

Breast Cancer and Mammography in Australia

The Facts

Breast cancer in Australia:

- It is the most common cancer in women and the second most common cause of cancer-related death in women.¹
- 15,600 Australian women are estimated to be diagnosed in 2015.²
- 1-in-8 Australian women will be diagnosed in their lifetime.³
- Having a mother, sister or daughter with breast cancer approximately doubles a woman's risk. However, 9-in-10 diagnosed do not have a family history.^{4,5,6}
- Finding invasive breast cancers early increases the chance of surviving breast cancer.⁷ If found before spreading to lymph nodes, the 5 year survival rate is 96%.⁸

Mammography in Australia:

- There are two mammography classifications:^{9,10}
 - Screening – offered by the Government screening program and clinics for asymptomatic women.
 - Diagnostic – performed at private radiology clinics and hospitals for symptomatic patients, e.g. lump or other suspicious finding.
- Traditional 2D mammography is accepted as the gold standard in screening, however it does have some limitations for diagnostic testing. Due to overlapping layers of breast tissue, unclear results or 'false alarms' may be produced, or worse – some cancers may be missed.^{11,12}

Patient suitability for diagnostic testing, such as 3D Mammography exams:

- The following high-risk patient types may be suited to a diagnostic referral for a 3D Mammography exam. These include women:
 - With any breast changes or lumps.¹³
 - With a strong family history of breast or ovarian cancer.¹³
 - Who have had a previous diagnosis of breast disease.¹³
 - With dense breasts, e.g. women in their 40s not targeted by the national screening program.^{14,15,16}
 - Who require further assessment following an inconclusive 2D mammogram.⁴

Genius™ 3D Mammography™ exams – the facts:

- Used mainly in Australia for diagnostic testing of high risk women, Genius exams:
 - Detect 41% more invasive breast cancers (the research shows this equates to 4.1 invasive cancers detected per 1,000 women screened vs. 2.9 detected with 2D mammography.)¹⁷
 - Reduce the need for further testing, such as biopsies, by 15-40%.^{14,15,17}

- Increase detection in women with dense breasts (where there's a lot of glandular tissue but not much fatty tissue – common in women under the age of 50).^{14,15,16}
- Over 100 clinical studies have been published about the Genius exam – the largest body of peer-reviewed evidence that currently exists for this type of technology.

How Genius 3D Mammography exams work:

- A Genius 3D Mammography exam allows the breast tissue to be examined layer by layer or in thin 'slices', typically 1mm thick.¹⁸
- The x-ray arm sweeps in an arc over the breast, taking a series of images at various angles in just seconds.¹⁸
- A 3D Mammography™ exam can be performed in conjunction with a 2D exam for screening purposes or by itself as a diagnostic mammogram.

Find out more at www.genius3D.com.au or www.hologic.com.

¹ Cancer Australia – <http://canceraustralia.gov.au/affected-cancer/cancer-types/breast-cancer/breast-cancer-statistics>. Accessed March 2015.

² Breast Cancer Network Australia – <http://bcna.org.au/understanding-breast-cancer/>. Accessed March 2015.

³ National Breast Cancer Foundation – www.nbcf.org.au/Research/About-Breast-Cancer.aspx. Accessed March 2015.

⁴ National Breast and Ovarian Cancer Centre. Breast cancer risk factors: a review of the evidence. Sydney, NSW: NBOCC, 2009.

⁵ Cancer Australia. Report to the nation - breast cancer 2012. Cancer Australia, Surry Hills, NSW, 2012.

⁶ BreastScreen NSW – <http://www.bsnsnsw.org.au/about-breast-cancer/risk-factors>. Accessed August 2015.

⁷ Cancer Australia, Breast Cancer in Australia: An overview. Cancer Series Number 71. October 2012. Australian Institute of Health and Welfare, Canberra. Cat. no. CAN 67.

⁸ Cancer Council Australia – www.cancer.org.au/about-cancer/types-of-cancer/breast-cancer.html. Accessed March 2015.

⁹ The Royal Australian College of Radiologists® InsideRadiology—insideradiology.com.au/pages/view.php?T_id=45. Accessed May 2014.

¹⁰ Cancer Australia— <http://canceraustralia.gov.au/affected-cancer/cancer-types/breast-cancer/diagnosis/tests-breast-cancer/breast-diagnostic-services>. Accessed March 2015.

¹¹ BreastScreen Victoria – www.breastscreen.org.au/Breast-Screening/The-Facts. Accessed March 2015.

¹² Brodersen J, Siersma V. "Long-Term Psychosocial Consequences of False-Positive Screening Mammography." The Annals of Family Medicine 2013 Mar;11(2):106-15.

¹³ Breast Cancer Risk Factors: a review of the evidence July 2009, National Breast and Ovarian Cancer Centre

¹⁴ 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.

¹⁵ 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.

¹⁶ 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.

¹⁷ Friedewald S M, Rafferty E A, Rose S L, et al. "Breast cancer screening using tomosynthesis in combination with digital mammography." JAMA. 2014;311(24):2499-2507. doi:10.1001/jama.2014.6095.

¹⁸ 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.