

Cancer Association of South Africa - (CANSA)



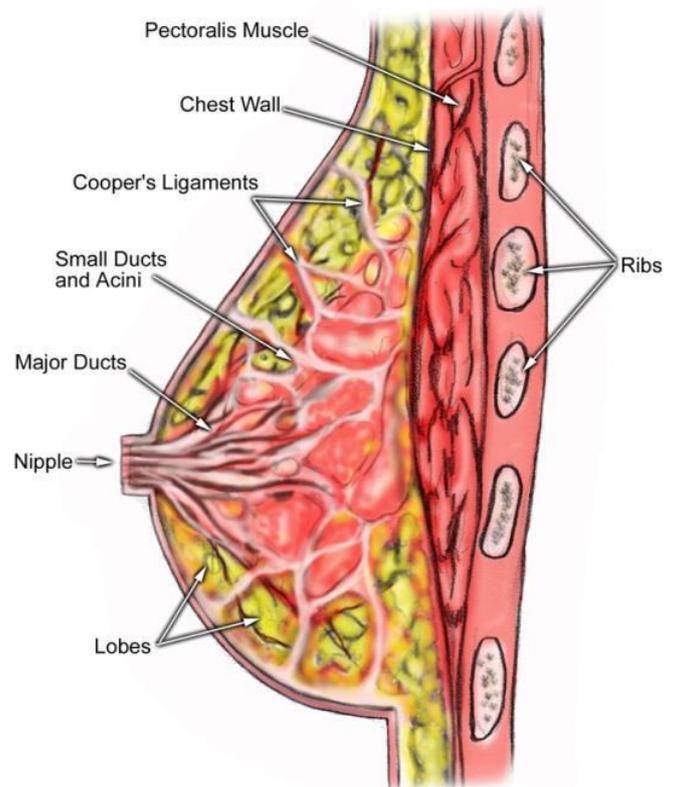
Research • Educate • Support

Position Statement on Breast Cancer

Introduction

Breast cancer is the most common cancer in women worldwide. It is also the principle cause of death from cancer among women globally with some 327 000 deaths each year. There are 1,5 million new cases every year, and about 4,4 million women are believed to be living with breast cancer. Despite the high incidence rates, in Western countries, 89% of women diagnosed with breast cancer are still alive 5 years after their diagnosis, which is due to detection and treatment. An estimated 1,7 million women will be diagnosed with breast cancer in 2020—a 26% increase from current levels—mostly in the developing world (Parkin, *et al*, 2008; The Lancet, 2009).

[Picture Credit: Female Breast]



According to the World Health Organization (2012) two components of early detection have been shown to improve cancer mortality:

- **Education**—to help people recognise early signs of cancer and seek prompt medical attention for symptoms.
- **Screening programmes**—to identify early cancer or pre-cancer before signs are recognisable, including mammography for breast cancer.

Incidence of Breast Cancer in South Africa

According to the National Cancer Registry (2014) the following number of breast cancer cases in women was histologically diagnosed during 2014:

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[D Litt et Phil (Health Studies); D N Ed; M Art et Scien; B A Cur; Dip Occupational Health; Dip Genetic counselling; Dip Audiometry and Noise Measurement; Diagnostic Radiographer; Medical Ethicist]

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Group	Actual Number of Cases	Estimated Lifetime Risk	Percentage of All Cancers
2014			
All females	8 230	1 : 27	21,78%
Asian females	456	1 : 15	39,30%
Black females	3 226	1 : 53	20,05%
Coloured females	1 169	1 : 19	28,57%
White females	3 370	1 : 11	20,51%

Group	Actual Number of Cases	Estimated Lifetime Risk	Percentage of All Cancers
2014			
All males	184	1 : 763	0,50%
Asian males	6	1 : 1 079	0,65%
Black males	95	1 : 1 106	0,86%
Coloured males	17	1 : 520	0,41%
White males	65	1 : 461	0,32%

Frequency of Histologically Diagnosed Cases of Breast Cancer

According to the National Cancer Registry (2014), the frequency of histologically diagnosed cases of breast cancer in women in South Africa is as follow:

Group	0 to 19 Years	20 to 29 Years	30 to 39 Years	40 to 49 Years	50 to 59 Years	60 to 69 Years	70 to 79 Years	80 + Years
2014								
All females	8	121	805	1 763	1 937	1 799	1 129	525
Asian females	1	5	33	89	109	118	67	19
Black females	6	84	469	789	722	526	287	174
Coloured females	0	11	90	266	300	237	166	72
White females	1	17	187	586	769	889	589	250

Group	0 to 19 Years	20 to 29 Years	30 to 39 Years	40 to 49 Years	50 to 59 Years	60 to 69 Years	70 to 79 Years	80 + Years
2014								
All males	0	0	8	13	48	56	38	16
Asian males	0	0	1	1	2	2	0	0
Black males	0	0	7	9	28	26	17	5
Coloured males	0	0	0	0	3	5	6	2
White males	0	0	0	3	15	22	15	9

Imaging Techniques Assessed by IARC

The following Breast Imaging Techniques were assessed by IARC (IARC, 2002)

Screening Technique	Description	Potential Strengths	Current Limitations
Digital mammography	Electronic detectors capture X-rays in a matrix of square picture elements. Computer generates an image	Image processing. Easy display, transmission and storage. Lower radiation dose. Computer-aided detection.	Higher cost than mammography for low-volume operations.
Ultrasonography	High-frequency ultrasound waves generate images based on the acoustic-mechanical properties of breast tissue	Increased sensitivity for mammographically dense breasts. No E-radiation.	Operator-dependent. More expensive than mammography. Less specific than mammography

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Magnetic resonance imaging	Based on radiofrequency signals generated by exciting hydrogen nuclei (protons) in a strong magnetic field. Dynamic study of spatial and temporal distribution of intravenous contrast medium.	More sensitive than mammography. No X-radiation.	Less specific than mammography. More expensive than mammography. Claustrophobic.
Positron Emission Tomography (PET)	Tomographic nuclear imaging procedure with positron-emitting tracers (usually fluorodeoxyglucose)	Staging of breast cancer	Expensive. Limited access. Low sensitivity.
Scintimammography	Nuclear imaging technique usually technetium-99m isonitrite (Sestamibi)	May be more sensitive for detection of certain histological types of breast cancer, e.g. lobular invasive carcinoma.	Poor spatial resolution. Expensive.
Electrical impedance Imaging	Technique involving low-level bio-electric currents to map electrical impedance properties of the breast	No harmful radiation.	
Infrared Thermography	Measurement of heat emissions	No harmful radiation	Less sensitive and specific than mammography
Transillumination (near infrared spectroscopy, light scanning)	Technique for scanning the breast with red or near-infrared light and recording the light image on infrared-sensitive film or with a television camera	No harmful radiation	Less sensitive and specific than mammography
Laser Transillumination	Refinement of the above with extremely short laser pulses and time-resolved detection	Better resolution than infra-red transillumination.	Still experimental.

Mammography and Ultrasound

Developed specifically for breast tissue radiography, mammography is used as a diagnostic as well as a clinical diagnostic tool for symptomatic persons. The imaging system for mammography is adapted in order for the lowest radiation dose possible. The efficacy of mammography depends on the technical quality and the expertise of the radiologist that interprets it.



Mammography screening should, therefore, be done in institutions where effective evidence of screening has been proven.

[Picture Credit: Mammography]

A mammogram is an x-ray picture of the breast.

Mammograms do not prevent breast cancer, but it can save lives by finding breast cancer as early as possible. For example, mammograms have been shown to lower the risk of dying from breast cancer by 35% in women over the age of 50. In women between ages 40 and 50, the risk reduction appears to be somewhat less (Breastcancer.org).

Mammograms can be used to check for breast cancer in women who have no signs or symptoms of the disease. This type of mammogram is called a screening mammogram. Screening mammograms usually involve two x-ray pictures, or images, of each breast. The x-ray images make it possible to detect tumours that cannot be felt. Screening mammograms can also find microcalcifications (tiny deposits of calcium) that sometimes indicate the presence of breast cancer.

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Mammograms can also be used to check for breast cancer after a lump or other sign or symptom of the disease has been found. This type of mammogram is called a diagnostic mammogram. Besides a lump, signs of breast cancer can include breast pain, thickening of the skin of the breast, nipple discharge, or a change in breast size or shape; however, these signs may also be signs of benign conditions. A diagnostic mammogram can also be used to evaluate changes found during a screening mammogram or to view breast tissue when it is difficult to obtain a screening mammogram because of special circumstances, such as the presence of breast implants.

Early detection of breast cancer with screening mammography means that treatment can be started earlier in the course of the disease, possibly before it has spread. Results from randomised clinical trials and other studies show that screening mammography can help reduce the number of deaths from breast cancer among women ages 40 to 74, especially for those over age 50. However, studies to date have not shown a benefit from regular screening mammography in women under age 40 or from baseline screening mammograms (mammograms used for comparison) taken before age 40 (National Cancer Institute).

3D Mammography

3D mammography is a revolutionary state of the art technology approved by the FDA in February 2011, which give radiologists the ability to view inside the breast layer by layer, helping to see the fine details more clearly by minimising overlapping tissue.

[Picture Credit: 3D Mammogram]



During a 3D mammogram, multiple low-dose images known as ‘slices’ of the breast are acquired at different angles. With 3D technology, the radiologist can view a mammogram in a way never before possible (Washington Radiology Associates).

Ultrasound

An ultrasound is often used in addition to mammography for patients with dense breast tissue as it produces sharp, high-contrast images.

A breast ultrasound uses sound waves to make a picture of the tissues inside the breast. A breast ultrasound can show all areas of the breast, including the area closest to the chest wall, which is hard to study with a mammogram. Breast ultrasound does not use X-rays or other potentially harmful types of radiation.

A breast ultrasound is used to see whether a breast lump is filled with fluid (a cyst) or if it is a solid lump. An ultrasound does not replace the need for a mammogram, but it is often used to check abnormal results from a mammogram.

[Picture Credit: Breast Ultrasound]



For a breast ultrasound, a small handheld unit called a transducer is gently passed back and forth over the

breast. A computer turns the sound waves into a picture on a TV screen. The picture is called a sonogram or ultrasound scan.

Breast ultrasound can add important information to the results of other tests, such as a mammogram or magnetic resonance imaging (MRI). It also may provide information that is not found with a mammogram. A breast ultrasound may be done to:

- Find the cause of breast symptoms, such as pain, swelling, and redness.
- Check a breast lump found on breast self-examination or physical examination. It is used to see whether a breast lump is fluid-filled (a cyst) or if it is a solid lump. A lump that has no fluid or that has fluid with floating particles may need more tests.
- Check abnormal results from a mammogram.
- Look at the breasts in younger women because their breast tissue is often more dense, and a mammogram may not show as much detail.
- Guide the placement of a needle or other tube to drain a collection of fluid (cyst) or pus (abscess), take a sample of breast tissue (biopsy), or guide breast surgery.
- Watch for changes in the size of a cyst or a noncancerous lump (fibroadenoma).
- See how far cancer has spread in a breast.
- Check your breasts if you have silicone breast implants or dense breasts. In these situations, a mammogram may not be able to see breast lumps.

CANSA's Position:

CANSA advocates a mammogram every year from age 40 for non-symptomatic breast screening.

CANSA further advocates that women who are at risk and those that have had breast health problems in the past should consult their respective health professional to determine a schedule applicable to them.

The World Health Organization and Breast Health

The World Health Organization (WHO) states the following about breast health:

Early diagnosis - early diagnosis remains an important early detection strategy, particularly in low- and middle-income countries where the diseases is diagnosed in late stages and resources are very limited. There is some evidence that this strategy can produce "down staging" (increasing in proportion of breast cancers detected at an early stage) of the disease to stages that are more amenable to curative treatment.

Mammography screening - mammography screening is the only screening method that has proven to be effective. Although there is evidence that organised population-based mammography screening programmes can reduce breast cancer mortality by around 20% in the screened group versus the unscreened group across all age groups, in general there appears to be a narrow balance of benefits compared with harms, particularly in younger and older women. There is uncertainty about the magnitude of the harms – particularly overdiagnosis and overtreatment. Mammography

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screening is very complex and resource intensive and no research of its effectiveness has been conducted in low resource settings.

Breast Self examination (BSE) - there is no evidence on the effect of screening through breast self-examination (BSE). However, the practice of BSE has been seen to empower women, taking responsibility for their own health. Therefore, BSE is recommended for raising awareness among women at risk rather than as a screening method.

Clinical Breast Examination (CBE) - research is underway to evaluate CBE as a low-cost approach to breast cancer screening that can work in less affluent countries. Promising preliminary results show that the age-standardised incidence rate for advanced-stage breast cancer is lower in the screened group compared to the unscreened group.
(World Health Organization).

Breast Self-Examination

Research has shown that regular breast self-examination (BSE) may play an important role in finding breast cancer compared with finding a breast lump by chance. Some women feel very comfortable doing BSE regularly (usually monthly after their period) which involves a systematic step-by-step approach to examining the look and feel of their breasts. Other women are more comfortable simply looking and feeling their breasts in a less systematic approach, such as while showering or getting dressed or doing an occasional thorough exam. Sometimes, women are so concerned about 'doing it right' that they become stressed over the technique. Doing BSE regularly is one way for women to know how their breasts normally look and feel and to notice any changes. The goal, with or without BSE, is to report any breast changes to a doctor or nurse right away.
(American Cancer Society).

Doing a Breast Self-Examination (BSE)

Breast self-examination (BSE) is to be performed each month in addition to any mammograms or a clinical breast examination. Knowing the cyclical changes, what is normal and what regular monthly changes in the breast feel like is the best way to keep an eye on breast health. Breast tissue extends from under the nipple and areola up towards the armpit.

Make a Regular Date for Doing a BSE - If pre-menopausal: Set a regular time to do the BSE a few days after the menstruation when hormone levels are relatively stable and the breasts are less tender.

If already menopausal (have not had a period for a year or more), pick a particular day of the month to do the BSE and then repeat the BSE on that day every month

Visual Examination of Breasts - Hands on Hips - In the privacy of the bathroom or bedroom, strip to the waist and stand in front of a mirror. Both breasts must be visible at the same time. Stand with the hands on hips and check the appearance of both breasts. Look at size, shape, colour, whether

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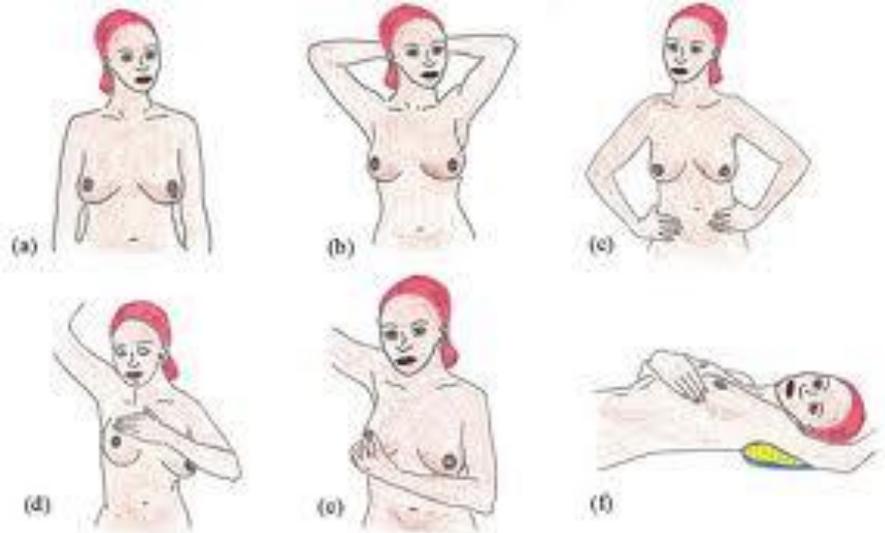
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both nipples are at the same level and contour. Note any changes in the skin colour or texture. Look at the nipples and areolas, to see how healthy they look

Visual Examination - Arms Over the Head - Still standing in front of the mirror, raise both arms over the head and see if both breasts move in the same way, and make a note of any differences.

[Picture Credit: Breast Examination]

Look at the size, shape, and drape - checking for symmetry. Pay attention to both nipples and areolas, to see if there are any dimples, bumps, or retraction (indentation). Look up toward the armpits and note if there is any swelling in the lower armpit area



Manual Examination - Stand and Stroke - Raise the left arm overhead, and use the right-hand fingers to apply gentle pressure to the left breast. Stroke from the top to the bottom of the breast, moving across from the inside of the breast all the way into the armpit area. Make use of a circular motion, being sure to cover the entire breast area. Take note of any changes in texture, colour, or size. Switch sides and repeat the examination. This may be best done in the shower, as wet skin will have the least resistance to the friction of the fingers.

Manual Examination - Check Both Nipples - Still facing the mirror, lower both arms. With the index and middle fingers of the right hand, gently squeeze the left nipple and pull it forward. Does the nipple spring back into place? Does it pull back into the breast? Note whether or not any fluid leaks out. Reverse the hands and check the right nipple in the same manner.

Manual Examination - Recline and Stroke - This is best done in the bedroom, where one can lie down. Place a pillow on the bed so as to lie with both head and shoulders on the pillow. Lie down and put the left hand behind the head. Use the right hand to stroke the breast and underarm. Take note of any changes in texture, colour, or size. Switch sides and repeat the examination.

Guidelines For Doing a BSE:

- Mark the calendar as a reminder to do a BSE regularly.
- Stay relaxed and breathe normally while doing the BSE. Becoming tense may produce some knots that may be mistaken for something worrisome
- Report any changes or unusual pain to a doctor or nurse practitioner
- Keep a log of changes

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- Remember to have an annual clinical breast examination and mammogram as described above

CANSA's Position on BSE

CANSA advocates that every woman should do regular (monthly) breast self-examinations (BSE) at the same time every month following her menstrual cycle from age 20 and to report any changes or concerns to a doctor or professional nurse practitioner without delay.

Regular monthly BSE should be seen as a method to raise awareness of breast cancer and taking responsibility for own health rather than as a specific screening method for breast cancer.

Medical Disclaimer

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3D Mammogram

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Breast Examination

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