

Cancer Association of South Africa (CANSA)



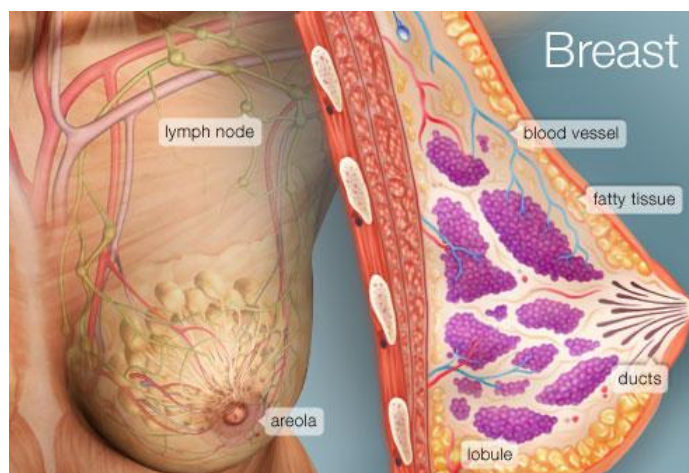
CANSA Fact Sheet on Breast Cancer in Women

Introduction

The female breast is the tissue overlying the chest (pectoral) muscles. Women's breasts are made of specialised tissue that produces milk (glandular tissue) as well as fatty tissue. The amount of fat determines the size of the breast.

[Picture Credit: Female Breast]

Although both men and women have breasts, it is in the female that the breast becomes prominent and a vital component of her persona. In the male, the breast is rudimentary.



Structure of the Female Breast - the anatomy of the breast is quite simple. It is made up of about eighteen lobules of glandular tissue. These lobules resemble bunches of grapes and each grape represents the secreting unit, called alveolus (plural: alveoli). The alveolus consists of cells, which line the unit and produce the milk.

Xiong, X., Zheng, L.W., Ding, Y., Chen, Y.F., Cai, Y.W., Wang, L.P., Huang, L., Liu, C.C., Shao, Z.M. & Yu, K.D. 2025.

“Breast cancer, characterized by unique epidemiological patterns and significant heterogeneity, remains one of the leading causes of malignancy-related deaths in women. The increasingly nuanced molecular subtypes of breast cancer have enhanced the comprehension and precision treatment of this disease. The mechanisms of tumorigenesis and progression of breast cancer have been central to scientific research, with investigations spanning various perspectives such as tumor stemness, intra-tumoral microbiota, and circadian rhythms. Technological advancements, particularly those integrated with artificial intelligence, have significantly improved the accuracy of breast cancer detection and diagnosis. The emergence of novel therapeutic concepts and drugs represents a paradigm shift towards personalized medicine. Evidence suggests that optimal diagnosis and treatment models tailored to individual patient risk and expected subtypes are crucial, supporting the era of precision oncology for breast cancer. Despite the rapid advancements in oncology and the increasing emphasis on the clinical precision treatment of breast cancer, a comprehensive update and summary of the panoramic knowledge related to this disease are needed. In this review, we provide a thorough overview of the global status of breast cancer, including its epidemiology, risk factors, pathophysiology, and molecular

Researched and Authored by Prof Michael C Herbst

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

Approved by Ms Elize Joubert, Chief Executive Officer (BA Social Work (cum laude); MA Social Work)

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subtyping. Additionally, we elaborate on the latest research into mechanisms contributing to breast cancer progression, emerging treatment strategies, and long-term patient management. This review offers valuable insights into the latest advancements in Breast Cancer Research, thereby facilitating future progress in both basic research and clinical application.”

Conflict of interest statement

Competing interests: The authors declare no competing interests.

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“Estrogens have been associated with an increase in breast cancer risk. Yet emerging clinical and experimental evidence points to progestogens [endogenous progesterone or synthetic progesterone (progestin)] as the primary hormonal driver underlying seemingly estrogen-associated breast cancer risk. Estrogens may contribute to breast cancer risk indirectly by induction of the progesterone receptor and thus amplifying progesterone signaling. Large studies of hormonal contraceptives suggest that the small increase in breast cancer risk from hormonal contraceptives is mainly attributable to progestins, not estrogens. Estrogen-plus-progestin hormone replacement therapy (HRT) has consistently shown an increase in breast cancer risk among postmenopausal women, whereas estrogen-alone HRT has little impact on breast cancer risk in naturally or surgically menopausal women. In particular, the long-term follow-up of the Women's Health Initiative (WHI) randomized trials suggests a benefit of estrogen alone. Recent data further indicate that endogenously elevated estrogen during assisted reproductive technology (ART) exhibits little adverse effect on or potentially a reduction in breast cancer risk and recurrence. Also, accumulating evidence suggests that inhibition of progesterone signaling is a critical mechanism underlying the risk-reducing and therapeutic effects of antiestrogens. Estrogen HRT has shown an array of proven benefits, including ameliorating menopausal symptoms and improving bone health. Collective evidence thus suggests that estrogen HRT is likely to offer health benefits to perimenopausal or postmenopausal women, including breast cancer survivors, as well as young BRCA1/2 carriers with prophylactic oophorectomy for ovarian cancer prevention.”

Tumour Grade and Tumour Stage

Tumour grade and stage are terms used to describe the severity of a tumour, while tumour grade describes the appearance of cancerous cells in the tissue by examining them under a microscope.

Tumour stage encompasses:

- The location of the tumour.
- The size and/or extent of the original tumour.
- Whether cancer cells have spread to lymph nodes or anywhere else in the body.
- The number of tumours present.

Doctors use tumour grade, cancer stage, and a patient's age and general health to decide the course of treatment for the patient and determine prognosis. Prognosis describes all factors including the disease course, cure rate, chances of survival, and risk of recurrence of cancer.

What are the cancer stages?

Different systems of cancer staging are used to describe the types of cancer. Below is a common method in which stages are ranged from 0 to IV.

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- Stage 0: The tumour is confined to its place of origin (in situ) and has not spread to nearby tissue.
- Stage I: The tumour is located only in the original organ, is small, and has not spread.
- Stage II: The size of the tumour is large but has not spread.
- Stage III: The tumour has become larger and may have spread to surrounding tissues and/or lymph nodes.
- Stage IV: The tumour has spread to other distant organs of the body, which is known as the metastasis stage.

TNM staging

Another common staging method used for cancer is the TNM system, which stands for tumour, node (which means spread of the tumour to lymph nodes), and metastasis. When a patient's cancer is staged using the TNM system, a number will be present along with the letter. This number signifies the extent of the disease in each category - tumour, node, and metastases.

Another system of cancer staging divides cancer into five stages, which include:

- In situ: Abnormal cells are present but have not spread to nearby tissue.
- Localized: Cancer is located only in the original organ and shows no sign of its spread.
- Regional: Cancer has spread to nearby lymph nodes, tissues, or organs.
- Distant: Cancer has spread to distant parts of the body.
- Unknown: The stage cannot be figured out due to a lack of enough information.

What are the cancer grades?

Cancer grades are based on examination of the suspected tissue sample under a microscope. This involves surgically removing a piece of the suspected cancerous tissue and sending it to the lab for analysis. The entire procedure is known as a biopsy.

A doctor who specializes in diagnostic tests (pathologist) examines the cells of the tissue and determines whether they are harmless (benign or noncancerous) or harmful (malignant or cancerous). They describe the microscopic appearance of the cells and assign a numerical "grade" to most cancers. Generally, a lower grade indicates slow-growing cancer, and a higher grade indicates fast-growing cancer.

The most commonly used grading system is as follows:

- Grade I: Cancer cells that look like normal cells but are not growing rapidly.
- Grade II: Cancer cells that don't look like normal cells with their growth being faster than normal cells.
- Grade III: Cancer cells that look abnormal and have the potential to grow rapidly or spread more aggressively.

Sometimes, the following system can be used:

- GX: Grade cannot be assessed (undetermined grade)
- G1: Well-differentiated (low grade)
- G2: Moderately differentiated (intermediate grade)
- G3: Poorly differentiated (high grade)
- G4: Undifferentiated (high grade)

The International Classification of Diseases 10th version (ICD-10)

The International Classification of Diseases (ICD) is designed to promote international comparability in the collection, processing, classification, and presentation of mortality statistics. This includes providing a format for reporting causes of death on the death certificate.

ICD serves a broad range of uses globally and provides critical knowledge on the extent, causes and consequences of human disease and death worldwide via data that is reported and coded with the ICD. Clinical terms coded with ICD are the main basis for health recording and statistics on disease in primary, secondary and tertiary care, as well as on cause of death certificates. These data and statistics support payment systems, service planning, administration of quality and safety, and health services research. Diagnostic guidance linked to categories of ICD also standardizes data collection and enables large scale research.

For more than a century, the International Classification of Diseases (ICD) has been the basis for comparable statistics on causes of mortality and morbidity between places and over time. Originating in the 19th century, the latest version of the ICD, ICD-11, was adopted by the 72nd World Health Assembly in 2019 and came into effect on 1st January 2022.

The ICD-10 Code for malignant neoplasm of breast, unspecified site is C50. 92.

Incidence of Breast Cancer in South Africa

According to the latest edition of the National Cancer Registry (2023) the following number of breast cancer cases in women was histologically diagnosed during 2023:

Group	Actual Number of Cases	Estimated Lifetime Risk	Percentage of All Cancers
2023			
All females	10980	1:27	23,79%
Asian females	553	1:19	37,24%
Black females	5 140	1:44	23,25%
Coloured females	1 523	1:19	29,59%
White females	3 764	1:11	21,24%

Frequency of Histologically Diagnosed Cases of Breast Cancer

According to the latest edition of the National Cancer Registry (2023), 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
2023								
All females	2	120	1 112	2 222	2 542	2 534	1 710	738
Asian females	0	3	35	107	122	147	108	31
Black females	0	82	787	1 319	1 216	978	531	26
Coloured females	1	15	110	278	379	404	252	84
White females	1	20	180	518	825	1 005	819	396

What are the recognised risk factors for breast cancer?

Sex - just being a woman is the biggest risk factor for developing breast cancer.

Age - as with many other diseases, one's risk of breast cancer goes up as one gets older.

Family history - Women with close relatives who've been diagnosed with breast cancer have a higher risk of developing the disease. If one has one first-degree female relative (sister, mother, daughter) diagnosed with breast cancer, one's risk is doubled. Having a first-degree male relative with breast cancer also raises a woman's risk.

Family history of prostate cancer - Women whose father, brother or son have had prostate cancer may have a 14 percent higher risk of developing breast cancer.

Personal history of breast cancer - If having been diagnosed with breast cancer, one is 3 to 4 times more likely to develop a new cancer in the other breast or a different part of the same breast. This risk is different from the risk of the original cancer coming back (called risk of recurrence).

Genetics - About 5% to 10% of breast cancers are thought to be hereditary, caused by abnormal genes passed from parent to child.

Inherited changes (mutations) to certain genes, such as BRCA1 and BRCA2 - Women who have inherited these genetic changes (mutations) are at higher risk of breast and ovarian cancer.

Radiation to chest before age 30 - If one has had radiation to the chest to treat another cancer (not breast cancer), such as Hodgkin's disease or non-Hodgkin's lymphoma, one has a higher-than-average risk of breast cancer.

Certain breast changes - If one had been diagnosed with certain benign (not cancer) breast conditions, one may have a higher risk of breast cancer. There are several types of benign breast conditions that affect breast cancer risk.

Race/Ethnicity - White women are slightly more likely to develop breast cancer than Black and Asian women. But Black women are more likely to develop more aggressive, more advanced-stage breast cancer that is diagnosed at a younger age.

Being overweight - Overweight and obese women have a higher risk of being diagnosed with breast cancer compared to women who maintain a healthy weight, especially after menopause. Being overweight also can increase the risk of the breast cancer coming back (recurrence) in women who have had the disease.

Pregnancy history - Women who haven't had a full-term pregnancy or have their first child after age 30 have a higher risk of breast cancer compared to women who gave birth before age 30.

Breastfeeding history - Breastfeeding can lower breast cancer risk, especially if a woman breastfeeds for longer than 1 year.

Menstrual history - Women who started menstruating (having periods) younger than age 12 have a higher risk of breast cancer later in life. The same is true for women who go through menopause when they're older than 55.

Hormone Replacement Therapy (HRT) - Current or recent past users of HRT have a higher risk of being diagnosed with breast cancer. Since 2002 when research linked HRT and risk, the number of women taking HRT has dropped dramatically.

Drinking alcohol - Research consistently shows that drinking alcoholic beverages — beer, wine, and liquor — increases a woman's risk of hormone-receptor-positive breast cancer. There is no safe level of alcohol consumption.

Dense Breasts - Research has shown that dense breasts can be twice as likely to develop cancer as non-dense breasts and can make it harder for mammograms to detect breast cancer.

Lack of exercise - Research shows a link between exercising regularly at a moderate or intense level for 4 to 7 hours per week and a lower risk of breast cancer.

Smoking - Smoking causes a number of diseases and is linked to a higher risk of breast cancer in younger, premenopausal women. Research also has shown that there may be link between very heavy second-hand smoke exposure and breast cancer risk in postmenopausal women.

Lack of exercise - research shows a link between exercising regularly at a moderate or intense level for 4 to 7 hours per week and a lower risk of breast cancer.

Diet – diet seems to be playing a more important role in Breast Cancer than previously thought.

Emerging Risk

Low Vitamin D levels - Research suggests that women with low levels of vitamin D have a higher risk of breast cancer. Vitamin D may play a role in controlling normal breast cell growth and may be able to stop breast cancer cells from growing.

The Role of BRCA Gene Mutation

BRCA is an abbreviation originating from Br(east) Ca(ncer) and are tumour suppressor genes. Every cell in a human body contains them. There are two types: BRCA1 and BRCA2. Their main function in the body is to repair DNA, keep other genes healthy, and prevent cancerous changes. These genes can become mutated.

A mutation is a change in the gene which makes the gene stop doing its main function, therefore, no longer keeping abnormal cell growth in check. These changes (mutations) can be inherited or passed on from parents, grandparents, and great grandparents.

If someone has a gene mutation, their risk of cancer increases.

Anyone can have a BRCA gene mutation. Though, they are more commonly found in certain ethnic groups, including Ashkenazi Jews, Afrikaners, French Canadians, and people of Icelandic backgrounds. The most common cancers that can result from BRCA gene mutations are breast cancer, ovarian cancer, and prostate cancer. The full list includes.

WOMEN

BRCA1

Breast cancer
Ovarian cancer
Pancreatic cancer

BRCA2

Breast cancer
Ovarian cancer
Pancreatic cancer
Melanoma

MEN

BRCA1

Breast cancer
Prostate cancer
Pancreatic cancer

BRCA2

Breast cancer
Prostate cancer
Melanoma
Pancreatic cancer

If someone has a BRCA mutation, they may pass the mutation to their children. Each child has a 50% chance of inheriting their parents' BRCA gene mutation. One's siblings may also have inherited the BRCA gene mutation.

Reasons One's Breast May Hurt that have Nothing to do with Cancer?

Some benign breast conditions are linked to inflammation, pain, and infection. There can be areas of redness and swelling involving the nipple, areola, and/or skin of the breast. Such symptoms may not necessarily be a sign of breast cancer.

Breast pain, also known as mastalgia, is common and accounts for 45-70% of breast-related health care visits. Many causes of breast pain are benign (non-cancerous) and usually related to hormonal changes in your body or something as simple as a poor fitting bra.

Classification of Mastalgia

Cyclic Mastalgia

Breast pain that is associated with the menstrual cycle due to hormonal variation often associated with breast swelling, tenderness, and lumpiness and generally bilateral in nature. Pain intensifies a couple of weeks before the start of periods, decreasing on the day when bleeding starts and subsides over the next few days. Most commonly seen in premenopausal women in the third or fourth decades of life.

Non-Cyclic Mastalgia

Breast pain that is not associated with the menstrual cycle and does not vary with hormonal changes in the body. Instead, they are often related to internal anatomical changes, injuries, surgery, infections, or sometimes associated with other breast pathology, i.e., breast cysts or fibroadenoma. These are generally described as a localized sharp, burning breast pain. They are unilateral, constant, or intermittent, affecting one breast with a pinpoint localized area of involvement. Most likely affect women in their 30s and 50s.

Extramammary Mastalgia

It refers to the breast pain that is originating from a location outside the breast, such as the heart, lung, chest wall, or the esophagus. Extramammary breast pain feels as if it starts in the breast tissue, but in fact, it is a referred pain having its origin somewhere else. For example, pain originating from the chest wall (costochondritis), epigastric pain in GERD, or pain of gallbladder and stomach disease can be referred to give a false impression of breast pain.

Conflict of Interest Statement

Disclosure: Muhammad Tahir declares no relevant financial relationships with ineligible companies.

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Caution Expressed Around Consumption of Foods High in Phytoestrogens by Individuals Diagnosed with a Hormone-Sensitive Cancer

The Cancer Association of South Africa (CANSA) has noted:

- A statement by Memorial Sloan Kettering Cancer Center saying that "... because compounds isolated from rooibos leaves demonstrated estrogenic activity, patients with hormone-sensitive cancers should use caution before taking rooibos." (Memorial Sloan Kettering Cancer Center).
- That phytoestrogens were successfully isolated from rooibos leaves by scientists from the School of Pharmaceutical Sciences, University of Shizuoka, Japan (Shimamura, *et al.*, 2006).

- That according to Deng, *et al.*, (2010), “... there are important safety concerns associated with dietary supplements and foods rich in phytoestrogens, especially for breast cancer patients with hormone-sensitive disease. Based on current evidence, we propose recommendations for advising breast cancer patients, ...”
- That, according to Nelles, Hu & Prins (2011), “Early work on the hormonal basis of prostate cancer focused on the role of androgens, but more recently estrogens have been implicated as potential agents in the development and progression of prostate cancer.”
- That, according to Reger, *et al.*, (2016), “Experimental studies suggest that phytoestrogen intake alters cancer and cardiovascular risk. Some urinary phytoestrogens were associated with cardiovascular and all-cause mortality in a representative sample of 5 179 participants. This is one of the first studies that used urinary phytoestrogens as biomarkers of their dietary intake to evaluate the effect of these bioactive compounds on the risk of death from cancer and cardiovascular disease.”

The Other Side of the Coin

Herewith recent research which seems to differ in its conclusion to previous research regarding phytoestrogens:

CANSA, therefore, wishes to advise individuals diagnosed with the following hormone-sensitive cancers, namely: Breast Cancer, Ovarian Cancer, Endometrial Cancer, and Prostate Cancer, to use caution before taking foods and drinks said to contain phytoestrogens and to discuss this issue with their Oncologist or treating physician to obtain clarity.

The World Health Organization about Breast Health and Cancer

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

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.

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.

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

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that the age-standardised incidence rate for advanced-stage breast cancer is lower in the screened group compared to the unscreened group.

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.

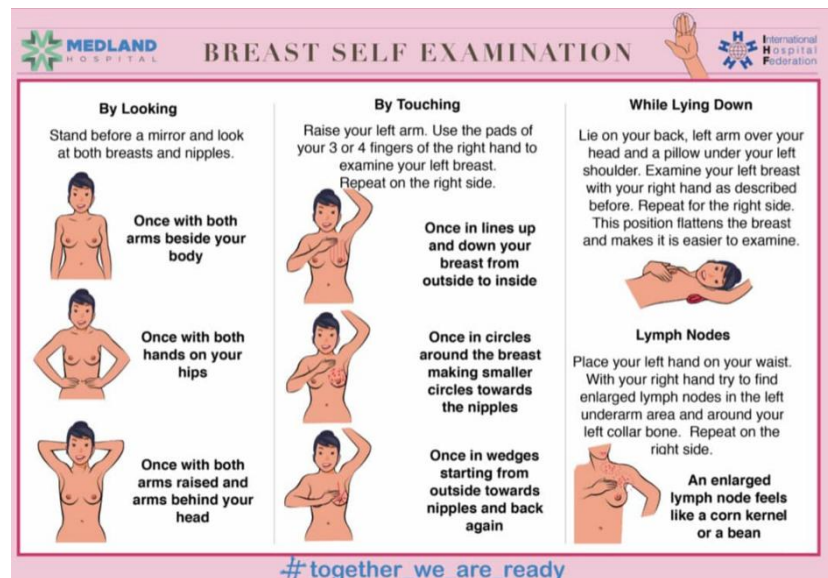
Make a Regular Date for Doing a BSE - If pre-menopausal: Set a regular time to do the BSE a few days after the menstruation when hormone levels are relatively stable, and the breasts are less tender.

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

Picture Credit: Breast self-examination]

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 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.

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

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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
- 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 breast health rather than as a screening method for breast cancer.

Symptoms and Signs of Breast Cancer in Women

Changes that could be due to a breast cancer include:

- A lump or thickening in an area of the breast
- A change in the shape of the nipple, particularly if it turns in, sinks into the breast, or has an irregular shape
- A blood-stained discharge from the nipple
- A rash on a nipple or surrounding area
- A swelling or lump in the armpit
- Nipple tenderness or a lump or thickening in or near the breast or underarm area
- A change in the skin texture or an enlargement of pores in the skin of the breast (some describe this as similar to an orange peel's texture)
- Any unexplained change in the size or shape of the breast
- Dimpling anywhere on the breast
- Unexplained swelling of the breast (especially if on one side only)

- Unexplained shrinkage of the breast (especially if on one side only)
- Recent asymmetry of the breasts (Although it is common for women to have one breast that is slightly larger than the other, if the onset of asymmetry is recent, it should be checked.)
- Nipple that is turned slightly inward or inverted
- Skin of the breast, areola, or nipple that becomes scaly, red, or swollen or may have ridges or pitting resembling the skin of an orange

These signs do not necessarily mean cancer. Inverted nipples, blood-stained nipple discharge or a rash can all be due to other medical conditions. In the event of any changes to what is normal, one should see a health professional. It is most likely to be a benign condition that can easily be treated. The health professional will refer to a breast health clinic or medical specialist where the staff can provide reassurance or provide any necessary treatment.

Diagnosis of Breast Cancer in Women

The doctor will check both breasts during a clinical breast examination, feeling for any lumps or other abnormalities.

Doctors use various tests to diagnose breast cancer and find out if the cancer has spread to other parts of the body. Some of the tests may also help the doctor decide which treatments may be the most effective.

For most types of breast cancer, a biopsy is the only way to make a definitive diagnosis of cancer. A biopsy is the removal of a small amount of tissue for examination under a microscope.

Types of Breast Cancer in Women

The following types of breast cancer have been identified in women:

Ductal Carcinoma *in Situ*

Ductal Carcinoma in Situ (DCIS) is a non-invasive breast cancer where abnormal cells have been contained in the lining of the breast milk duct.

Invasive Ductal Carcinoma

Invasive Ductal Carcinoma means that abnormal cells that originated in the lining of the breast milk duct have invaded surrounding tissue.

Invasive Lobular Carcinoma

Invasive lobular breast cancer means that the cancer started in the cells that line the lobules and has spread into the surrounding breast tissue. The lobules are the glands that make milk when breastfeeding. Invasive lobular breast cancer is the second most common type of breast cancer. It is also known as invasive lobular carcinoma.

Triple Negative Breast Cancer

Triple negative breast cancer means that the cells in the tumour are negative for progesterone, oestrogen, and HER2/neu receptors.

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Inflammatory Breast Cancer

Inflammatory breast cancer is a less common form of breast cancer that may not develop a tumour and often affects the skin of the breast.

Phyllodes Tumour of the Breast

Phyllodes tumours of the breast are rare, accounting for less than 1% of all breast tumours. Phyllodes tumours tend to grow quickly, but they rarely spread outside the breast.

Metastatic Breast Cancer

Metastatic breast cancer is cancer that has spread beyond the breast, sometimes into the lungs, bones, or brain. Metastatic breast cancer is also classified as Stage 4 breast cancer meaning that the cancer has spread to other parts of the body.

Cribiform Breast Cancer

Cribiform breast cancer is a rare form of breast cancer that is often combined with another form of breast cancer. It is typically a low-grade and slow-growing cancer with a better outlook than most other types of invasive breast cancer.

Other Types of Breast Cancer

Less common types of breast cancer include Medullary Carcinoma, Tubular Carcinoma, and Mucinous Carcinoma.

- Medullary carcinoma - medullary carcinoma accounts for 3-5% of all breast cancer types. The tumour usually shows up on a mammogram but does not always feel like a lump.
- Tubular Carcinoma - making up about 2% of all breast cancer diagnosis, tubular carcinoma cells have a distinctive tubular structure when viewed under a microscope. It is usually found through a mammogram and is a collection of cells that can feel like a spongy area of breast tissue rather than a lump. Typically, this type of breast cancer is found in women aged 50 and above and usually responds well to hormone therapy.
- Mucinous Carcinoma (Colloid) - mucinous carcinoma represents approximately 1% to 2% of all breast cancers. The main differentiating features are mucus production and cells that are poorly defined. It also has a favourable prognosis in most cases.
- Paget Disease of the Breast or Nipple - this condition (also known as mammary Paget disease) is a rare type of cancer affecting the skin of the nipple and often the areola, which is the darker circle of skin around the nipple. Most people with Paget disease evident on the nipple also have one or more tumours inside the same breast.

Special Tests

The following tests or examinations may be done:

Mammogram - A mammogram is a low-dose x-ray of the breast. You'll need to take off your top and bra for the mammogram. The radiographer will position you so that your breast is against the X-ray machine and is gently but firmly compressed with a flat, clear, plastic plate. You'll have two mammograms of each breast taken from different angles.

[Picture Credit: Mammogram]

The breast tissue needs to be compressed to keep the breast still and to get a clear picture. Most women find this uncomfortable, and for some women it may be painful for a short time.

Mammograms are usually only used in women over the age of 35. In younger women, the breast tissue is denser (has less fat), which makes it difficult to detect any changes on the mammogram.



CANSA's Position on Mammography:

CANSA is aware that in the developed world the starting age for regular breast screening by means of a mammogram has been raised to 45 years. This applies to First World countries where access to health care is freely available to everyone.

The South African situation is, however, somewhat different:

- The majority of South African women do not enjoy access to health care
- During 2019 a total of 2 060+ women between the ages 20 and 44 were histologically diagnosed with breast cancer

CANSA, therefore, advocates a mammogram every year for all women from age 40 for purposes of 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
- Every woman with a close female relative diagnosed with breast cancer, should go for a mammogram 10 years earlier than the age at which the close relative was diagnosed with breast cancer
- Women aged 40 to 54 should have an annual mammogram
- Women 55 years and older should change to having a mammogram every 2 years – or have the choice to continue with an annual mammogram
- Screening should continue as long as a woman is in good health and is expected to live 10 years or longer
- Every woman should be informed of the known benefits, limitations, and potential harms linked to breast cancer screening by means of a mammogram

Breast ultrasound - An ultrasound uses sound waves to build up a picture of the breast. It can show if a lump is solid (made of cells) or is a fluid-filled cyst.

Ultrasound of lymph glands – the patient may also have an ultrasound of the lymph nodes in the armpit. If any of the nodes feel swollen or look abnormal on the ultrasound, the doctor will do a fine needle aspiration on the node or nodes.

Researched and Authored by Prof Michael C Herbst

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

Approved by Ms Elize Joubert, Chief Executive Officer (BA Social Work (cum laude); MA Social Work)

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Biopsy - This is when the doctor removes a small piece of tissue or cells from the lump or abnormal area. A pathologist (doctor who specialises in analysing cells) examines the tissue or cells under a microscope to look for cancer cells.

Staging of Breast Cancer in Women

Every patient that has been diagnosed with breast cancer must have other tests performed to determine whether the cancer has spread. This process is known as breast cancer staging. An appropriate treatment plan can be developed once the stage of the cancer is known.

Recurrent Breast Cancer

When breast cancer comes back, it may return in the same place. This is called a 'recurrence', because it is not a new cancer. But a recurrence can also appear in a place not directly related to the first breast cancer. This is called a 'metastasis', and if cancer is detected in several areas, these are called metastases. When breast cancer comes back, it tends to show up in specific areas of the body:

- the breast or the area where the breast used to be
- the chest wall
- the lymph nodes
- the bones
- the lungs or around the lungs
- the liver
- the brain

Treatment Options for Breast Cancer in Women

People with cancer should be cared for by a multidisciplinary team (MDT), a team of specialists who work together to provide the best treatment and care. The team often consists of a specialist cancer surgeon, an oncologist (a radiotherapy and chemotherapy specialist), a radiologist, a pathologist, a radiographer, a reconstructive surgeon and a specialist nurse. Other members may include a physiotherapist, a dietician and an occupational therapist, and one may have access to clinical psychology support.

The main treatments for breast cancer may include:

Surgery - there are two types of surgery for breast cancer. These are surgery to remove just the cancerous lump (tumour), known as breast-conserving surgery, and surgery to remove the whole breast, which is called a mastectomy.

Breast-conserving surgery - breast-conserving surgery ranges from a lumpectomy or wide local excision, in which just the tumour and a little surrounding breast tissue is removed, to a partial mastectomy or quadrantectomy, in which up to a quarter of the breast is removed.

Mastectomy - a mastectomy is the removal of all the breast tissue, including the nipple. If there are no obvious signs that the cancer has spread to the lymph nodes, the patient may have a mastectomy, in which the breast is removed, along with a sentinel lymph node biopsy (SLNB). If the cancer has spread to the lymph nodes, the patient will probably need more extensive removal (clearance) of lymph nodes from the axilla (under the arm).

Robotic Surgery – A novel approach.

Radiotherapy - Radiation therapy is a form of cancer treatment that uses high levels of radiation to kill cancer cells or keep them from growing and dividing - while minimising damage to healthy cells.

Chemotherapy - chemotherapy is a cancer treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping them from dividing.

Hormone therapy - is often used to treat breast cancers that are sensitive to hormones. Doctors sometimes refer to these cancers as oestrogen receptor positive (ER positive) and progesterone receptor positive (PR positive) cancers.

Biological therapy (targeted therapy) - targeted therapies (sometimes called biological therapies) are new drugs that work differently from chemotherapy.

Follow-up Care and Treatment

Follow-up is recommended after treatment for breast cancer to check whether breast cancer has come back, to monitor side effects of treatment and to provide practical and emotional support.

Women who have been diagnosed and treated for early breast cancer have an increased risk of breast cancer coming back or developing in the other breast. Regular follow-up means that if breast cancer does come back or if a new breast cancer develops, it can be treated promptly. Follow-up also allows doctors to check for any side effects from treatment and to monitor any long-term treatments such as hormonal therapies. It also provides an opportunity for women to talk about how they're feeling.

Follow-up after treatment for breast cancer involves regular physical examinations and breast imaging tests (mammogram and/or ultrasound).

About Clinical Trials

Clinical trials are research studies that involve people. They are conducted under controlled conditions. Only about 10% of all drugs started in human clinical trials become an approved drug.

Clinical trials include:

- Trials to test effectiveness of new treatments
- Trials to test new ways of using current treatments
- Tests new interventions that may lower the risk of developing certain types of cancers
- Tests to find new ways of screening for cancer

The South African National Clinical Trials Register provides the public with updated information on clinical trials on human participants being conducted in South Africa. The Register provides information on the purpose of the clinical trial; who can participate, where the trial is located, and contact details.

For additional information, please visit: <https://pactr.samrc.ac.za/>

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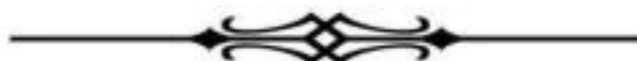
Approved by Ms Elize Joubert, Chief Executive Officer (BA Social Work (cum laude); MA Social Work)

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Medical Disclaimer

This Fact Sheet is intended to provide general information only and, as such, should not be considered as a substitute for advice, medically or otherwise, covering any specific situation. Users should seek appropriate advice before taking or refraining from taking any action in reliance on any information contained in this Fact Sheet. So far as permissible by law, the Cancer Association of South Africa (CANSA) does not accept any liability to any person (or his/her dependants/estate/ heirs) relating to the use of any information contained in this Fact Sheet.

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<http://www.breastcancer.org/symptoms/types/phyllodes>

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Breast Examination

https://www.google.co.za/search?q=breast+self+examination&source=lnms&tbm=isch&sa=X&ei=WKgMUvfpK9GIhQf_woCACA&sqi=2&ved=0CAcQ_AUoAQ&biw=1366&bih=614#facrc=_&imgdii=_&imgsrc=vfE3Yii_dXLWXM%3A%3BqpBEBMjuMLIXyM%3Bhttp%253A%252F%252Fflabspace.open.ac.uk%252Ffile.php%252F6728%252F!via%252Foucontent%252Fcourse%252F3003%252Fnon_comm_session3_fig3.jpg%3Bhttp%253A%252F%252Fflabspace.open.ac.uk%252Fmod%252Foucontent%252Fview.php%253Fid%253D451946%252Fextra%253Dthumbnail_id391744328786%3B500%3B302

Breast Self-examination

<https://www.facebook.com/photo/?fbid=484110113737484&set=a.320832450065252>

Breast Health Foundation

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Cancer Research Institute

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Cancer Research UK

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Cancer Therapy Advisor

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Researched and Authored by Prof Michael C Herbst

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

Approved by Ms Elize Joubert, Chief Executive Officer (BA Social Work (cum laude); MA Social Work]

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<http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Breast/Treatingbreastcancer/Herceptin.aspx>

Mammogram

https://www.google.co.za/search?q=mammogram&source=lnms&tbm=isch&sa=X&ei=m3rjU--XHafH7Aac74DoCQ&sqi=2&ved=0CAYQ_AUoAQ&biw=1517&bih=714&dpr=0.9#facrc=_&imgdii=_&imgsrc=5-50cJKVR11HVM%253A%3BACGf9w_coUUwTM%3Bhttp%253A%252F%252Fwww.imaginis.com%252Ffiles%252Fmedia%252Ftransfer%252Fimg%252Fbreasthealth%252FmammopositionCC.jpg%3Bhttp%253A%252F%252Fwww.imaginis.com%252Fmammography%252Fgeneral-information-on-mammography-1%3B184%3B168

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<http://www.nhs.uk/Conditions/Cancer-of-the-breast-female/Pages/Treatment.aspx>

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Researched and Authored by Prof Michael C Herbst

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

Approved by Ms Elize Joubert, Chief Executive Officer (BA Social Work (cum laude); MA Social Work)

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