

A woman with short brown hair, wearing a white lab coat, stands next to a Siemens mammography machine. The machine is white and pink, with a large circular opening on the left side. The Siemens logo is visible on the top of the machine. The woman is looking towards the camera with a slight smile.

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Mammography and Breast Cancer Screening

General Information

Answers for life.

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General Information

You've made an appointment with your doctor for a mammogram. If this is your first mammogram, you probably have a few questions about the examination procedure. We'd like to answer some of your questions to help ease your mind about your appointment.

Regular screening examinations enable early detection of breast cancer, which leads to a significant increase in the chance of recovery. Mammography is considered the best way to detect breast cancer in its earliest, most treatable stage.*

Breast cancer is the most common cancer among women, except for skin cancer, and it is the second leading cause of cancer death in women, after lung cancer.**

One out of eight women will develop breast cancer some time during her life—this means one new diagnosis every 2 minutes. Every 13 minutes, a woman will die of breast cancer, according to the National Breast Cancer Coalition (NBCC). The death rates from breast cancer have declined significantly and medical experts attribute the decline to earlier detection and more effective treatments.

*<http://www.imaginis.com/breast-health/mammographic-screening-is-key-to-the-early-detection-of-breast-cancer>

** <http://www.imaginis.com/breast-cancer-resource-center>



What is a mammogram?


A mammogram is an X-ray examination of the breast. The examination is performed by compressing the patient's breast between two plates to capture the image of the breast tissue. While there may be some discomfort, it is important that the breast is compressed to increase the image quality and lower the exposure to radiation. At least two images are taken of each breast. Each breast is X-rayed once from top to bottom and once at a slight angle. The mammography images are then reviewed by the physician and discussed with the patient.

Who should have a mammogram?

There are two types of mammograms—a screening mammogram and a diagnostic mammogram.

A screening mammogram is an X-ray examination of the breasts in a woman who has no complaints or symptoms of breast cancer. The goal is to detect cancer when it is still too small to be felt by a woman or her physician. While there has been some discussion about when women should start having screening mammograms and how often, many healthcare providers recommend mammograms every year for women once they reach 40 years of age. In some instances, physicians may recommend beginning screening mammography before age 40 (i.e., if the woman has a strong family history of breast cancer). Patients should consult with their doctors to determine the best time to start screening mammograms.





A diagnostic mammogram is advisable for anyone who notices any change in her breasts like a lump or hardening when palpating the breast or armpits, has a family history of breast cancer, or has had an abnormality found during a screening mammogram. A diagnostic mammogram is usually more time-consuming because additional images need to be taken of the areas of concern and a biopsy may need to be performed.

Analog Mammography

Analog mammography records images using film processing (as compared to digital). The examination is performed by placing the patient's breast between the mammography unit's X-ray tube and an X-ray film, and then carefully pressing it against a compression plate. The X-rays passing through the breast tissue blacken the X-ray film. However, the X-ray film remains white at locations where the X-rays were not able to pass through the tissue. The result is a black, gray, and white image of the breast.

Digital Mammography

Another type of mammography is digital mammography. The examination procedure is exactly the same as for analog mammography. However, instead of exposing film, the X-rays hit an advanced detector, which senses the image data digitally and electronically. The resulting images are evaluated by a physician with a special computer. Several software tools are also at the doctor's disposal to simplify diagnosis.

Radiation Exposure during Digital and Analog Mammography

Both analog and digital mammography involve the use of X-rays. However, the radiation dose generated lies in the low dose range.

Benefits of Digital Mammography

- Up to 40% less radiation dose* over standard film mammography
- Fewer callbacks or retakes for additional images because images can be enhanced with the computer
- Less time may be needed because the results are seen more quickly—so that means less anxiety and discomfort for you
- The doctor can electronically manipulate images with digital mammograms to assist with diagnosis
- The potential for more efficient access to mammograms is possible because digital mammograms can be electronically transmitted to another physician for viewing or printing

Excellence in Digital Mammography

MAMMOMAT® Inspiration

- Automatically selects the lowest radiation dose for the individual breast characteristics
- Applies compression only as long as the breast is soft and pliable. It stops at the point of optimal compression, helping to decrease patient discomfort and optimize image quality
- MoodLight™ LED light panel provides a warmer, more comfortable screening environment for patients
- The material composition of the paddles provides a warm and smooth feeling during the exam
- Excellent image quality
- Very little time between exposures. A few seconds after the X-ray exposure, a preview image enables the mammography technologist to quickly assess its quality and proceed to the next image. This helps shorten exam times for patients
- Assists physicians in cancer detection with Computer Assisted Diagnosis (CAD) markers

*<http://www.imaginis.com/breast-health/digital-mammography-2>



Manufacturing mammography systems since 1971, Siemens Healthcare is one of the world's largest suppliers to the healthcare industry and a trendsetter in medical imaging. From analog and digital mammography to breast MRI to 4D ultrasound, Siemens is a leader in Women's Health by bringing innovative technologies to clinical practice.

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