Mammography

This section has been reviewed and approved by the Cancer.Net Editorial Board, 03/2014

audio.png

Listen to the Cancer.Net Podcast: Mammography?€"What to Expect [1], adapted from this content

Key Messages:

- Mammography is a type of x-ray that looks for breast cancer in women without signs of the disease or in women with breast lumps or other breast irregularities.
- Mammography, which is performed by a trained technologist, produces pictures of the breast called mammograms that are reviewed by a medical doctor for signs of disease.
- During the test, the technologist places the breast on the mammography machine?s special platform, flattens the breast between two plastic plates, and takes an x-ray.

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 or other irregularities in the breast.

There are two main types of mammography:

Screening mammography. This test looks for breast cancer in women with no symptoms in an effort to catch the disease at an earlier, more treatable stage. Different organizations have looked at the evidence, risks, and benefits of mammography and have developed slightly different recommendations for breast cancer screening. The U.S. Preventive Services Task Force recommends that women ages 50 to 74 have mammography every two years and that mammography be considered in women ages 40 to 49 after evaluating the risks and benefits of the test with a doctor. However, the American Cancer Society recommends yearly mammography starting at age 40. Learn more about breast cancer screening guidelines [2].

Diagnostic mammography. This test is performed if a screening mammogram shows a suspicious area or if a person feels a lump in the breast or has other unusual symptoms. Diagnostic mammography usually takes more pictures of the breast than screening mammography.

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. In addition, it is important to mention if you are pregnant or breastfeeding. In both cases, your doctor will probably tell you not to have this test.

You may want to consider scheduling the test within two 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.

Before your appointment, you may want to check with your insurance provider to find out whether the cost of the test will be covered and if there are any additional costs you may need to pay yourself. Under the Affordable Care Act [3], private insurance companies are required to pay the full cost of mammography screening every one to two years for women starting at the age of 40, and Medicare now covers yearly mammography screening at no cost to women starting at age 40. Diagnostic mammography is usually covered when it has been recommended by a doctor, but it is important to check with your insurance provider.

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.

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 the first set is reviewed.

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.

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 and retrieve. As with other digital x-ray technology, digital mammography is still being improved.

Another very recent advance is three-dimensional (3D) breast imaging (breast tomosynthesis), which can be done in conjunction with a digital mammogram, but not as a replacement. The four-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 [4]

Cancer Screening [5]

ASCO Perspective on Mammography Screening for Breast Cancer [6]

Breast MRI [7]

Breast MRI for the Early Detection of Breast Cancer [8]

Additional Resources

MedlinePlus Interactive Tutorials: Mammography [9]

National Cancer Institute: Mammogram Questions and Answers [10]

RadiologyInfo: Mammography[11].

Links:
[1] http://www.cancer.net/sites/cancer.net/files/mammography_what_to_expect_0.mp3
[2] http://www.cancer.net/node/18622
[3] http://www.cancer.net/node/24921
[4] http://www.cancer.net/node/18618
[5] http://www.cancer.net/node/24972
[6] http://www.asco.org/advocacy/asco-perspective-mammography-screening-breast-cancer
[7] http://www.cancer.net/node/24415
[8] http://www.cancer.net/node/24414
[9] http://www.nlm.nih.gov/medlineplus/tutorials/mammogram/htm/index.htm
[10] http://www.cancer.gov/cancertopics/factsheet/Detection/screening-mammograms
[11] http://www.radiologyinfo.org/en/info.cfm?pg=mammo