

**Supplemental Screening Summary for BreastScreen NSW Eligible Clients**

| Modality   | Benefits  | Limitations   | Available at BSNW for screening | Available at BSNW for assessment (client recalled from screening for further tests) | Requires GP referral for screening                     | IV Contrast Media required for examination | Radiation exposure |
|--|---|---|---------------------------------|---|--|--|--------------------|
| <b>2D Mammography (BreastScreen NSW)</b>                     | -Current population screening standard of care<br>-Self referred<br>-No cost for client<br>-Double blind reading for screening program  | -Reduced sensitivity for extremely dense breasts  | Y                               | Y   | N  | N  | Y                  |
| <b>3D Mammography</b>  | -Increased cancer detection rates for whole population<br>-Generally accessible in diagnostic imaging services  | -Radiation exposure<br>-Extremely dense breasts can be challenging to interpret<br>-Potential out of pocket expense   | N                               | Y   | Y  | N  | Y                  |
| <b>Breast Ultrasound</b>                                     | -No radiation<br>-Accessible with GP referral<br>-Complementary modality to mammography - potential to detect mammographically occult cancer<br>-Generally accessible diagnostic imaging services               | -Increased investigation of benign disease and benign biopsies<br>-Operator dependant   | N                               | Y   | Y  | N  | N                  |
| <b>ABUS (Automated Breast Ultrasound)</b>                    | -No radiation<br>-Accessible with GP referral in Sydney<br>-Complementary modality to mammography - potential to detect mammographically occult cancer  | -Increased investigation of benign disease and benign biopsies<br>-Limited availability   | N                               | N   | Y  | N  | N                  |
| <b>Contrast Enhanced Mammography</b>                         | -High cancer detection rate<br>-Increased sensitivity for dense breasts   | -Iodinated contrast media risks including allergy, renal toxicity and extravasation<br>-Limited availability, emerging modality<br>-Increased radiation dose to 3D mammography alone<br>-Interpretation can be limited by background breast parenchymal enhancement<br>-No specific Medicare item number, can incur higher out of pocket expense  | N                               | N   | Y  | Y  | Y                  |
| <b>Breast MRI</b>  | - Higher cancer detection rate compared to mammography alone  | -Potential significant out of pocket expense<br>-Limited availability<br>-Increased investigation of benign disease and benign biopsies<br>-Interpretation can be limited by background breast parenchymal enhancement<br>-Contrast media considerations, i.e cumulative gadolinium exposure<br>-People with limited mobility can find positioning difficult<br>-Contraindications for claustrophobia and those with metallic implantable devices | N                               | N   | Y<br>-Specialist referral required for Medicare rebate | Y  | N                  |
| <b>UltraFast Breast MRI and Abbreviated Breast MRI A6:A9</b> | - Higher cancer detection rate compared to mammography alone<br>-Non contrast protocols used in some institutions<br>-Fast acquisition time relative to standard Breast MRI<br>-Greater potential for screening | -Potential significant out of pocket expense<br>-Limited availability<br>-Increased investigation of benign disease and benign biopsies<br>-Interpretation can be limited by background breast parenchymal enhancement<br>-People with limited mobility can find positioning difficult<br>-Contraindications for claustrophobia and those with metallic implantable devices<br>-Contrast media considerations, i.e cumulative gadolinium exposure | N                               | N   | Y<br>-Specialist referral required for Medicare rebate | Y  | N                  |

**References**

Houssami, N., Lockie, D., Clemson, M., Pridmore, V., Taylor, D., Marr, G., Evans, J. and Macaskill, P. (2019). Pilot trial of digital breast tomosynthesis (3D mammography) for population-based screening in BreastScreen Victoria. *Med. J. Aust.*, 211: 357-362. <https://doi.org/10.5694/mja2.50320>

Anders Tingberg, Victor Dahlblom, Magnus Dustler, Daniel Förmvik, Kristin Johnson, Pontus Timberg, Sophia Zackrisson, "Our journey toward implementation of digital breast tomosynthesis in breast cancer screening: the Malmö Breast Tomosynthesis Screening Project," *J. Med. Imag.* 12(S1) S13006 (24 October 2024) <https://doi.org/10.1117/1.JMI.12.S1.S13006>

Noam Nissan, Rosa Elena Ochoa Albiztegui, Hila Fruchtman-Brot, Jill Gluskin, Yuki Arita, Tali Amir, Jeffrey S. Reiner, Kimberly Feigin, Victoria L Mango, Maxine S. Jochelson, Janice S. Sung, Extremely dense breasts: A comprehensive review of increased cancer risk and supplementary screening methods, *European Journal of Radiology*, Volume 182, 2025, 111837. <https://doi.org/10.1016/j.ejrad.2024.111837>

N. Aristokli, I. Polycarpou, S.C. Themistocleous, D. Sophocleous, I. Mamais, Comparison of the diagnostic performance of Magnetic Resonance Imaging (MRI), ultrasound and mammography for detection of breast cancer based on tumor type, breast density and patient's history: A review, *Radiography*, Volume 28, Issue 3, 2022, Pages 848-856. <https://doi.org/10.1016/j.radi.2022.01.006>

Amitai, Y., Freitas, V. A., Golan, O., Kessner, R., Shalmon, T., Neeman, R., ... & Menes, T. S. (2024). The diagnostic performance of ultrafast MRI to differentiate benign from malignant breast lesions: a systematic review and meta-analysis. *European Radiology*, 34(10), 6285-6295.

Mann, R. M., Athanasiou, A., Baltzer, P. A., Camps-Herrero, J., Clauser, P., Fallenberg, E. M., ... & European Society of Breast Imaging (EUSOBI). (2022). Breast cancer screening in women with extremely dense breasts recommendations of the European Society of Breast Imaging (EUSOBI). *European radiology*, 32(6), 4036-4045.