MODERN MEDICAL MODALITIES CORPORATION

General Mammography FAQs

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What is Mammography?

Mammography is a specific type of imaging that uses a low-dose x-ray system for examining the breasts. The images of the breasts can be viewed on film at a view box or as soft copy on a *digital mammography work station*. Our mammography systems are digital. Most medical experts agree that successful treatment of breast cancer often is linked to early diagnosis. Mammography plays a central part in early detection of breast cancers because it can show changes in the breast up to two years before a patient or physician can feel them. Current guidelines from the U.S. Department of Health and Human Services (HHS), the American Cancer Society (ACS), the American Medical Association (AMA) and the American College of Radiology (ACR) recommend screening mammography every year for women, beginning at age 40.

The National Cancer Institute (NCI) adds that women who have had breast cancer and those who are at increased risk due to a genetic history of breast cancer should seek expert medical advice about whether they should begin screening before age 40 and about the frequency of screening.

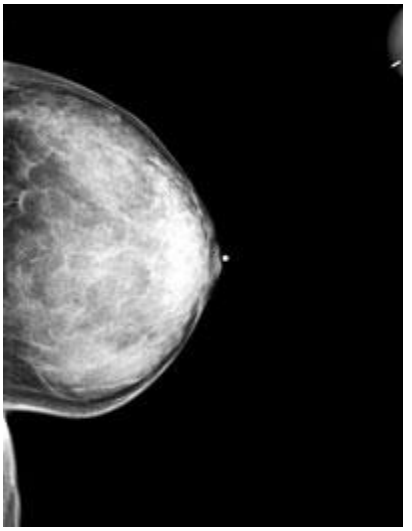
What are some common uses of the Mammography procedure?

Mammography is used to aid in the diagnosis of breast diseases in women. Screening mammography can assist your physician in the detection of disease even if you have no complaints or symptoms.

Initial mammographic images themselves are not always enough to determine the existence of a benign or malignant disease with certainty. If a finding or spot seems suspicious, your radiologist may recommend further diagnostic studies.

Diagnostic mammography is used to evaluate a patient with abnormal clinical findings, such as a breast lump or lumps, that have been found by the woman or her doctor. Diagnostic mammography may also be done after an abnormal screening mammography in order to determine the cause of the area of concern on the screening exam.

Mammogram of Breast with implants.



Normal Mammogram

How should I prepare for my Mammogram?

Before scheduling a mammogram, the ACS and other specialty organizations recommend that you discuss any new findings or problems in your breasts with your doctor. In addition, inform your doctor of any prior surgeries, hormone use and family or personal history of breast cancer.

Do not schedule your mammogram for the week before your period if your breasts are usually tender during this time. The best time is one week

following your period. Always inform your doctor or x-ray technologist if there is any possibility that you are pregnant.

The ACS also recommends you:

- Do not wear deodorant, talcum powder or lotion under your arms or on your breasts on the day of the exam. These can appear on the mammogram as calcium spots.
- Describe any breast symptoms or problems to the technologist performing the exam.
- If possible, obtain prior mammograms and make them available to the radiologist at the time of the current exam.
- Ask when your results will be available; do not assume the results are normal if you do not hear from your doctor or the mammography facility.

In addition, before the examination you will be asked to remove all jewelry and clothing above the waist and you will be given a gown or loose-fitting material that opens in the front.

What does the Mammography equipment look like?

A mammography unit is a rectangular box that houses the tube in which x-rays are produced. The unit is dedicated equipment because it is used exclusively for x-ray exam of the breast, with special accessories that allow only the breast to be exposed to the x-rays. Attached to the unit is a device that holds and compresses the breast and positions it so images can be obtained at different angles.

Mammography machine.

How does Mammography work?

The breast is exposed to a small dose of radiation to produce an image of internal breast tissue. The image of the breast is produced as a result of some of the x-rays being absorbed (attenuation) while others

pass through the breast to expose either a film (conventional mammography) or digital image receptor (digital mammography). The exposed film is either placed in a developing machine—producing images much like the negatives from a 35mm camera—or images are digitally stored on computer.

How is the Mammography performed?

During mammography, a specially qualified radiologic technologist will position you to image your breast. The breast is first placed on a special platform and compressed with a paddle (often made of clear Plexiglas or other plastic).

Breast compression is necessary in order to:

- Even out the breast thickness so that all of the tissue can be visualized.
- Spread out the tissue so that small abnormalities won't be obscured by overlying breast tissue.
- Allow the use of a lower x-ray dose since a thinner amount of breast tissue is being imaged.
- Hold the breast still in order to eliminate blurring of the image caused by motion.
- Reduce x-ray scatter to increase sharpness of picture.

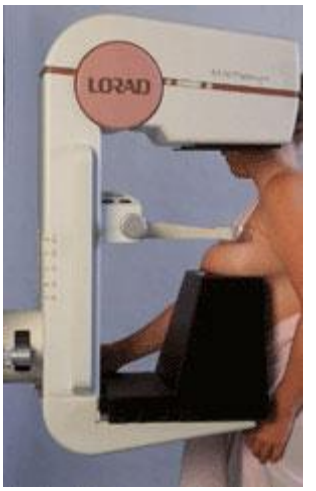
The technologist will go behind a glass shield while making the x-ray exposure, which will send a beam of x-rays through the breast to the image receptor behind the plate, thus exposing the film or digital receptor.

You will be asked to change positions slightly between images. The routine views are a top-to-bottom view and an oblique side view. The process is repeated for the other breast.

The examination process should take about half an hour. When the mammography is completed you will be asked to wait until the technologist examines the images to determine if more are needed.

What will I experience during my Mammography?

You will feel pressure on the breast as it is squeezed by the compressor. Some women with sensitive breasts may experience discomfort. If this is the case, schedule the procedure when your breasts are least tender. The



Mammography procedure in progress.

technologist will apply compression in gradations. Be sure to inform the technologist if pain occurs as compression is increased. If discomfort is significant, less compression will be used.

Who interprets my Mammography results and how do I get them?

A radiologist, who is a physician experienced in mammography and other x-ray examinations, will analyze the images, describe any abnormalities, and suggest a likely diagnosis. The report will be dictated by the radiologist and then sent to your referring physician. You will also be notified of the results by the mammography facility. This notification is usually sent a few days after the official report goes to your doctor. New technology also allows for distribution of diagnostic reports and referral images over the Internet at some facilities.

What are the benefits vs. risks of Mammography?

Benefits

- Imaging of the breast improves a physician's ability to detect small tumors. When cancers are small, the woman has more treatment options and a cure is more likely.
- The use of screening mammography increases the detection of small abnormal tissue growths confined to the milk ducts in the breast, called ductal carcinoma in situ (DCIS). These early tumors cannot harm patients if they are removed at this stage and mammography is the only proven method to reliably detect these tumors.

Risks

- The effective radiation dose from a mammogram is about 0.7 mSv, which is about the same as the average person receives from background radiation in three months. Federal mammography guidelines require that each unit be checked by a medical physicist every year to ensure that the unit operates correctly. See the Safety page for more information about radiation dose.
- Women should always inform their doctor or x-ray technologist if there is any possibility that they are pregnant.
- False Positive Mammograms. Five percent to 15 percent of screening mammograms require more testing such as additional mammograms or ultrasound. Most of these tests turn out to be normal. If there is an abnormal finding a follow-up or biopsy may have to be performed. Most of the biopsies confirm that no cancer was present. It is estimated that a woman who has yearly mammograms between ages 40 and 49 has about a 30 percent chance of having a false-positive mammogram at some point in that decade and about a 7 percent to 8 percent chance of having a breast biopsy within the 10-year period. The estimate for false-positive mammograms is about 25 percent for women ages 50 or older.

What are the limitations of Mammography?

Interpretations of mammograms can be difficult because a normal breast can appear differently for each woman. Also, the appearance of an image may be compromised if there is powder or salve on the breasts or if you have undergone breast surgery. Because some breast cancers are hard to visualize, a radiologist may want to compare the image to views from previous examinations. Not all cancers of the breast can be seen on mammography.

Breast implants can also impede accurate mammogram readings because both silicone and saline implants are not transparent on x-rays and can block a clear view of the tissues behind them, especially if the implant has been placed in front of, rather than beneath, the chest muscles. But the NCI says that experienced technologists and radiologists know how to carefully compress the breasts to improve the view without rupturing the implant. When making an appointment for a mammogram, women with implants should ask if the facility uses special techniques designed to accommodate

them. Before the mammogram is taken, they should make sure the technologist is experienced in performing mammography on patients with breast implants.