

3D/TOMOSYNTHESIS MAMMOGRAPHY

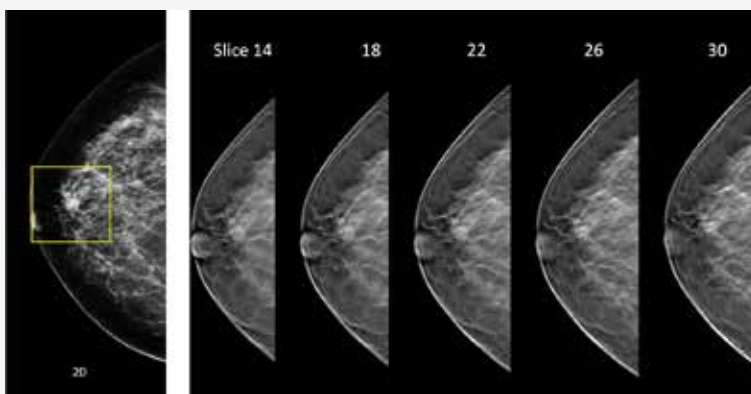
Information for Referrers

There are two Mammography classifications (7,8)

- Screening - offered by BreastScreen and clinics for asymptomatic women. A GP referral is required for clinics and private radiology practices (a Medicare rebate may be available for some high-risk patients).
- Diagnostic - performed at private clinics and hospitals for symptomatic patients, e.g. lump or other suspicious finding. A GP referral is required detailing clinical indications.

2D Digital Mammography is the most common breast imaging method used in Australia, however research shows it has some limitations. It can miss some cancers and produce false positives as structures can overlap and normal tissue may appear as abnormal, leading to further testing and unnecessary patient anxiety.(9,10)

Breast Tomosynthesis or 3D Mammography uses newer technology to help reduce detection challenges with conventional 2D Mammography. In Australia 3D/Tomosynthesis Mammography exams are typically used for diagnostic testing of higher-risk patients compared with 2D Mammography.



In the digital image on the left there is a potential lesion in the subareolar region of the breast. In the 3D images on the right, it is easy to see there is no lesion present. Radiologists can pick out the individual structures on separate slices, to form the potential lesion seen on the 2D image.

How 3D/Tomosynthesis Works

- Genius 3D MAMMOGRAPHY™ exams allow the breast tissue to be examined in thin 'layers', typically 1mm thick.
- This helps to see through overlapping structures that may mimic or hide lesions on a conventional mammogram.
- During a 3D/Tomosynthesis exam, the X-ray arm sweeps in a slight arc over the breast, taking a series of images at various angles in just seconds.
- The digital breast images are converted by software into a stack of very thin layers or 'slices' to build a 3D image.
- Genius 3D MAMMOGRAPHY™ can perform both 2D and 3D/Tomosynthesis Mammograms. Please see Medicare Eligibility for more information.

3D/Tomosynthesis Mammography enables more accurate placement of localisation wire in less time, making the procedure more accurate and less uncomfortable for the patient.

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Clinical Assessment

In addition to considering the clinical for Diagnostic Mammogram examinations, High-risk patients suited to a diagnostic referral for a 3D/Tomosynthesis Mammogram may include:

- Patients with any breast changes, signs or symptoms (11).
- Those with a strong family history of breast or ovarian cancer (11).
- Patients with dense breasts, e.g. younger women not actively targeted by the national screening program (2,3,6).
- Women with a previous diagnosis of breast disease or those requiring further assessment following a 2D exam (11).

Patient Preparation

3D/Tomosynthesis and 2D Mammography is the same:

- Do not use Talcum powder, perfume or deodorant as this can show up on the x-ray and impact accuracy of image.
- Wear a two-piece outfit that allows you to continue to wear the bottom section (pants/skirt) but for ease of examination allows the top section (shirt) to be removed. This will assist with providing privacy and warmth.
- If patients generally experience significant breast discomfort during their menstrual period, it may be best not to schedule the mammogram during this period. One week after their period is best unless the examination is urgent.
- Eat and drink normally, and continue to take your usual medications.
- Very low X-ray energy used during the 3D/Tomosynthesis examination ensures radiation exposure is within the recommended guidelines (12).

Examination duration is almost the same for 2D and 3D/Tomosynthesis. Image capture with 3D takes marginally longer compared to 2D and may cause some patients a slightly longer period of discomfort compared to 2D. This should be considered against the diagnostic benefits of the examination.

Clinical Evidence

Studies with Genius 3D Mammography exams show cancers and abnormalities are found earlier significantly improving the detection rate compared with 2D Mammography alone (1-3).

- Detects 41% more invasive breast cancers(1,2).
- Reduces false-positives, decreasing screening recall rates by 15-40% (1-3).
- May reduce the number of unnecessary biopsies (4).
- Increases cancer detection in women with dense breasts (2,3,5,6).

The Genius exam is the only 3D Mammogram with a substantial body of evidence supporting its significant superiority over 2D Mammography alone. (13).

The large breast Tomosynthesis screening trials have utilised Hologic's Genius 3D MAMMOGRAPHY™ technology, including the widely publicised study in the Journal of American Medical Association (JAMA) and the landmark Oslo Screening Trial in Norway, demonstrating a 40% increase in invasive cancer detection, which is important for Australia due to our almost identical approach to breast screening.(2,10,13).

Medicare Eligibility

Relevant Medicare Rebates within Mammography include:

MAMMOGRAPHY OF BOTH BREASTS, (MBS Item no 59300) if there is a reason to suspect the presence of malignancy because of:
 (i) the past occurrence of breast malignancy in the patient or members of the patient's family; or
 (ii) symptoms or indications of malignancy found on an examination of the patient by a medical practitioner. Unless otherwise indicated, mammography includes both breasts (R).

TOMOGRAPHY (MBS Item no 60100) to add 3D Mammography/Tomosynthesis.

Service Availability

SERVICE	CHATSWOOD & RYDE	CLARENCE VALLEY IMAGING	NORTH COAST RADIOLOGY
2D	Ryde	Grafton	Ballina, Women's Imaging Lismore
3D/ Tomosynthesis	Chatswood	N/A	Ballina, Women's Imaging Lismore

References

1. Friedewald S, Rafferty E, Rose S, et al. (2014). Breast Cancer Screening Using Tomosynthesis in Combination with Digital Mammography. Journal of the American Medical Association (JAMA), 311(24), 2499-2507.
2. Skaane P, Bandos A, Gullien R, et al. "Comparison of Digital Mammography Alone and Digital Mammography Plus Tomosynthesis in a Population-based Screening Program." Radiology. 2013 Apr; 267(1):47-56. Epub 2013 Jan 7.
3. Rose S, Tidwell A, Bujnock L, et al. "Implementation of Breast Tomosynthesis in a Routine Screening Practice: An Observational Study." American Journal of Roentgenology. 2013 Jun; 200(6): 1401-1408. Epub 2013 May 22.
4. Zuley M, Bandos A, Ganott M, et al. "Digital Breast Tomosynthesis versus Supplemental Diagnostic Mammographic Views for Evaluation of Noncalcified Breast Lesions." Radiology. 2013 Jan; 266(1):89-95. Epub 2012 Nov 9.
5. Philpotts L, Raghu M, Durand M, et al. "Initial Experience With Digital Breast Tomosynthesis in Screening Mammography." (paper presented at the annual meeting of the American Roentgen Ray Society, Washington, D.C. May 3 2012).
6. Ciatto S, Houssami N, Bernardi D, et al. "Integration of 3D Digital Mammography with Tomosynthesis for Population Breast-Cancer Screening (STORM): A Prospective Comparison Study." The Lancet Oncology. Epub 2013 Apr 25.
7. The Royal Australian College of Radiologists® Inside Radiology—insideradiology.com.au/pages/view.php?T_id=45. Accessed May 2014.
8. Cancer Australia—cancer australia.gov.au/affected-cancer-types/breast-cancer/diagnosis/tests/breast-cancer/breastdiagnostic-services. Accessed May 2014.
9. BreastScreen Victoria—breastscreen.org.au/Breast-Screening/The-Facts. Accessed May 2014.
10. Brodersen J, Siersma V. "Long-Term Psychosocial Consequences of False-Positive Screening Mammography." The Annals of Family Medicine 2013 Mar; 11(2):106-115.
11. Breast Cancer Risk Factors: a review of the evidence July 2009, National Breast and Ovarian Cancer Centre.
12. Australian Radiation Protection and Nuclear Safety Agency—arpansa.gov.au/services/ndrl/ndrlfactsheet.cfm. Accessed May 2014.
13. Data on file with Hologic, Inc. Genius 3D MAMMOGRAPHY™ is registered trademark of Hologic, Inc

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Referrals & Cost

3D/Tomosynthesis Referrals need to request a Mammogram (addressing medicare eligibility requirements as appropriate) PLUS Tomography/Tomosynthesis for patients to receive medicare rebates.

If Tomography/Tomosynthesis is not included on the referral a 2D Mammogram examination will be assumed.

3D/Tomosynthesis Mammography will be charged in addition to 2D Mammography and our standard billing policy will apply.

Reporting & Images

2D Images are set up as one series (with one image) per view of each breast on the PACS.

Each 3D/Tomosynthesis image series will contain multiple images which can be scrolled like CT images. There are typically two 3D series per breast.



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