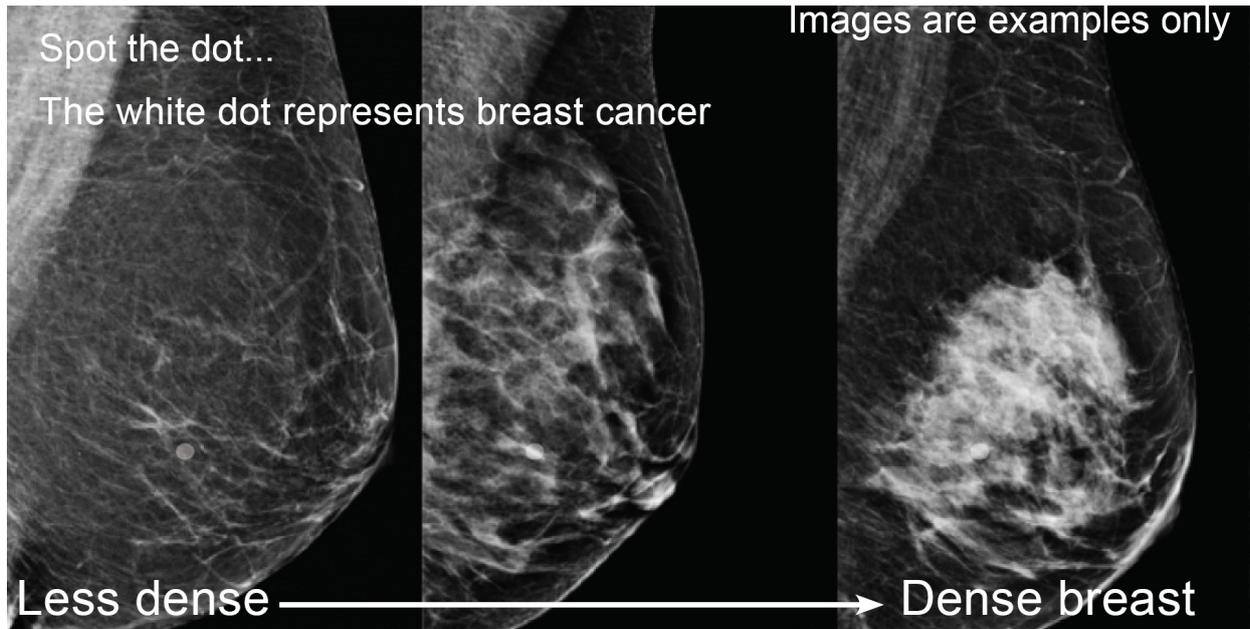


BreastScreen WA

Information about Breast Density for GPs



The greater the breast density, the more white areas on the mammogram, and the less obvious the dot (which is an artificial representation of breast cancer).

Mammographic breast density is a topical issue in relation to breast cancer screening. Breast density refers to the relative amount of radio-opaque stromal and glandular tissue compared to the amount of radiolucent breast fat demonstrated at mammography. On a mammogram, fatty tissue appears black and normal breast tissue and fibrous tissue appears white or 'dense'. Thus breast density has the potential to obscure significant breast lesions such as cancers that also appear as white shapes in the image. A woman's breast density tends to vary with time due to menopausal changes, hormone replacement therapy and weight gain or loss.

- High breast density reduces the sensitivity of mammography because of its masking effect for cancer detection. Sensitivity may exceed 85% in fatty breasts and decreased to 65% in very dense breasts.
- High breast density increases the risk of breast cancer. The relative risk for cancer in women with extremely dense breasts compared with average woman is approximately 2:1.

Breast density as a risk factor for breast cancer relates to the amount of glandular and stromal elements in the breast. Approximately 30-40% of women over the age of 50 have mammographically heterogeneously dense or extremely dense breasts. As breast cancer most commonly arises in glandular cells, a greater amount of glandular tissue increases the risk of cancer. However, the relative risk of breast cancer from breast density is much smaller than other major risk factors for breast cancer such as age, family history, reproductive history and genetic mutations.

There are no randomised controlled trials evaluating the use of supplemental screening with whole breast ultrasound in women with dense breasts. Trials consistently demonstrated that supplementary breast ultrasound in women with dense breasts increases cancer detection by 50% at the cost of a very high false positive biopsy rate.

The value of tomosynthesis (3D mammography) as a supplemental screening modality in women with dense breasts is not yet proven. No studies have evaluated the benefits of adjunct screening breast MRI in women of average risk with dense breasts.

Supplemental screening of women with dense breasts who are average or low risk is not currently recommended by any international evidence based studies. However, the American College of Radiologists/Society of Breast Imaging appropriateness criteria state that women at intermediate risk of breast cancer due to a family history, a personal history of breast cancer, or other risk factors including premalignant lesions such as lobular neoplasia may benefit from regular supplemental whole breast ultrasound.

Reference:

Freer P. Mammographic Breast Density: Impact in breast cancer risk and implications for screening. *Radiographics*. 2015; 35: 302-315.

Mainero MB, Lourenco A, Mahoney MC et al. ACR Appropriateness Criteria Breast Cancer Screening. *J Am Coll Radiol*. 2016 Nov; 13(11S):R45-R49.

For BreastScreen WA clinic locations and mobile breast screening services approximate visit dates go to: www.breastscreen.health.wa.gov.au



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