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## **Mammography [1]**

**This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 02/2016**

Mammography is a type of x-ray that checks for breast cancer in women. The pictures (images) produced by mammography, called mammograms, show small tumors that cannot be felt and other irregularities in the breast.

Mammography is used for different reasons.

- **Screening mammography** looks for breast cancer in women with no symptoms. This is because doctors want to catch the disease at an earlier, more treatable stage. Different organizations have looked at the evidence, risks, and benefits of screening mammography. They have developed slightly different recommendations about the age to start screening and how often to get screened. Learn more about current [breast cancer screening guidelines](#) [3] and [how to make sense of screening recommendations](#) [4].
- **Diagnostic mammography** is performed if a screening mammogram shows a suspicious area, or to evaluate a lump or mass in the breast. Diagnostic mammography usually takes more pictures at different magnifications than screening mammography. This is so the radiologist can get more information to form an opinion as to whether the suspicious area is cancer.

### **The medical team**

Mammography is performed by a mammogram technologist who is specially trained to operate

the mammography equipment. A mammogram is reviewed by a radiologist, a medical doctor who performs and interprets imaging tests to diagnose disease.

## **Preparing for the test**

Before having a mammogram, discuss any breast symptoms or specific problems you are experiencing with your doctor. You may want to consider scheduling the test within 2 weeks after the end of your menstrual period because that is typically when a woman's breasts are least tender. Avoiding caffeine for a week before the test and taking an over-the-counter pain medication the day of the test may also reduce breast sensitivity and make it more comfortable.

In addition, it is important to mention if you are pregnant or breastfeeding. Lactating women can have a mammogram. Usually they nurse the baby first, or otherwise express the milk, before having the test.

Before your appointment, you may want to check with your insurance provider to find out if there are any additional costs you may need to pay yourself. Under the [Affordable Care Act](#) [5], private insurance companies are required to pay the full cost of mammography screening every 1 to 2 years for women starting at the age of 40. Diagnostic mammography is usually covered by your insurance provider when it has been recommended by a doctor. Medicare also covers [yearly mammography screening](#) [6] at no cost to women and diagnostic mammography when medically necessary. But, it is important to first check with your insurance provider to avoid unexpected costs.

On the day of your mammogram, do not use deodorant, antiperspirant, powder, lotion, or perfume on your breasts or under your arms. These products leave residue on the skin that may create spots on the x-ray. If you forget, the radiation technologist can show you how to remove these products before the test.

## **During the test**

Mammography takes 10 to 15 minutes to complete. However, you can expect to be at the facility for up to an hour due to the time it takes to change clothes, have the examination, and allow the technologist to verify that the x-rays are complete.

When you arrive, the technologist will ask you to take off any jewelry that will interfere with the x-ray and remove your clothes above the waist. You will be given a hospital gown that opens in the front.

Before the test begins, tell the technologist if you have breast implants, scar tissue from a previous breast surgery, or any area of concern in your breast. Knowing these things will help the technologist better perform the mammogram and will help the radiologist read your x-rays more accurately. If you have had previous surgery for breast cancer, the technologist may tape small metal balls to your skin at the site of the scar. This will indicate to the radiologist where you have the highest risk of recurrence.

The technologist may ask you to relax and take a deep breath as the procedure begins. Typically, you will stand in front of the mammography machine while the technologist places one of your breasts between two plastic plates, presses the plates together to flatten your breast, and takes an x-ray. This takes only a few seconds. Your breast is flattened to spread out the tissue and make small abnormalities easier to identify, as well as to prevent motion that would blur the image.

For a screening mammogram, the technologist will usually take two images of each breast, one from the top and one from the side. For a diagnostic mammogram, additional images may be taken. You will change positions slightly for each image. When the examination is complete, you will probably need to wait about five minutes while the x-rays are developed so the technologist can make sure the pictures are clear and readable. The technologist may need to take additional images after he or she reviews the first set.

## **After the test**

You can return to your usual activities immediately after your mammogram. You will receive the results within 30 days of the test for screening mammography. People undergoing diagnostic mammography usually learn the results immediately. Many women are anxious while awaiting results, and this is quite normal. Talk with your doctor or the radiology staff if you have specific concerns.

## **Mammography advances**

Over the years, there have been technological advancements in mammography. Today the doses of radiation used are much lower, and the images are much clearer.

Other developments include digital mammography, which records the images on a computer instead of on film to make them easier to store, share with other health care professionals, and retrieve. As with other digital x-ray technology, digital mammography is still being improved.

Another advance is 3-dimensional (3D) breast imaging (breast tomosynthesis). This procedure can be done in conjunction with a digital mammogram, but not as a replacement. The 4-second exam can provide a more detailed picture of the breast. Some studies show that using 3D imaging results in fewer patients being called back for more exams. 3D imaging is starting to be used by doctors but is not yet widely available.

There are benefits and risks associated with all types of mammography. Talk with your doctor about which type is right for you.

## **Questions to ask your doctor**

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

- Who will perform the mammogram?
- What experience does the facility have in performing mammography?
- What are the risks and benefits associated with mammography?
- How accurate is mammography at finding cancer?
- Should I bring previous mammogram results with me to this examination?
- When will I learn the results? How will they be communicated to me?
- Who will explain the results to me?
- What other tests will I need if the mammogram is unclear or shows evidence of cancer?

## **More Information**

[Guide to Breast Cancer](#) [7]

[Cancer Screening](#) [8]

[ASCO Perspective on Mammography Screening for Breast Cancer](#) [9]

[Breast MRI](#) [10]

## **Additional Resources**

[MedlinePlus Interactive Tutorials: Mammography](#) [11]

[National Cancer Institute: Mammogram Fact Sheet](#) [12]

[RadiologyInfo: Mammography](#) [13]

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### **Links**

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

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

[3] <http://www.cancer.net/node/18621>

- [4] <http://www.cancer.net/node/34506>
- [5] <http://www.cancer.net/node/24921>
- [6] <https://www.medicare.gov/coverage/mammograms.html>
- [7] <http://www.cancer.net/node/31322>
- [8] <http://www.cancer.net/node/24972>
- [9] <http://www.asco.org/asco-in-action/asco-perspective-mammography-screening-breast-cancer>
- [10] <http://www.cancer.net/node/24415>
- [11] <https://www.nlm.nih.gov/medlineplus/mammography.html>
- [12] <http://www.cancer.gov/types/breast/mammograms-fact-sheet>
- [13] <http://www.radiologyinfo.org/en/info.cfm?pg=mammo>