

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