BreastScreen AUSTRALIA

A joint Australian, State and Territory Government Program

Breast density and screening: 2020 position statement

Breast density

'Breast density' is a term that refers to the relative amounts of dense breast tissue (glandular and connective tissue), which appears white on a mammogram, compared with non-dense fatty tissue, which appears dark.

Breast cancers also appear white on a mammogram so breast density can affect the accuracy or interpretation of a mammogram.

Increased breast density is associated with an increased risk of breast cancer, although the risk is less than having a first degree relative who is diagnosed with breast cancer before menopause (which doubles the risk) or carrying a BRCA gene mutation (where there is about a three to six times increased risk).

BreastScreen Australia is a screening program for the early detection of breast cancer in asymptomatic women aged 50 to 74. The Program aims to provide women with accurate and useful information so they can make informed decisions about their breast health.

Many women (about one-third of women over 50 years of age) have increased breast density. Breast density is not related to how breasts look or feel and is not based on size or firmness.

Research on breast density and screening

We know that increased breast density can affect the accuracy of mammogram reporting and is a risk factor for developing breast cancer. Other risk factors include overweight and obesity, lifestyle factors, including alcohol, and whether a woman has had children. Age is the biggest risk factor for breast cancer.

At present, there is no randomised control trial data that shows that supplemental testing (e.g. MRI, ultrasound or tomosynthesis) saves additional lives for asymptomatic women with higher breast density and no additional risk factors.

Existing randomised control trial results have shown that mammography continues to be the only population-based screening tool to be effective in reducing mortality from breast cancer for asymptomatic women with dense breasts.

There are also potential risks of providing supplemental testing for women with higher breast density including:

- unnecessary and invasive procedures
- additional false positive examinations
- high rates of benign breast biopsies
- over-treatment, over-diagnosis and associated psychological stress for patients
- additional costs to both women and the health system.

Limitations in measuring density can also result in women receiving inaccurate breast density information. This may create undue anxiety about risk and women may worry that their mammogram has missed a breast cancer. Conversely, women with fatty tissues and low breast density may have a false sense of security.

While there is some evidence that other technologies may detect malignancies not found in a mammogram, this evidence is limited and the benefit of using additional screening tools has not been shown to outweigh potential risks and harms.

BreastScreen Australia acknowledges that breast density is an important issue and it may affect the frequency and method of screening in the future. However, more research is required before establishing any new approach.

More information is needed on:

- how breast density increases breast cancer risk for different groups of women (and the extent of this increase)
- how breast density might vary over time and how this might be managed
- how breast density interacts with other known risk factors (such as age, body mass index (BMI) and genetic vulnerability) to impact on lifetime breast cancer risk
- options for reporting breast density and implementing breast density notification, including the type of information provided to women
- the optimum, cost-effective screening protocol for women according to their breast density level, and
- the impact that breast density notification has on mental and physical health outcomes for women.

This information is important to understand the nature of the relationship between breast density and breast cancer, and therefore how this potential risk influences clinical advice on breast screening options and decision-making.

While more research is required, BreastScreen Australia supports greater discussion and public awareness of breast density. New evidence will continue to be reviewed as it emerges.

Measuring density

Breast density can be measured two ways: looking at an image of the breast to make an estimate of density, or by using computer software to provide a score. Both methods have limitations. The same mammogram may be interpreted differently by different radiologists. While computer software analysis can measure each mammogram, it has not yet been proven to consistently measure each woman's breast density from one screening mammogram to the next.

Recommendation

The Standing Committee on Screening recognises that the evidence relating to breast density, breast cancer risk and additional testing is evolving. The Standing Committee on Screening will continue to evaluate new evidence relating to breast density and will provide up-to-date evidence-based reliable information for Australian women.

Currently, there is no agreed consistent and reliable way to measure density or consensus on how to optimally manage breast density. Although there is evidence that high breast density can mask breast cancer on a mammogram, mammography remains the most effective screening test for asymptomatic women aged 50-74 years for reducing deaths from breast cancer in a population-based screening program.

The Standing Committee on Screening recommends that, until more evidence is available on how breast density is best assessed and managed (including evidence to support clinical pathways), BreastScreen Australia should not routinely record breast density or provide supplemental testing for women with dense breasts.

BreastScreen Australia will continue to work with women, BreastScreen Australia services and researchers to further develop the evidence base and to pilot notification, using emerging reporting tools and initiatives to ensure that valid, reliable and useful information is provided to women to inform future decision-making.

Individualised surveillance may be useful for women who have a high lifetime risk of developing breast cancer because of a range of risk factors. These women may wish to discuss management with their GP, including discussing breast density and its potential effect on screening participation. Regardless of previous mammogram results, women who are concerned about developing breast cancer or who notice a change in their breasts should see their GP to discuss diagnostic or management options.