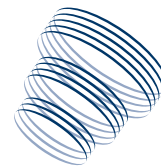


# CHALLENGING CLINICAL CONSIDERATIONS

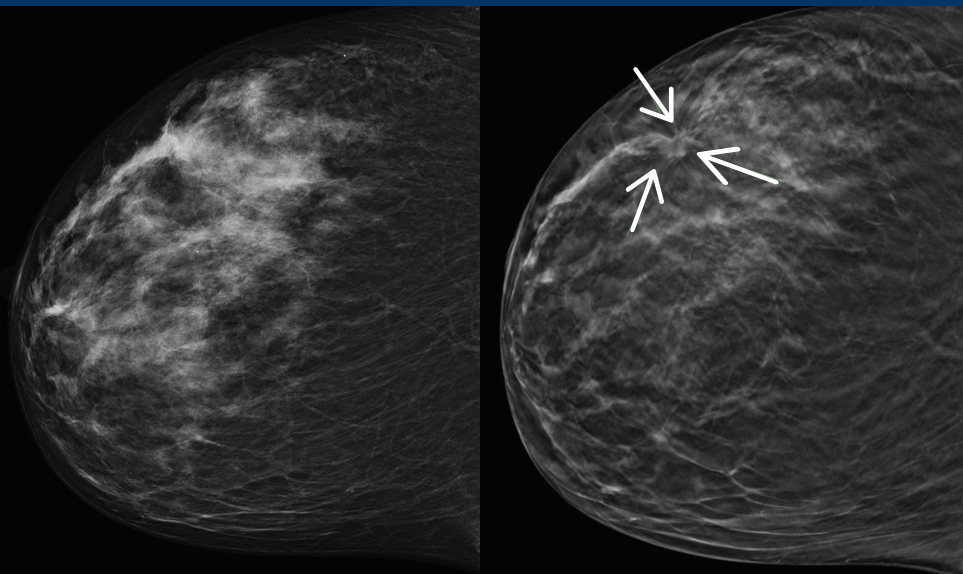
Dr Bridgid Connolly



radiology SA

## BREAST IMAGING

*The images left demonstrate how the addition of routine tomography (a form of 3D mammography) can improve sensitivity in detecting small cancers, particularly in women with dense breasts.*



### Breast imaging demystified

Radiology SA aims to provide effective and efficient imaging solutions to patients in our communities. RSA prides itself in delivering comprehensive, high quality breast imaging services across our network. Dual read, Radiologist reporting is provided by an experienced team who work in both private and public clinics. In this article we explore current options and best practice in Breast Imaging.

#### Breast Screen and/or Private Breast Imaging?

In the Breast Screen South Australia (BSSA) screening program, women undergo 2D mammography with two views of each breast. Women from the age of 40 are eligible, but women aged 50 - 69 are targeted and receive recall letters. For every 1000 women screened, six will have a breast cancer detected. The benefit of breast screening is in detecting non-symptomatic, early and small cancers that are easier to treat.

If women have breast symptoms, a higher than average risk of breast cancer, or dense breasts, they should consider undertaking their imaging in the more comprehensive service offered by the private imaging system. Private breast imaging will offer routine tomography with mammography, and easy access to ultrasound. Same day biopsy is also available, particularly when “+/- biopsy” is written on the referral form.

#### What about x-ray dose and increased cancer risk?

Routinely adding tomography does not significantly

increase the dose of radiation (0.7mSv for screening mammography versus 0.85mSv for combined mammography and tomography). For a woman who participates in 2 yearly breast imaging between the ages of 50-70 years, this theoretically increases her lifetime risk of any cancer from a baseline average population risk of 25% to 25.01% .

#### Breast Density, what is it and why is it important?

Breast density is calculated by quantifying the compactness of fibroglandular tissue on imaging. Common associations with high breast density include younger age, pre-menopausal status, pregnancy, hormone therapy and genetics.

High breast density is a normal condition, but has implications for women in the following ways:

1. Dense breast tissue can obscure the presence of small cancers on screening mammograms
2. The incidence/risk of cancer increases with higher breast density

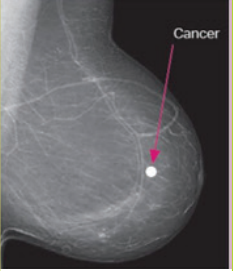
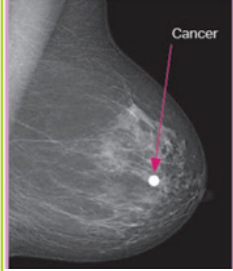
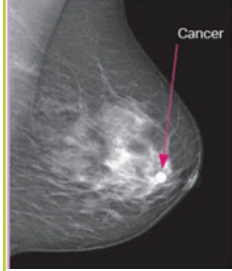
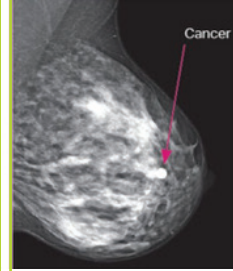
Radiology SA provides Volpara TruDensity™ to all women undergoing mammography. This program uses a combination of radiology physics and machine learning to provide an objective quantification of breast density- typically in a range from 2% in fatty breasts to 35% in extremely dense breasts.

Currently there are no imaging guidelines specific to patients with BI-RADS C or D. However, it is recommended that women be informed about their individual breast density, in order to help them make well-balanced choices.

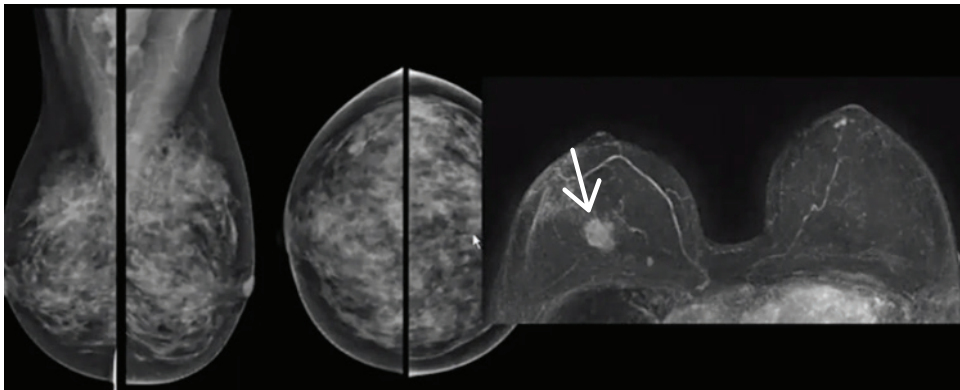
# CHALLENGING CLINICAL CONSIDERATIONS *continued...*



radiology SA

<b>BI-RADS a</b> Around 10% of women	<b>BI-RADS b</b> Around 40% of women	<b>BI-RADS c</b> Around 40% of women	<b>BI-RADS d</b> Around 10% of women
			
Breasts are almost entirely fatty tissue.	Breasts have scattered areas of fibroglandular tissue.	Breasts are heterogeneously dense. The mix of non-dense and dense tissue may hide small cancers.	Breasts are extremely dense, which can reduce the visibility of cancers on a mammogram.

The image above outlines the 4-point grading scale of breast density according to the American College of Radiology Breast Imaging Reporting and Data System atlas (BI-RADS). It highlights that increasing breast density can hinder the detection of small cancers.



Images on left - Routine Mammography Image on right - Contrast MRI. The images above highlight how MRI demonstrates a breast cancer, which is undetectable on routine mammography.

If you, as the healthcare provider, would like to discuss patient specifics, please contact our doctor hotline and ask to speak with one of our breast radiologists.

### Breast Ultrasound Only?

Symptomatic patients under the age of 35 may have a breast ultrasound only examination. It is advisable to also refer +/- mammography if required. Ultrasound cannot replace mammography as it does not detect the small microcalcifications that present as ductal carcinoma in situ (DCIS). It is a complementary modality that increases detection rates of invasive cancer and guides the Radiologist for tissue biopsy.

### What about MRI Breast scans?

Several studies show that the addition of contrast MRI improves cancer detection

rates and results in earlier diagnosis, particularly for women with high breast density (e.g. BI-RADS C and D). The DENSE trial was a national Dutch study that offered supplemental MRI to women with dense breasts and normal routine screening results (4783 participated). 16.5/1000 additional first round cancers were detected in the cohort of women, with a false recall rate comparable to routine mammography.

The outcome from the DENSE trial and other recent studies is that Breast Screening programs now recommend women be informed about their individual breast density, in order to help them make well-balanced choices. At Radiology SA we provide breast density information on all reports.

### How to refer:

Mammography (includes Tomography and BI-RADS density) Clinical Indications must include:

- the past occurrence of breast malignancy in the patient or members of the patient's family;
- symptoms or indications of malignancy found on an examination of the patient by a medical practitioner

If the patient does not meet these clinical indications the private fee for Mammography is \$200 or \$150 for concession.

Breast MRI – Medicare rebate is only available through specialist referral and for specific criteria. Private Breast MRI can be GP referred for a fee of \$350.00.

Subscribe to our Referrer eNews and Educational Resources



## FOR BOOKINGS

T: 8402 0200

F: 8402 0247

E: radiologysa@radiologysa.com.au  
e-Referral: Select 'Radiology SA'

## FOR RESULTS

Promedius / Visage download  
InteleViewer image access

[desktop & mobile]

For queries & support contact,  
Doctors hotline: 8216 8225

## CONTACTS

Medical Liaison Officer: Lorne Klassen

M: 0422 422 331

E: lorne.klassen@radiologysa.com.au