Breast Imaging

San Radiology & Nuclear Medicine

mammography patient information

SO YOU NEED A MAMMOGRAM. YOU MAY LIKE TO KNOW...

A mammogram is an x-ray of the breasts, performed on a purpose built machine. It may be performed for a number of reasons.

If you are over 40 years of age and have no breast symptoms or signs concerning for breast cancer, your doctor will likely recommend a screening mammogram to exclude unexpected pathology that cannot be felt.

If you have symptoms or signs that are concerning, your doctor will recommend diagnostic imaging typically including mammography and possibly ultrasound, particularly if you are 40 years of age or older. These symptoms or signs may include pain or tenderness, a lump or thickening, skin changes, dimpling or nipple discharge.

If you are at increased risk of breast cancer, even if you have no symptoms you may also be referred for a mammogram with or without other imaging investigations. If you want to better understand your risk you should discuss this with your GP.

What is the difference between screening mammography and diagnostic breast imaging?

Screening mammography involves performing a mammogram of the breasts in an asymptomatic woman (a woman with no symptoms or signs of concern) to detect abnormalilties that are not able to be felt. It is usually performed every 2 years unless there are risk factors resulting in a recommendation for annual screening.

Free screening mammograms are performed through **Breastscreen NSW**. Typically two views of each breast are performed with 2D imaging. Once the technologist is happy with the technical aspects of the images, you may leave and the images are then transmitted electronically for 2 or 3 radiologists (doctors specialising in medical imaging) to study in detail. You will receive a letter informing you that there is no visible sign of cancer, or you may be asked to attend a clinic for further investigations. These are likely to include 3D (tomosynthesis) mammography, ultrasound, clinical review and biopsy if necessary.

Diagnostic breast imaging is undertaken for women with a symptom or sign of concern that they, or their doctor, has detected. If you have noted a change in your breast such as a lump, area of thickening, pain, nipple discharge, asymmetry or skin changes such as puckering, you should see your GP. They will be able to assess the area of concern, and where indicated, refer for diagnostic imaging. This involves a combination of imaging relevant to your age and clinical symptoms and signs. For women over 40 years, this usually includes mammography and ultrasound, with or without other imaging studies and/or biopsy as required.

At the San, we typically perform 2D and 3D mammography as part of the initial investigations. For women younger than 40 years of age, we usually start investigating with ultrasound.

WHAT TYPES OF MAMMOGRAMS ARE THERE?

There are a number of different ways of imaging the breast using mammography. At the San we are very excited to have recently installed the latest mammographic machine from Siemens, the Siemens Revelation. The range of options and specifications means we can perform optimal imaging for all women tailored to individual needs. We can perform both the conventional 2D mammography, the new technique of 3D mammography also known as tomosynthesis, as well as contrast mammography.

What is the difference between 2D and 3D (tomosynthesis) mammography?

The patient experience is the same for a 2D or 3D mammogram. Your breast requires compression as the pictures are taken, however the diagnostic accuracy with the addition of 3D imaging is far greater. 2D imaging provides one image in two different directions of each breast, giving a total of 4 images. With 3D (tomosynthesis) imaging however, much more information is acquired allowing the radiologist to scroll through many images representing fine slices of the breast. The technique reduces the impact of overlapping structures hiding abnormalities from view. For initial evaluation, we routinely perform both 2D and 3D imaging with some exceptions including women with breast implants and women with reconstructed breasts.

WHAT DOES A MAMMOGRAM SHOW?

Mammography has been proven over decades to detect breast cancers, and its widespread use has decreased the impact of breast cancer on a woman and reduced the number of deaths from breast cancer.

It shows various changes in the breast which indicate both benign (non-cancerous) and malignant (cancerous) findings. These may be described as masses, architectural distortion, calcification, asymmetrical density and so on. **It is important to understand that detecting an abnormality does not mean there is a cancer**. One of our radiologists will interpret your mammogram and guide further investigations as required if there is an abnormality. This may include breast ultrasound for specific symptoms and signs, dense breasts or family history, or other imaging such as contrast mammography and MRI. This will be discussed with you and your doctor.

Please turn over...

It is also important to understand that a new breast symptom such as a new lump, skin or nipple retraction, or a nipple discharge is significant and should not be disregarded, even if you have had a recent mammogram which was reported as normal. There is no perfect test. Cancers develop between imaging and in some cases a cancer may be present but unable to be detected on a mammogram.

At the San we have radiologists who have subspecialist expertise in breast imaging. They will provide a report to your doctor which will typically include a breast density measurement, a comparison to any prior imaging available, and information as to the presence or absence of breast pathology. They will also typically correlate any symptoms or signs referenced by you or your doctor with the imaging tests. If anything further is needed, they will discuss this with you and your doctor and make appropriate arrangements.

HOW IS A MAMMOGRAM PERFORMED AND WHO PERFORMS THEM?

A radiographer specially trained in mammography performs these tests at the San. They will position the breast in the unit and lower contoured plastic compression paddles onto the breast to flatten it out to an even thickness. Whilst this can be uncomfortable, most women are able to cope for the short period of time it takes. One benefit of our new machine is it images the breast with a wide angle which improves diagnostic accuracy. However this does mean that for each breast the compression time is a little longer (around 25 seconds). The machine also has an important feature that optimises compression of the breast. Research has shown that there is an optimal amount of compression, and that both too little and too much compression is disadvantageous. Our unit compresses the breast until the ideal thickness is achieved and then does not compress any further. As a result many women find the new machine more comfortable.

Why does the breast need to be compressed?

Unfortunately, breast compression remains necessary for mammography in order to obtain the best images. Compressing the breast makes the cone shaped breast into a uniform thickness and stops the breast moving which can cause blurring. Compression also decreases the radiation dose to the breast. All these factors provide the best image quality. We are all aware of the discomfort women may experience and we will work with you to achieve our goal of getting the best images possible with the minimum number of exposures.

What preparation is required for a mammogram?

For women who are still having periods, it is best to book your mammogram during the week after your period starts when your breasts are the least tender, providing the examination is not considered urgent.

Please let us know when you make your appointment if you have breast implants, as the examination will take a little longer.

Please do not wear deodorant or talcum powder on the day of the examination, as these can contain materials visible on the mammogram which can complicate image interpretation. Wearing a shirt with a skirt, shorts or trousers is usually more comfortable for you, as you will then only need to remove your shirt and bra.

If you have had prior breast imaging elsewhere (mammography, ultrasound or MRI of the breasts), please bring these imaging studies and reports with you.

How long does the mammogram take?

The imaging itself is quick, with each exposure taking only about 25 seconds. However, we allow approximately 20 minutes of appointment time to fill in a questionnaire, change, have your mammogram and have the imaging reviewed by the radiologist. Extra views may be required on occasion, which can add to the length of time you are here. Please tell us when you are going back to see the doctor who referred you, so we can ensure the report is available.

What are the risks or complications of mammography?

Mammography is a safe and simple test performed on millions of women and is well tolerated. However, on rare occasions, tenderness, bruising or splitting of the skin in the fold underneath your breasts may occur. For a woman whose breast has been treated with surgery or radiotherapy, mammography can be difficult to tolerate due to discomfort during compression. There is also a small risk of rupturing breast implants.

Mammography is a low dose of radiation to the breast. The benefits of early detection and treatment of breast cancer far outweigh the risk of exposing the breast to radiation. There is now incontrovertible scientific evidence that early detection and treatment has considerably reduced the effects of breast cancer on a woman's health, and has dramatically reduced the number of deaths due to breast cancer. However, it is important that all diagnostic imaging using radiation be kept as low as possible. The radiation dose of a diagnostic mammogram varies from person to person, depending on breast size and also the number of images required to answer any particular questions. The risk of developing a breast cancer from the radiation required for a mammogram is no greater than developing cancer from exposure to natural background radiation over one year of living your normal life.

FURTHER INFORMATION

San Radiology & Nuclear Medicine povides personalised diagnostic breast imaging services. Contact San Radiology on **(02) 9480 9850** for further information and to make an appointment.

Screening mammography can be provided free of charge through Breastscreen NSW. If you wish to be imaged through Breastscreen NSW, there is a screening site at Parkway San Clinic, located opposite Sydney Adventist Hospital. Phone **13 20 50** for a booking.

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