things women should know

A book about breast health

Prof Carol-Ann Benn

Disclaimer

"What women should know: A book about breast health" is not a substitute for personal medical attention. Any application of the information provided by the authors is at the reader's discretion and sole risk.

Always consult your medical practitioner before embarking on any diagnostic, therapeutic or complimentary health programme.

The publisher shall not be held responsible for any loss occasioned by any cause whatsoever.

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Preface

Platinum Life is very excited to introduce our improved "What women should know: A book about Breast Health".

Prof Carol-Ann Benn is a specialist surgeon with a wealth of knowledge and experience in the field of breast health. Her passion is ensuring access to healthcare that is multi-disciplinary and holistic.

This book, written for all women, aims to give the reader relevant information about topics from breast health to both cancerous and non-cancerous breast conditions.

Breast cancer affects the lives of all, from the patient to the family. Breast cancer is neither ageist, racist or sexist and can affect anyone. The incidence has increased and it has become one of the most prevalent cancers amongst female South Africans today.

Throughout the project's development, Prof Benn has emphasised the importance of education. Too often people postpone doctor's visits for a variety of reasons.

Early detection is directly linked to a better chance of survival, and so it is of the utmost importance to know your own body, do regular breast self-examinations and go for scheduled screenings. Moreover, making more informed decisions about diet, medication and exercise will improve one's overall health and life expectancy.

There is a vital need in our society for health education. This booklet aims to bring women and their families up-to-date on all aspects of breast health, and in doing so, help fulfil this need.

We hope that you will find this booklet informative and that it will help you understand the importance of maintaining healthy breasts!

Kind regards,

Liesl Matthews
Director

PLATINUM
LIFE

Introduction

I am thrilled to be involved in this book and to have the opportunity to share knowledge and interest in breast health. It is important that every woman understand her body and "know her breasts". From young to old, all women will experience a breast symptom. Knowing your breasts, their size and shape, is critical to ensuring early detection of all breast health concerns.

Everyone is scared of becoming ill, so when they do, it is natural for a person to want to fully understand their specific disease or health concern. Women in South Africa are strong and independent and, once they have the knowledge and understanding of breast health and breast problems - from simple pain and infections to more complex diseases like breast cancer - they then have the power to take an active part in the healing process rather than remaining passive victims. It is your body, so by using the information enclosed you and your loved ones can partake in decisions affecting health and future well-being.

The more women know about and understand the potential risks and concerns of breast health and treatment options for breast problems, the better the health outcomes and survival rates are. What women should know first and foremost is that it is your body and you are the most important person in taking responsibility for your health. Never rush into "emergency breast surgery"; take a friend with you to consultations, ask for explanations from your treating medical teams and go for second opinions. Be aware that breast cancer can affect any woman regardless of age or race and that most women who get breast cancer have no recognizable risk factors. This is why the information in this booklet is so important. In addition, it is vitally important for women, once educated about their breasts, to then be willing to educate one another, create awareness of such diseases within their communities and support each other when they experience problems or become ill. It is through initiatives such as this book that we hope this will happen.

Enjoy reading this book and learning more about breast health. Take the information you learn in this book and share it with others - your work colleagues, your family and friends, and, ultimately all the women of South Africa.

About the author

Prof Carol-Ann Benn is aspecialist surgeons with an interest in breast health. They work at both the Helen Joseph Breast Unit and the Netcare Breast Care Centre in Johannesburg and also lecture at the Department of Surgery at the University of Witwatersrand. Their primary aim is to work towards educating healthcare professionals as well as the public about breast health.

benign (bēnīn´),

adj. Of no danger to health, especially relating to a tumorous growth; not malignant.

benign

breast problems

what is this lump I feel in my breast?

Most breast lumps are not breast cancer and non-cancerous lumps do not develop into breast cancer. The safest approach to all breast lumps is to always have them examined by a medical professional because no matter how often you examine women's breasts as a doctor or check your own breasts as a patient, it cannot be assumed that a lump in the breast is of no concern. We do not have eyes on our fingers which is why a clinical examination must be followed with a simple, non-threatening, non-painful investigation called an ultrasound or breast sonar (done by a radiologist, with a mammogram for women if over the age of 35 years) The ultrasound (sonar) can determine what the lump is.

In the past we used to categorise breast masses according to the age groups in which they occurred. A far safer approach is to look at how breast masses appear on an ultrasound (breast sonar). We want to emphasise that this is the safest and most effective way to determine whether a lump in the breast is cancerous or not. If a doctor or patient is really concerned a triple assessment comprising of a clinical examination, sonar and/or a mammogram as well as a core needle biopsy will confirm what the lump is.

"The safest approach to all breast lumps is to have them examined by a medical professional."

Solid Masses

Fibroadenoma

A fibroadenoma is a highly mobile, round, smooth, firm lump usually found in the breast of younger women e.g. teenagers and women in their early twenties. It is sometimes called the 'breast mouse' because it is mobile and appears to 'run' from the examining hand. These lumps do occur in older women though not commonly. Fibroadenomas come from the lobules (milk tissue) and are sensitive to female hormones like the other breast tissue from which they develop.

Most fibroadenomas are felt when they reach a diameter of around 1-2 cm, and can grow to more than 5 cm. Women who have one fibroadenoma often go on to find more of them when they start looking in both breasts, however this is not a major concern. A fibroadenoma cannot become cancer, neither do they increase your risk of getting cancer. Once a doctor has confirmed your lump is a fibroadenoma using ultrasound and a core needle biopsy, it can be left alone. Some may even disappear spontaneously. Remember that a clinical exam should be initially followed by an ultrasound.

If the fibroadenoma becomes painful, if it gets bigger than 3 cm (i.e. a giant fibroadenoma) or if you are worried about it, it can be removed with surgery via an incision around the nipple or base of the breast. Remember that surgery leaves both scars on the skin and in the breast tissue and can make breast investigations performed later in life more difficult to interpret.

If you already have a fibroadenoma and are pregnant, you can expect the size of the fibroadenoma to vary slightly during pregnancy and lactation, but this will not interfere with breastfeeding or milk production. Calcified fibroadenomas are sometimes found in elderly women as a hard, mobile lump that can be easily seen on a mammogram.

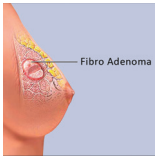


Fig. 1.1: *Illustration of typical fibro adenoma.*

Fig. 1.2: *Advanced case of fibro adenoma.*

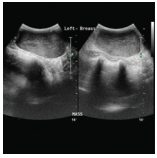


Fig. 1.3: *Sonar of fibro adenoma.*

Phyllodes Tumours

Phyllodes tumours (PTs) take their name from the Greek word 'phyllon' which means 'leaf' because of their leaf-shaped growth pattern. Their other plant-like behaviours is their ability to leave roots and reoccur. Unlike fibroadenomas, phyllodes tumours don't form a neat shell around the outside of the tumour, but instead grow into normal breast tissue. This means that when they are removed with surgery, a rim of normal breast tissue has to be removed as well to ensure everything has been removed. If this is not done, little bits of the tumour may remain in the breast and, like the roots of a weed, they will cause the lump to grow back, often more aggressively than before.

Phyllodes tumours do have a risk of recurrence even if they are benign (non-cancerous), but they also have a risk of spreading or recurring if malignant (cancerous). The type of tumour and its risk of recurring or spreading (metastasising) can only be determined once it has been removed and examined microscopically. Once the grade of a phyllodes tumour is established, you may need to undergo a second surgical procedure to ensure you have a clear margin of disease-free tissue of 1-2 cm, followed by reconstruction. Reconstructive options depend on factors such as breast size and patient choice, varying from breast reduction to other more extensive options.

There are no identified risk factors for having a phyllodes tumour, nor does there seem to be strong genetic predisposition. Unlike breast cancer which arises from the glandular elements of the breast, these are tumours that arise from connective tissue within the breast tissue. Malignant phyllodes tumours don't spread like breast cancers to lymph glands and usually just recur locally, but the more aggressive tumours can spread to the lungs and liver. Some can be so large (up to 30 cm in size) that complete removal of the breast and part of the chest wall may be required.

Because doctors don't encounter phyllodes tumours frequently, they are often misdiagnosed as benign fibroadenomas. Breast masses should never be brushed off as 'harmless fibroadenomas' and that is why most diagnoses today should only be undertaken by a specialist radiologist with the use of an ultrasound and guided core needle biopsy.

Any features on an ultrasound that are not typical should result in a core needle biopsy, which involves a small biopsy done under local anaesthetic. All masses, irrespective of diagnosis, should be followed up 3 or 6 months later by an ultrasound. Furthermore, any masses that grow, or are larger than 3 cm, should always be surgically removed/cut out.

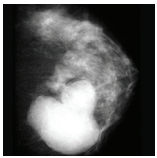


Fig. 1.4: *Sonar of a Phyllodes tumour.*

Fig. 1.5: *An advanced Phyllodes tumour.*

Solid Masses

Fat Necrosis

Severe injury to the breast (e.g. from a motor vehicle accident or being punched in the breast) can cause fat necrosis. It can also occur after some breast reduction operations. The problem with fat necrosis is that it feels like a hard, irregular lump, which mimics breast cancer. The only way to tell the difference is through a mammogram and core needle biopsy. There is no treatment required for this problem and surgery is not advisable. Once the investigations have confirmed that the lump is fat necrosis, all that is needed is reassurance and monitoring it to see that it doesn't get bigger or change its shape.

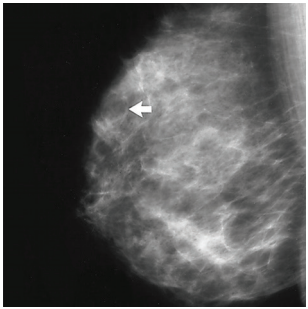


Fig. 1.6: *Sonar of fat necrosis.*

Fig. 1.7: *A severe case of fat necrosis.*

Breast Hamartomas

Also known as fibroadenolipoma. This is not a common breast lump and can therefore go unnoticed or unrecognised by most doctors. Hamartomas of the breast are normally painless breast lumps which are softer and larger than fibroadenomas. These lumps have been likened to a 'breast within the breast' because they contain all the same types of tissue found in a breast. This may account for some diagnostic confusion especially if a Fine Needle Aspiration (or an FNA) is performed, because the cells that make up the breast tissue are difficult to differentiate from abnormal cells. It is usually possible to confirm diagnosis with a core biopsy rather than an FNA. On a mammogram, these lumps have a distinct picture showing a visible lump separated from the normal breast tissue by a thin white margin. They are often missed on ultrasound as they have the same density. If a clinical examination and core needle biopsy do not fully explain the lump, surgical removal is recommended.

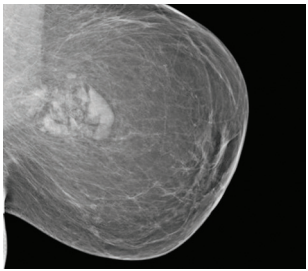


Fig. 1.8: *Sonar of hamartoma.*

Fibroadenosis (and cyclical breast pain)

Breasts alter cyclically with the different stages of the menstrual cycle. In the week prior to menstruation the breast normally increases in size and sometimes becomes nodular and painful therefore mimicking a breast mass.

This is normally called 'fibroadenosis' This term may be confusing and misleading at times as it represents what is going on inside the breast at a tissue level, but the process is normal. Breasts are uniquely different to palpation - some are smooth, and some are nodular, and the term should not be used as if this is abnormal or a disease of the breast.

All breasts have a certain amount of fibrosis (connective tissue) and adenosis (gland or milk tissue) and disease should not be attributed to a woman with these types of breast symptoms. If concerned, a breast ultrasound can aid the clinician in determining whether this is a mass or just nodularity.

Cystic Masses

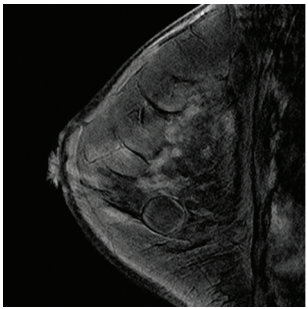


Fig. 1.9: *51-year-old female patient's sonar of breast cyst.*

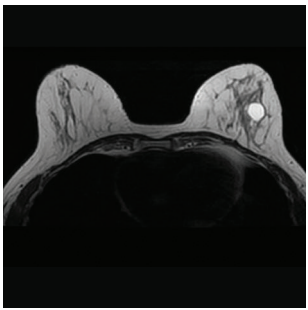


Fig. 1.10: *Same 51-year-old female patient. MRI of breast cyst.*

Breast Cysts

Breast cysts are masses that might feel like lumps but are actually just fluid-filled sacs within the breast. No one knows exactly why they form. It can be due to the hormonal or structural changes in the breast that happens naturally as people age. Cysts occur in about 5% of pre-menopausal women in the years after childbirth and breastfeeding (35 to 50 years). Cysts might be single or multiple, and often they are only picked up on a mammogram or sonar. There are 3 types of cyst; simple cysts (clear); complicated cysts (with murky fluid) and complex cysts (which have a growth on the wall). Cysts is do not cause cancer nor become cancerous. They are easily diagnosed using sonar (ultrasound) and can be aspirated with a fine needle (FNA). The fluid drawn from this type of cyst is usually yellow (simple cysts) or greenish (complicated) in colour. Simple cysts require no treatment; complicated cysts can become infected and may require antibiotics and needle drainage.

Blood (red or black) in this fluid or complex cysts (residual lump remaining after the aspiration), requires further treatment. If there is blood or a residual lump, further evaluation is mandatory. This takes the form of sending the aspirate for cytology (it is a good principle to send all aspirates for cytology) and then to biopsy the residual mass, if present, under radiological guidance. Surgery for complex cysts may be necessary.

Galactocele

This is simply a cyst, found only in breastfeeding women, that contains retained milk but has no signs of bacterial infection. It can be treated by needle aspiration of the cyst and suppression of milk. Surgical excision can also be performed if necessary, though this is not a very common practice.

Fig. 1.11: *Infected galactocele gland.*

Fig. 1.12: *Severe case of infected galactocele gland.*

i've got an infection in my breast... Help!

Breast infections most commonly affect women between the ages of 18 to 50 years and can be divided into infections related to breastfeeding and those that are not (non-lactational abscesses). It is important to treat any infection of the breast early and correctly so as to ensure that it does not develop into more serious problems. As with all diseases of the breast, it is also important to make sure a cancer is not missed.

"Breast infections are common."

Breast Infections

Lactational Breast Abscess

This is a localised infection in the skin and tissue of the breast that is caused by bacteria which can enter the breast through a crack or fissure in the nipple. It commonly occurs in the second to fifth week of breastfeeding when a mother is still getting used to the breastfeeding procedure. Milk retention and stasis can make the problem worse. The breast may become hard and swollen in its entirety or only in one area, and it is painful to breastfeed or even to touch the breast. When the breast is swollen like this, it is called mastitis. This can be adequately treated with antibiotics. During this phase, frequent expression of milk will help prevent stasis and progressive infection. Cabbage leaves kept cold in the fridge and then applied to the breast may also provide relief from the discomfort.

Milk must be expressed from the infected breast and, if the mother wants to continue to breastfeed, the baby can continue to feed from the other breast. If the mother wants to stop breastfeeding, lactation can be suppressed with fluid restriction and medication.

As the infection develops, if left untreated, it can form a collection of infected fluid which can then cause even more pain and sometimes a bulge in the breast (known as an abscess). The current recommended treatment is high-dose antibiotics (Co-amoxiclav is the drug of choice and is safe in breastfeeding mothers) as well as repeated ultrasound-guided aspiration. In this day and age, it is uncommon to resort to a surgical procedure in order to drain the infected fluid out of the breast.

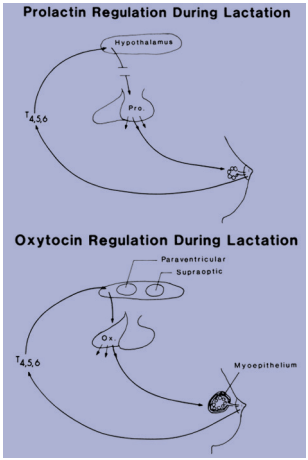


Fig. 1.13: *Prolactin and Oxytocin regulation during lactation.*

Fig. 1.14: *Severe case of a lactational abcess.*

Thrush

Thrush can also affect the lactating breast, causing burning, shooting pains during breastfeeding and sore patches on the nipples (as well as a paler areola). The difficulty with thrush is that it can be passed from the baby's mouth to the mother's breast (usually the cause of the infection in the first place) and, as the mother continues to feed the baby, it can be passed back to the baby again. It is very important that the mother and her baby are treated at the same time, for long enough to ensure the infection is completely gone. Thrush can be treated with fluconazole (Diflucan) tablets and an antifungal cream for the nipples.

Ultrasound-guided aspiration. This is followed in certain complicated cases by surgical drainage with biopsy of the abscess wall, but should not be performed outside of a specialist breast centre.
Less frequently an abscess can be caused by an underlying infection such as TB or the presence of HIV/AIDS. It is important to be treated in a specialist unit that can adequately diagnose and manage treatment of these infections, particularly in patients who have HIV.

Breast cancer can also present looking like an abscess or mastitis. This is called inflammatory breast cancer and accounts for 2-5% of breast cancers. No infection should be ignored, and all infections should be looked at by a breast specialist who will be able to optimally diagnose and treat unusual causes.

Non-lactational Breast Abscess

Breast abscesses can also occur in women who are not breastfeeding. They may occur around the nipple as a result of chronic inflammation and active infection around the central ducts of the breast beneath the nipple. This is a result of duct ectasia, a widening and thickening of the ducts due to inflammation (and very often also due to smoking).

As the infection develops from mastitis, a collection of infected fluid forms in the tissue along with surrounding swelling. The skin may become thin or flaky. Just like in lactational abscesses this infected fluid collection will not resolve on antibiotics alone but can be managed with the use of high dose antibiotics (Co-amoxiclav is the drug of choice if no penicillin allergy is present) as well as repeated. Superficial skin infections (boils, sebaceous cysts and recurrent skin abscesses) can also occur in the skin over the breast, but these are not related to the breast tissue and are not breast cancer. Unusual types of breast infections that require treatment in specialist centres are granulomatous mastitis (which is an inflammatory condition that presents with abscesses in different parts of the breast repeatedly. Diabetic mastopathy is when diabetic (usually insulin dependent diabetics) get repeated hard, inflamed breast masses. The above conditions respond to a medicine that is used for asthmatics called montelukast.

Fig. 1.15: *Severe case of a non-lactational abcess.*

when is it normal to have painful breasts?

Pain in the breast is a frequent complaint. All women will experience breast pain at some stage in their lives, but some women are unfortunate enough to suffer from constant or repeated episodes of breast pain. When breast pain becomes so excessive that it begins to interfere with the patient's lifestyle, for example making it difficult to wear seatbelts or having difficulty with sexual intercourse, it is known as mastalgia.

For most women breast pain is something that is experienced just prior to the menstrual period or may be felt as an occasional twinge, but it does not feature heavily in our lives. Importantly, breast cancer presents with pain in less than 10% of cases and this will usually be a constant pain associated with a lump. Even if there is no mass, but a constant, localised pain, a mammogram or sonar should be obtained. Only 2% of these cases will be due to cancer.

Trying to treat or cope with breast pain is often very frustrating. Most textbooks describe breast pain as cyclic or non-cyclic depending on whether it is related to the menstrual cycle or not. Two thirds of breast pain are cyclical and caused by the changes in hormones in our breasts. The rest is non-cyclical, of which one half is related to the bones and joints beneath the breast. Unfortunately, it is difficult for women to differentiate between these symptoms. All patients presenting with breast pain should have a thorough history and clinical examination with an ultrasound, and a mammogram if over 40.

It is easiest to approach pain according to the symptoms and type of pain. Sometimes women may have more than one type of pain. Sometimes it is only by treating the pain that its cause can be determined.


"Breast cancer presents with pain in less than 10% of cases."

When is a breast pain not a breast pain?

When it doesn't come from the breast.

Nearly one fifth of all breast pain actually has nothing to do with the breast at all, for example:

- **cardiac problems** (heart related), especially with left-sided, pressing breast pain.
- **respiratory problems** (lung problems such as pneumonia or pleurisy), often breast pain that is worse whilst breathing.
- **gastro-intestinal problems** (reflux heartburn), which might cause pain that wakes you at night or when you are lying flat.
- **rib inflammation** (costochondritis/ inflammation of the costal cartilage), which feels like pinpoint pain on either side of the breast.
- **shingles** (herpes zoster infection), causing an incredibly painful rash from the back to the front.

Fig. 1.16: *Shingles on the back of a patient.*

Fig. 1.17: *In this close-up of the Shingles rash you can see that the rash develops into blisters, similar to those of chickenpox.*

What is breast pain then?

True breast pain can be divided into 5 types:

1

Lateral pulling pain

This is a pain that extends from the armpit towards the nipples along the sides of the breasts. It is normally more common in big-breasted women.

The breasts hang from the pectoral muscle in a fine, fibrous coating. Imagine the muscle as a coat hanger and the breast as a heavy jacket hanging on the coat hanger. The coat will drag on the hanger and, in the same way, the breasts pull on the attachments below. This pain is usually worse at the end of the day and is related to poor fitting bras which will not support the breast adequately from below.

2

Burning shooting pains

These types of pains, particularly around the nipple and associated with an itchy feeling, can be due to duct ectasia. This is a dilatation or widening of the small milk ducts. These breast ducts are lined with very fine hairs and inflammation in the ducts is similar to asthma or emphysema in the lungs. It causes debris to be trapped in these fine hairs, increasing the risk of infection. The causes of duct ectasia are smoking and pollution. Patients can experience burning discomfort in the breast and occasional shooting pains. Some complain of hot poking pains in the breast.

Topical antibiotics dabbed on the nipples may help for this type of pain.

3

Isolated medial and lateral pain on pressure (chest wall pain)

This is known as costochondritis or Tietze syndrome, and accounts for 10% of breast pain. Men and women both suffer from this complaint but, because the breasts are above these joints, most women perceive the pain as breast pain. The pain is localised to the breast and feels like particular tenderness over the costochondral junction (the ribs under the inner part of the breasts). The actual cause is not known but may be due to a viral infection or may be related to or exacerbated by excessive muscle strain (sport). Treatment is to abstain from doing the implicated sport for a few weeks and take NSAIDS (non-steroidal anti-inflammatory drugs).

4

Full, heavy uncomfortable breasts

(Feels like one needs to feed a baby.) This type of breast pain is hormonal and is most commonly caused by a change in the female hormone levels in the breast. It can be cyclical and related to the menstrual cycle, or non-cyclical and may be related to a hormone called prolactin (a stress hormone). Most commonly the change in the breast tissue around the time of your period increases the amount of blood in your breast as well as the amount of water retained by the breast. This can make the breasts feel heavy and full, causing pain down the side of the breast, and throughout.

When the pain is not related to the menstrual cycle, it may be caused by stress (either physical like chronic disease, emotional or mental) which results in transient changes in the prolactin levels. Women who are patients in intensive care units also have raised prolactin levels. Prolactin is a fascinating hormone which is difficult to "switch off" once activated. Transient increases in prolactin may not be reflected in blood levels tested but may result in a full, heavy discomfort in the breast. Women who have breastfed say the pain is similar to the discomfort experienced when the breast is full of milk. It is important to check thyroid function, as an underactive thyroid causes similar breast discomfort, and consider any medication (such as some anti-depressants) which can affect prolactin levels as well.

Conventional pain medication does not work very well for this type of breast pain. Successful management of this breast pain depends on understanding the cause and trying evening primrose oil and vitamin B6 combinations as the first line of treatment.

Fibroadenosis is not breast pain. It is a lumpiness seen in the breast confirmed by a needle biopsy. However, a large number of women with lumpy breasts do have frequent breast pain.

5

Mondor's disease

Mondor's disease is a rare and unusual cause of breast pain associated with a cord-like structure running over the breast. It is pain in the lower or lateral aspect of the breast from a thrombophlebitis (inflammation of a vein) crossing within the breast tissue. Anti-inflammatory drugs (NSAIDS) and aspirin may give relief. This unusual condition can be associated with an underlying breast cancer, so it is important to ensure appropriate breast investigations before treatment.

What is breast pain then?

How can I treat this pain?

First determine what kind of pain it is and bear the following principles in mind:

Alternative contraceptive medication may solve the issue of breast pain - consult your doctor.

- If your breast pain does not settle, please see a general practitioner or specialist with an interest in breast health.
- Ensure that you have been for age-appropriate investigations such as an ultrasound and/or mammogram and any necessary blood tests.
- If your breast pain is affecting your day-to-day life, try recording your breast pain on a pain chart for four months. This way, you can notice the variations in pain intensity over the menstrual cycles for example, which may help your treating doctor identify the cause.
- Poorly fitting bras or old bras, combined with large breasts, may result in pain under the breasts and down the side of the breast, particularly as the day progresses and gravity takes its toll on the breast ligaments.
- Medications that can be tried at home include vitamin B6 (pyridoxine) and gamma linolenic acid (GLA, evening primrose oil). GLA in particular tends to stabilise breast epithelial activity via hormonal metabolism. The required dose of evening primrose oil is 2-6 capsules daily and should be taken in combination with vitamin B6. Treatment should be continued for a minimum of 3 months. In some studies, over 70% of patients had a good response.
- If you are on the contraceptive pill, or a suitable candidate for it, your doctor may suggest an alternative contraceptive pill after checking the relevant tests.

Previously, breast pain was treated with strong hormonal manipulative medication such as danazol or bromocriptine. However, the side effects of these drugs (weight gain, growing facial hair) often outweigh the benefits.

Breast pain that does not respond to supplements may be treated with low dose anti-oestrogen medicines such as tamoxifen or Fareston (although these do not have FDA approval in the USA for this use). Tamoxifen taken orally at very low doses is incredibly useful in pre-menopausal women. Alternatively, some studies suggest crushing these SERMs and mixing them in KY jelly, then applying them topically to the breast tissue.

In post-menopausal women, a related drug called raloxifene (Evista) works in a similar way and may help decrease breast pain. This medication may have the added benefit of decreasing the risk of breast cancer, as will tamoxifen.

Would surgery help?

Breast pain that does not respond to any treatment should never be treated with surgery. After all, a doctor does not treat a headache by chopping off the patient's head! Even after surgery, 50% of women who have breast surgery for breast pain continue to have continuous pain post-surgery. The only type of breast pain that is improved by surgery may be the lateral pulling pain felt mostly by large-breasted women where a breast reduction might be beneficial.

Remember that breast pain with an associated normal mammogram is almost never associated with breast cancer.

does it fit? getting some support...

It is estimated that 80% of women are wearing the wrong size bra. Is this you?

Wearing the wrong size bra can lead to increased pain in the neck and shoulders as the breasts are inadequately supported. One of the most common causes of breast pain is poor support and women are often too shy to look for the correct size bra. As a result, their bust is unsupported from below and all the support comes from the shoulder straps which causes welts and indentations in the shoulders.

This lack of support can also lead to a large portion of the breast hanging down on the skin below the breast causing an area of warm moisture to form through the day. This results in an excellent breeding ground for bacteria and fungi to grow - often seen as a white or red discolouration under the breasts. This can eventually lead to darker discolouration, (pigmentation). An inappropriately tight bra can also cause problems, such as constriction of the respiratory muscles (the muscles that help us breathe) causing not only breathing problems but back and shoulder aches too.

"Approximately 80% of women wear the wrong size bra... Are you one of them?"

Getting the right fit...

your bra doesn't fit properly if:

- **The underband at the back is riding up:**
  If the underband pulls up at the back or lifts up when you raise your arms it is too loose.
- **The shoulder straps are digging in:**
  A vast majority of the support for your breasts should come from the underband - support from below - not suspension from above. If your band is too loose, the straps will dig into your shoulders and you will be left with red marks there.
- **The centre between the cups lifts away from the body:**
  The centre should lie flat against your body supporting and separating your breasts. If it does not, your cup size is probably too small.
- **The straps do not lie parallel to each other but stretch outwards:**
  This normally means that your underband is too tight and is overstretching at the fastening.
- **Some of your breast spills out over the top of your bra:**
  The classic 'four-breast' look! The cup is dividing your breast tissue because your cup size is too small. Often women are alarmed to find they are actually a DD, E or F rather than a C cup.

Getting the right fit...

your bra will fit properly if:

...you follow this easy plan:

- **Get some help:**
  Most lingerie shops and department stores offer a bra-sizing service and you should take them up on it. This is usually an obligation-free service.
- **Budget for a good bra:**
  If you are worried about the cost of a bra take some time to see how much you have spent on clothes in the last six months and how many times a week you wear the items. Your bras are the items that are worn most often in your wardrobe, yet it's the one item women are most reluctant to spend money on. Spoil yourself and your bosom!
- **If you want to have an idea of your size before you shop:**
  Know your underband size and cup size. Even though South Africa follows metric measurements, bra sizes are still measured in inches. To convert centimetres to inches, multiply by 2.5.

  First, take a soft measuring tape and put it around your body just underneath your breasts. Take a deep breath in and pull the measuring tape snug to your skin. Record this measurement (e.g. 31 inches) and then add 5 to it, rounding up to the next even number (31+5= 36 inches). This is your underband size. The underband size is commonly what is known as 32;34;36;38.

  Next, measure around your chest, over the fullest part of your breasts (normally at the nipples) when you are wearing a bra. Record this measurement (e.g. 38 inches) and subtract this measurement from your underband size (38 – 36 = 2). This will correspond to the cup size you should try first.

  0 = **AA cup** 1 = **A cup** 2 = **B cup** 3 = **C cup**
  4 = **D cup** 5 = **DD cup** 6 = **E cup**

Remember that this is only a rough guide of your size. Once you've measured your bust, you should then shop around and try on sizes one above and one below the size you have measured. As you adjust the underband size up (e.g. 36 to 38) come down by one on the cup size (e.g. 36D down to 38C). Not all bra styles will suit all breast shape, so it may take some time to find a bra that suits and fits you. When you do find the right bra, it should be comfortable and not dig into your skin anywhere. It should support your breasts well and give you a good shape. A good bra can give you as much shape and lift as expensive plastic surgery!

I was born with it...

Every woman is different in her personality, her looks, her shape... and her breasts. Breast size and shapes are all different including difference in size of each breast Occasionally a person can be born with an abnormality of the breast. Most of these do not require surgical correction.

"Every woman's breasts are unique."

Breast abnormalities from birth

Nipple Inversion

The nipple may fail to evert at puberty giving rise to an inverted nipple. This is a common condition and not abnormal. It is most often bilateral. If there are no symptoms, then no treatment is needed. Women can even breastfeed with inverted nipples but may require a nipple shield. If an inverted nipple does become a problem, or if you are unhappy with it, management of congenital nipple inversion can be undertaken either by manual techniques or via surgery.

However, if a woman suddenly develops an inverted nipple in adulthood, it needs to be investigated as it may signify an underlying problem such as a cancer.

Fig. 1.18: *Inverted nipple.*

Accessory Breasts

This is a common condition and, if you look carefully, you might even have it! (One in five women does).

Supernumerary, additional breasts or nipples may develop along the milk line or milk streak. This phenomenon is a reminder of the embryology of the breast in more primitive animals. They follow in the path of a line going from under the arm, over the nipple and down to the groin. In practice breast tissue or nipples most commonly develop above the waist.

During pregnancy and lactation this extra breast tissue may enlarge and even produce milk if a nipple is present. The tissue can also become painful around the period because it is stimulated by the same female hormones that control the breast. If this type of tissue causes concern, it can be removed surgically.

Unusual breast shapes

The breast may have a constricted base resulting in the breast looking like a cone. This is caused by a tuberous breast anomaly. Failure of one breast to develop can be associated with lack of the underlying pectoral muscle to develop as well, called Poland Syndrome.

Any significant differences between both breasts should result in seeking advice from a specialist breast unit. Timing with regards to surgery needs to be when the breasts have finished growing.

Amazia (absent breast)

Occasionally something goes wrong with the embryological development of the foetus in her mother's womb, such as a genetic abnormality or if the pregnant mother is exposed to some dangerous factor such as a toxic drug or a virus, which may later cause her daughter's breasts to fail to develop. This can be managed by reconstructive surgery when the girl is old enough. It is very important to ultrasound the normal breast and to ensure that there are no masses making one side seem bigger. No surgical removal of the normal breast should be carried out.

Fig. 1.19: *Amazia in an adult female.*

Breast enlargement in the baby

Breast abscesses can also occur in female sex hormones (oestrogen) when crossing the placenta in increased quantities, prior to birth. This results in a breast bud in the young infant which may even produce milk (called "witch's milk"). It is essential that these small breast buds are not squeezed or biopsied, as this can affect normal development of the breast. No treatment is required, and the problem usually disappears within a few months after the birth.

These are not related to the breast tissue and are not breast cancer.

Prepubertal breast development

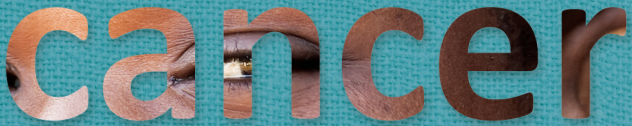
This is a type of premature breast development which often occurs on one side only and it is occasionally seen in young toddlers. The breast will develop without any problems in the future, so no treatment is required except for firm reassurance that all is fine. Open surgical biopsies will interfere with breast development. Investigations should be done to check for other signs of secondary sexual development occurring early and to find the reason why.

cancer (‘kænsə),

n.

1. (Medicine / Pathology) any type of malignant growth or tumour, caused by abnormal and uncontrolled cell division: it may spread through the lymphatic system or blood stream to other parts of the body.
2. (Medicine / Pathology) the condition resulting from this.

breast



who gets breast cancer?

Any woman (and even men) can get breast cancer which is why it is so important to know about the disease and all potential treatments. It is often not clear why some people get cancer and others do not, but the more we learn about the disease, the better we can get at curing it.

"Everyone is at risk of getting breast cancer."

Who gets breast cancer?

What is cancer?

It is a fact of life that we are all born we grow and we all eventually die. The cells that make up our bodies are just the same. Each cell in our bodies also has its own life cycle which involves multiplying, growing and eventually dying in a process called 'apoptosis'. In cancer, some of the cells of the body begin to misbehave and do not carry out the normal cycle as they should. They continue to grow and multiply, but they do not die. Eventually they continually spend all of their time multiplying and none of their time working, as a normal cell does, so that they eventually grow into a tumour. This tumour then invades the normal cells and tissue making new blood cells to feed its growth and enabling it to spread elsewhere.

Eventually the tumour decides to break up and uses the bloodstream and lymphatic cleaning system of the body to travel to more distant parts of the body, such as the brain, the bones, the liver and the lungs. There, these small cancer cells (bits of the broken-up tumour) will settle and begin to multiply in their new position, destroying the normal functional tissue in that area too. These are called 'metastases' and the increase in these tumours will eventually lead to death.

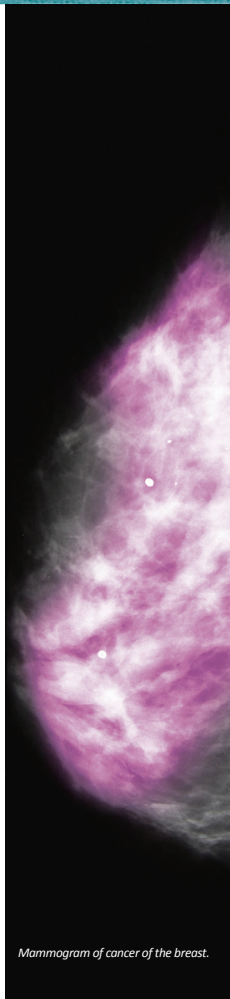
Is breast cancer common?

Breast cancer is the most common cancer affecting women worldwide. There is no adult woman, population or culture that is free from the risk of getting breast cancer. The rates of cancer vary throughout the world, from one in eight women in the United States to much less in Japan and the Far East. There are no accurate statistics for the prevalence of breast cancer in South Africa, but we think they may be similar to those in the United States as we have a similar diet and lifestyle to Americans.

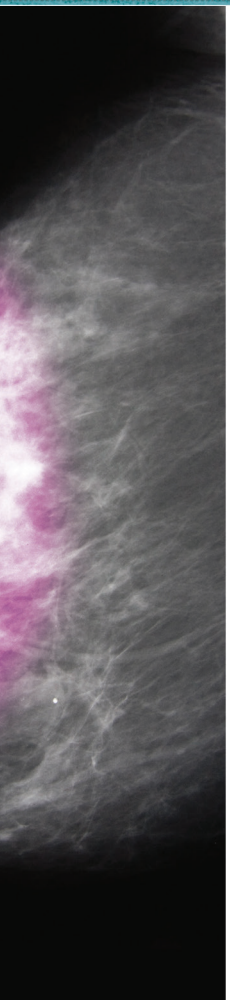
Among cancer related deaths for women worldwide, breast cancer is the most common, although there has been a dramatic decrease in cancer deaths over the past forty years due to increased awareness screening and more available treatment options.

Who gets breast cancer?

Anyone with breast tissue can develop a breast cancer. Women of every age are at risk, from the very young to very old, all races and cultures, people from all walks of life, rich or poor, healthy or unhealthy, insured or uninsured - even men can get breast cancer! A woman younger than 40 has a risk of approximately 1 in 230 of getting breast cancer, with this figure rising to 1 in 29 after the age of 65.



Mammogram of cancer of the breast.



Most women (more than three quarters) do not have any of the factors that put them at high risk for breast cancer. 25% have family history of breast and other cancers on both the father and mother side of the family. With the remaining 10% having recognized genetic mutations. Breast cancer happens when your cells decide to stop behaving normally and start multiplying irregularly and progressively.

Many women who get breast cancer ask "Why me? What did I do to cause this?" An understandable question, but the answer is: "Nothing." There is no single cause of breast cancer and no single event that will bring it on. There is nothing any women does or doesn't do to cause breast cancer. It is simply an unfortunate event of life which we can manage through early diagnosis and treatment.

How treatable is breast cancer, if caught early?

All breast cancer is treatable and there are good options for management and cure irrespective of the size of the tumour when found. When breast cancer is detected early, before it invades tissues outside of the breast, the cure rate can be as high as 95%.

Breast cancer that has not invaded the breast tissue but is still in the ducts (known as carcinoma in-situ) has a 99% cure rate. Surgery alone maybe appropriate enough treatment, or even medication alone If cancer invades the breast tissue, but does not spread to the glands, and it also has a very good prognosis. The treatment of cancer is tailored more and more to the 'personality' of the cancer i.e. how it behaves and what it responds to, not the size alone nor age of the patient.

Do chances of survival drop if caught later and, if so, by how much?

When cancer remains confined to the breast it is easier to treat, and chances of recovery are greater. Patients do not die of cancer when it is confined to the breast. It is the spread of cancer to the brain, bones, liver and lungs which will eventually cause problems. The aim of breast cancer awareness and screening is to catch breast cancer early before it can escape the breast, break through the lymph glands under the arm (the security guards of the breast) and spread from there to the rest of the body.

Like a wave of terrorists, cancer cells can hide away and reappear in the future. Many of the more aggressive types of treatment for breast cancer, such as chemotherapy, are based around catching and killing these spreading cells. Even if the cancer has spread to the bones, with various oncology treatments, up to 75% of patients could be living five years after diagnosis.

what is my risk of developing breast cancer?

All women are at risk of contracting breast cancer. After all, statistics show that breast cancer affects one in eight women in the world today. Risk factors are things that one may have little or no control over (non-modifiable), such as family history or race; or modifiable (weight; alcohol consumption).

Also, it is important to remember that three-quarters of women who get breast cancer need not necessarily be of increased risk, so there are many factors around breast cancer which we don't yet fully understand. Even if you have all these risk factors, it only highlights the need to be careful and check your breasts regularly.

It does not mean you are going to get breast cancer.

So, what are the risk factors for breast cancer and how can we deal with them?

"Breast cancer affects one out of eight women in the world today."

Risk factors

Risk factors may be separated into two different groups:

Risk factors that cannot be controlled:

- **Ethnicity:** White women have more of a risk of getting cancer than black or Asian women. There is nothing you can do to change a risk factor like this.
- **Age:** The risk of getting breast cancer increases with age. At thirty your risk of breast cancer is 1 in 2000, increasing to 1 in 50 at age fifty and to 1 in 10 by the age of eighty years. This is the thinking behind screening programs starting at either 40 or 50 years with a yearly breast exam and mammogram. We do see cancers in young woman so if you feel a lump or have a concern; it is critical to have a clinical assessment and ultrasound.
- **Family history:** There are breast cancers that run in families and in different minorities. Some families carry a gene that specifically increases the risk of breast and ovarian cancer (BRCA1 and 2) and we know that these are commonly seen in Ashkenazi Jews and white Afrikaner women. In addition, family history of clusters of cancers, like bowel and prostate cancer, through the generations may point to an increased risk of breast cancers too.
- **Pregnancy:** Women who do not have children (nulliparity) or women who have children when they are over thirty have a significantly higher risk of getting breast cancer. We know that a lot of breast cancers are driven/fertilised by hormones, and the hormonal changes that occur during pregnancy can have a lasting effect on a woman's chances of getting breast cancer. Having one child at a young age does help protect against cancer, but after the age of 30, the risk is the same whether a woman has children or not.
- **Breastfeeding:** After birth, breastfeeding one's baby for a considerable length of time has a protective effect on a woman's breasts, but it has only a marginal effect if a woman breastfeeds for one year or more. Breastfeeding may provide cancer-preventing benefits, whilst benefiting the baby with increased immunity, providing good bonding and long-term effects on weight control and intelligence also being suggested as breastfeeding pros.
- **Early-onset puberty (before 12 years of age) and late menopause (after the age of 55):** The longer a woman's body is under the effects of female hormonal fluxes during her lifetime, the higher her risk of contracting breast cancer.

Risk factors that can be avoided:

- **Obesity:** Having a body mass index (BMI) over 30 after menopause puts a woman at increased risk of getting breast cancer. Increased weight also puts a person at greater risk of suffering from a number of other conditions such as diabetes, high blood pressure, cholesterol and joint problems. It is never too late to change your diet, increase your daily exercise and make it a goal to lose a few kilos and keep your BMI ideally under 25.
- **Alcohol:** Women who classify themselves as heavy drinkers are also at increased risk for breast cancer. This means that they are consistently drinking more than four units of alcohol a day or seven drinks per week. That nice glass of wine you have in the evenings is normally classed as two to three units and a bottle of beer is 1 ½ units. Remember that heavy drinking is not the same as "problem" drinking and that it is very easy to become a problem drinker without realising it.
- **Hormone Replacement Therapy:** Studies in the USA and in the UK have shown that women are at increased risk of breast cancer if they have been taking most types of HRT for a prolonged period of time (more than five years). It is also true that the closer to menopause that a woman starts on HRT, the higher the risk of breast cancer. The actual math shows, if 30 in 10,000 menopausal women get breast cancer, 38 in 10,000 women taking HRT will get it. The risks have to be weighed against the potential benefits of HRT so speak to a sympathetic gynaecologist who may be able to suggest varied methods of dealing with menopause.
- **Hormonal Contraceptive:** Recent studies show that taking contraceptive pills in your 40s also increases breast cancer risk; there is no data to show cancer risk if taking contraception in your teens, twenties or thirties.

Cancer knowledge is about lifestyle change but more importantly changing your attitude and this starts with education about breast health and taking responsibility for your body.

cancer runs in my family... does that mean I will get it?

The old adage that you can choose your friends but not your family holds true when looking at your cancer risks.

Today people live longer than at any other time in history. For instance, in the 19th century more babies died from diseases, men and children died prematurely working in the mines, plagues carried off the frail, women died in childbirth, and 40 was considered a ripe old age!

So, even though cancer did exist back then, and people still died from it, the death toll from cancer did not seem that high because people died of many other things long before they were ever at risk of getting cancer. Today more people live until well into their 80s and 90s, with 1 in 4 people over 70 having some type of cancer. This is not due to an increase in cancer, but rather due to more opportunities in our body's cells to become abnormal and the inability of our bodies to kill or clean out these abnormal cells.

It is not uncommon for more than one member of a family to get cancer. Cancer can occur in families:

- By chance (most common)
- Because family members have risk factors in common (such as environmental and lifestyle influences)
- Because there is an inherited faulty gene or sequence of genes causing an increased chance of cancer (uncommon)


"It is not uncommon for more than one member in a family to get cancer."

Faulty genes in my family?

Trying to find information about cancers in your family and how to deal with them can be difficult. It is important to know your family history on both your mother and father's side of the family. Even the faulty gene for 'female' cancers like breast and ovary can be inherited from your father.

Only a small amount of cancers (up to 10%) are due to a faulty gene which is inherited from either your father or mother. This is called a familial cancer. This can also be described as an inherited risk of cancer. The faulty gene increases the risk of cancer, but it certainly does not mean every family member that has this gene has to develop the cancer.

Clues that the cancer that runs in your family may be due to an inherited faulty gene include:

Number of relatives from your bloodline who have had cancer

The more blood relatives who have had cancer (particularly clusters of breast, ovarian and/or bowel/melanoma/thyroid cancer) the more likely the cancer is due to an inherited faulty gene.

A young age when the familial cancers occur

The younger a person is when they develop cancer (compared to the expected "norm" in the general community) the more likely it is to have been caused by inherited factors.

Pattern of different cancers in the family

The type of cancer a person has and who it affects in the family is important. In some families all patients may develop the same type of cancer, such as breast or bowel cancer. In other families, different sorts of cancer will cluster together (e.g. breast, ovarian or bowel cancer, and cancer of the uterus). This happens because some faulty genes can cause more than one type of cancer.

The more clues that are present, the more likely it is that there is an inherited faulty gene in the family causing the higher than usual chance of getting cancer. But this does not mean you will develop the cancer, just that you have an increased risk and need to be more vigilant with screening.

What should I do if I have a family history of cancer?

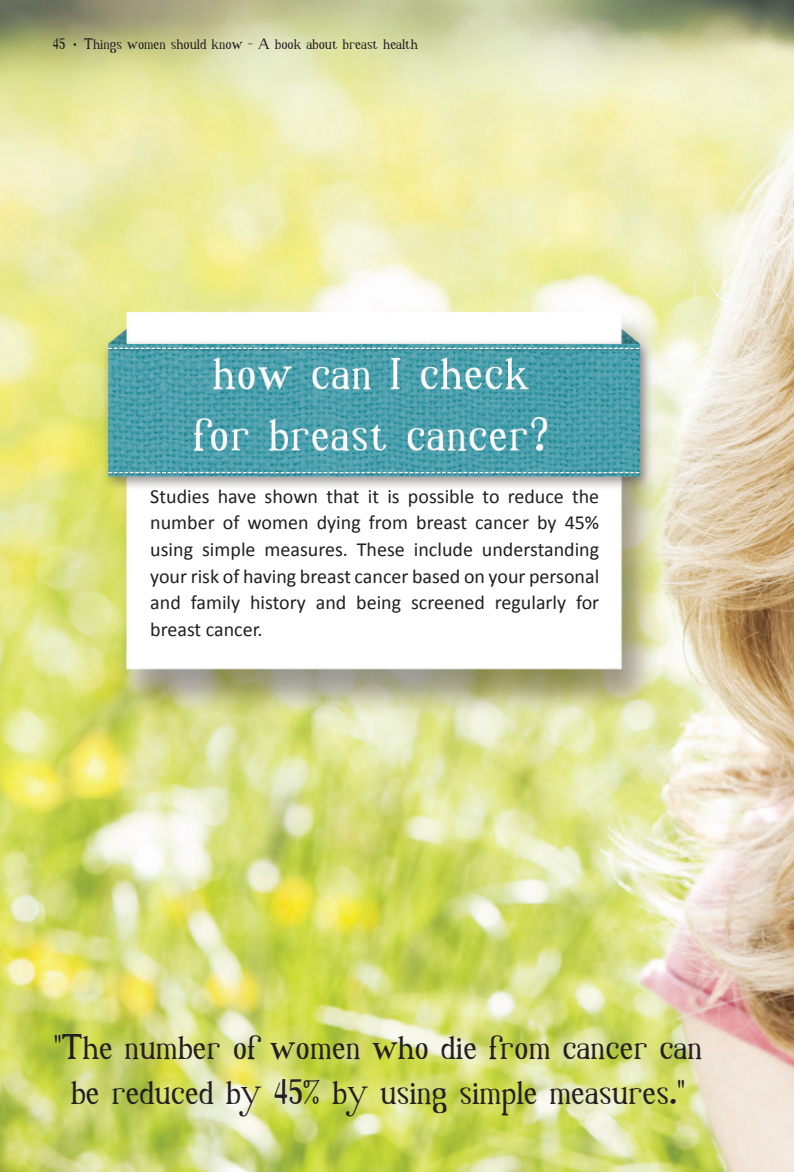
Remember, you can't change your family genetics, but knowing about all the cancers in the family is important. Try to find out what types of cancer your relatives have had and how old each person was when they developed the disease as well as who was not affected by cancer. Family history of cancer can change over time as other people become part of the family. Different cancers in the family are often due to a combination of genetics and may not be a single faulty gene. This is a bit like a lock combination for a family, such as "3;2;1" and may not be able to be detected by genetic tests that can't work out combination of genes. It is important to keep the doctor updated about any new cancers diagnosed in the family.

Family counselling and genetic counselling services

Genetic counselling services give people information about their chance of developing cancer based on their family history. These specialists will spend time explaining how to be more vigilant with screening for cancer and how modifying diet and lifestyle factors may decrease risk. It may be that genetic testing is possible, particularly if a member of the family who has cancer can be tested. This is only carried out after the advantages and disadvantages of testing for the patient and their family have been discussed.

After female gender and advancing age, a positive family history of cancer is the strongest risk factor in developing breast cancer. In most cases there is not a long and extensive history of cancer present (more than four relatives in the same line). However, in some families there is a strong hereditary line of cancer characterised by cancer at a young age; cancer in both breasts, as well as clustering of different cancers of the breast (primarily ovarian and male breast cancer). Only less than 8% of all breast cancers will be due to these genes, which are known as BRCA1 and BRCA2. Others, which are less well known, are TP53, PTEN/MMAC1 and STK11. There is testing available for the BRCA 1 and 2 genes for patients with a significant family history.

Managing patients and families who have a strong family history, or a positive genetic test is highly specialised and requires a team approach to management. Close communication between breast specialists and genetic specialists and discussions about screening, early detection and risk reducing surgery should be managed only in a specialist unit. Risk reducing surgery is not "aesthetic surgery" but rather reconstructive.... and is not as simple as "Barbie breasts for life".



how can I check for breast cancer?

Studies have shown that it is possible to reduce the number of women dying from breast cancer by 45% using simple measures. These include understanding your risk of having breast cancer based on your personal and family history and being screened regularly for breast cancer.

"The number of women who die from cancer can be reduced by 45% by using simple measures."

How to check for breast cancer

What does screening involve?

Early detection is the key to a favourable cancer outcome. If a cancer is detected early, the risk of spreading is lower and there is a better chance that it can be treated. The later a cancer is detected, the more intensive treatments may be required to prevent further spread and the higher the likelihood of dying from the cancer.

There are many measures you can take to detect cancer early and decrease your risk of dying, including breast self-examination, clinical breast examination by your doctor or breast specialist, mammography, ultrasound (breast sonar), and magnetic resonance imaging (MRI).

Ultrasound

Ultrasound (breast sonar) is an imaging method used to look at the tissue inside the breast. It uses high-frequency sound waves to echo back a picture of the structures inside the breast. It can be used to evaluate abnormalities found on clinical examination and mammography. Ultrasound is particularly good when examining breast tissue of younger women and assessing breast masses.

The accuracy of an ultrasound is highly dependent on the skill of the technician or doctor carrying out the test. This may mean that tests need to be repeated if ultrasound readings do not fit clinical findings.

Magnetic Resonance Imaging (MRI)

MRI is another method of imaging the breast using a different form of modern technology. A magnetic field provides the doctor with a three-dimensional image of the breast. It also requires the injection of a dye into your blood, which will help the MRI distinguish normal tissue from abnormal tissue. This is an expensive test and adds an extra dimension to assessing disease and looking for extent of cancer. It is of particular value in young women and in dense breasts.

MRI is useful in patients who have inherited disorders such as BRCA genes or a higher than normal risk of breast cancer with 'difficult to read' breasts.

Breast Self-Examination

During breast self-examination, a woman takes time to examine her breasts and gets used to the way they look and feel. She checks her breasts for any differences which might include a change in the size or shape of the breast, irregularities in the skin, or changes in the nipple particularly when lifting one's arms, and any lumps in the breast or in the armpit. It is an easy way for women to familiarise themselves with their breasts and it is free.

We recommend you carry out breast self-examination monthly, at the same time in your cycle (if still menstruating), or on the same day each month.

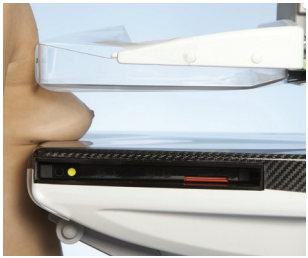
Clinical Breast Examination

A clinical breast examination is an examination performed by a healthcare professional. It includes a physical examination but should also include a history where the doctor discusses clinical concerns. Little evidence exists that clinical breast examinations plus mammography is better than mammography alone, but contact with your doctor or breast specialist provides an opportunity for you to discuss your health or breast related concerns allowing for a more focused examination also providing you with a channel if you notice any symptoms.

Mammogram

Mammography is an examination of the breast using a low dose of X-rays to detect any abnormalities within the breast. You stand beside the mammography X-ray machine and place your breast on a pad, where it is pressed down by a Perspex plate which splays the breast out so that the greatest amount of tissue can be examined. An X-ray image is taken of each breast from at least two views. Studies have shown that annual mammograms significantly reduce the number of women over the age of 40 who die from breast cancer by ensuring early detection. The radiation exposure from mammography is less than experienced in a shopping mall.

Older mammography uses photographic film to record the pictures, but newer, better technology allows digital mammography, where the picture is recorded by a computer and can be better interpreted. This is particularly useful in women with dense breast tissue and younger women before menopause (still having periods).



when should I start checking for breast cancer?

Screening guidelines used to be similar for all women, irrespective of their risk factors. We now know that some women are more at risk than others, and that cancers can occur in young woman therefore different patterns of screening are advised for patients depending on their risk profile and clinical concerns.

"Different patterns of screening are suggested for each individual."

What is my risk?

You are at <u>average risk</u> of breast cancer if:

- You have no breast cancer symptoms.
- Never had breast cancer, or another form of cancer.
- You have never had a diagnosis of risk lesions in the breast (atypical hyperplasia; lobular carcinoma in-situ).
- There is no family history of breast cancer in the first generation (siblings or parents) or no history of other forms of cancer.
- There is no history of mantle radiation for lymphoma (a type of upper body radiation given for lymph gland cancer).

Screening guidelines

Screening guidelines are intended to help increase the chances of detecting cancer or unusual cells once they have developed in a person's breast. There is no test or method that prevents cancer developing in the breasts, but it can be diagnosed early to ensure the best outcome for you.

Screening guidelines for <u>average risk</u> patients:

- Examine your breasts each month and get to know what is normal for you.
- After the age of 40, see your doctor or breast specialist every six months for a clinical breast examination.
- After the age of 40 have an annual mammogram and sonar at least every two years.
- After the age of 50 have an annual mammogram and sonar.

You are at above-average risk of breast cancer if:

- You have a family history of breast cancer. This means that your parents, grandparents or children have had breast cancer. It also may include your aunts, cousins and other relatives if there are many cases of breast cancer from the same side of the family.
- You have had a diagnosis of atypia or other risk lesions on breast biopsy. This is a form of benign breast disease but can be associated with an increased risk of cancer at a later stage.
- You have had mantle radiation before the age of 32.
  You have high alcohol consumption, are overweight or have been on hormone therapy for many years.

Simple measures can reap great rewards. Getting to know your breasts and getting into the habit of checking them regularly is very important. Consider booking your next mammogram and sonar for the week after your birthday - that way you will be reminded every year that it is time for a check-up!

Screening guidelines for above-average risk patients:

- Examine your breasts each month and get to know what is normal for you.
- See your doctor or breast specialist every three to six months for a clinical breast examination, starting when you are ten years younger than the youngest age a breast cancer was diagnosed in your family (but not earlier than 25 or later than 40).
- Go for an annual mammogram and sonar starting no later than ten years before the youngest member of your family was diagnosed with breast cancer.
- If you have been diagnosed with atypia, you should start annual mammograms irrespective of age, and see your doctor for a clinical breast examination every three months.
- You may want to consider an MRI scan, which helps with the differentiation of normal and abnormal breast tissue in some difficult-to-diagnose patients.

what are the symptoms for breast cancer?

There is no single symptom which proves that you definitely have breast cancer. Most of the symptoms related to breast cancer are also present with non-cancer related conditions. It is therefore important not to panic if you develop a symptom that you have not experienced before, but rather be sure to get it checked out.

"There is no single symptom which indicates that you definitely do have breast cancer."

What are the symptoms?

If you have breast cancer, will you feel a lump?

Most breast cancers present as a lump in the breast. Women are often surprised by the unexpected appearance of a lump and are unsure whether to have it examined or not. No matter how suddenly a lump appears or how the lump feels, it is very important to see a doctor. The concept that cancerous lumps often feel hard and craggy and grow slowly is not always true and besides you don't have eyes on your fingers, therefore all lumps should be assessed by ultrasound. Leaving a lump to check to see if it goes away is not sensible as eventually all cancer will spread to the lymph glands resulting in one feeling hard lumps under the arm too (axillary lymph nodes /glands). Remember most lumps (80-85%) are not breast cancer (benign). They may be cysts or fibroadenomas. Approximately 10% of breast cancers present without a lump, but all lumps and concerns worth being examined by a doctor.

When does cancer present as a "non-lump"?

Cancer can occur without a lump. If you experience any of these symptoms you should schedule an appointment with your doctor

- Change in the size or shape of the breast (breast can feel doughy thickening or dimpling of the skin of the breast).
- Thickening or ulceration of the skin of the nipple, breast changing to a red colour, eczema of the nipple, itching or scaly patches, nipple turning inwards.
- Lumps noticed under the arm.

Is breast cancer painful?

Unlike most cancers, breast cancer does not usually present with pain. That doesn't mean that if you have a painful lump it can't be cancer, but rather that it is unusual for pain to be the first symptom of breast cancer. The most common way that women discover breast cancer is when they feel a lump in the breast, notice a discharge from the nipple, or a change in the breast shape. The more breast cancers that are detected by a mammogram (before there is even a lump) the earlier a cancer is detected, the easier it is to treat.

Is a nipple discharge normal?

It is true that some nipple discharges are normal (physiological) - take breastfeeding for instance! It is quite common to have a discharge for a while after breastfeeding; the importance is not to squeeze the nipples and continue the stimulus for milk production once stopping breastfeeding. The nipple is a glorified plug and should not be squeezed. Other nipple discharges, whilst not normal, are caused by different things and are not all sinister.

Breast specialists worry most about spontaneous nipple discharges that occur without squeezing; or from one nipple or from just one place on the nipple (no matter the colour). Nipple discharges that have blood in them are also particularly worrying. The best plan is that every nipple discharge should be checked out by a specialist who can help you understand the problem and provide a solution. Remember not to squeeze your nipples - they can respond by producing or increasing a discharge. If you have been squeezing, the first step is to stop, and the application of a topical antibiotic can help.

What changes in the nipple are related to breast cancer?

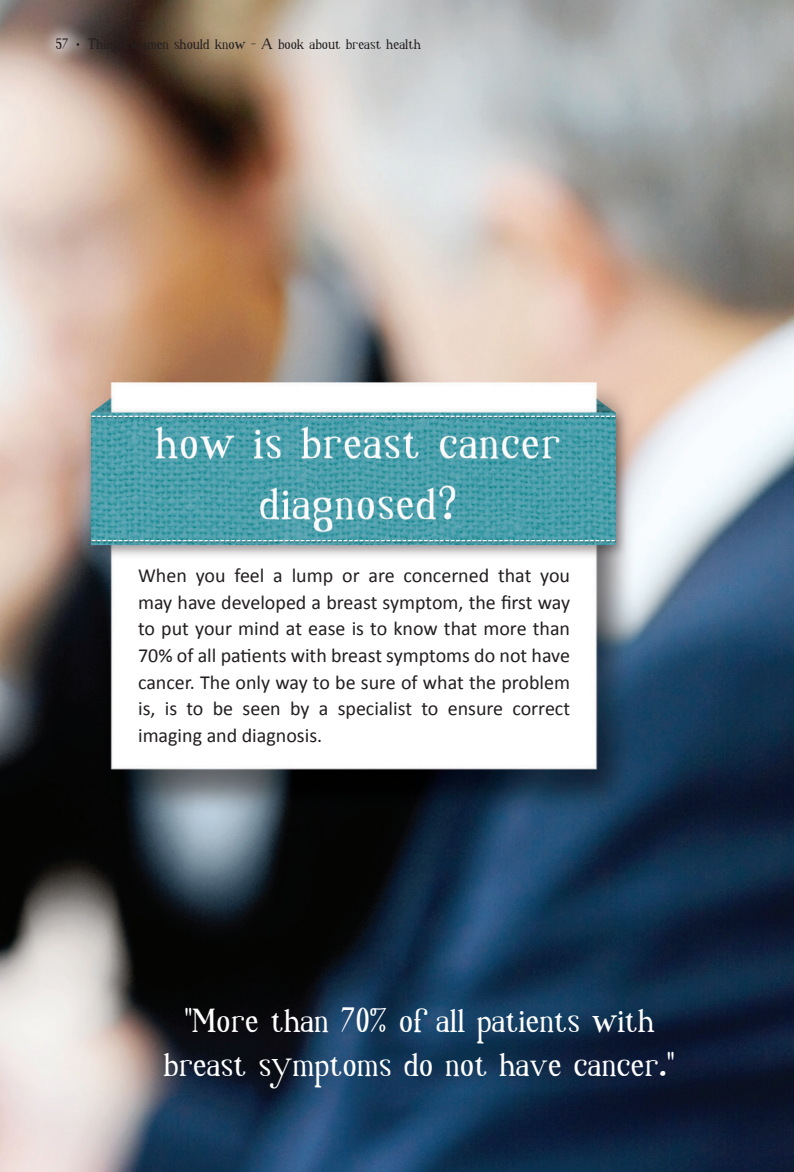
There are two particular changes to the nipple which most likely indicate breast cancer. The first is an itchy, scaly, eczematous rash develops on the nipple itself. A scaly itchy rash on the areola (the coloured part of skin around the nipple) is more likely to be eczema. This kind of rash can cause the skin to peel or become red and raw. It is termed 'Paget's Disease' and is a spread of cancerous or pre-cancerous cells along the ducts to the nipple where they cause a rash or an ulcer on the actual nipple. The second symptom is an inversion or in-drawing of the nipple. Many women have inverted nipples (which is completely normal) but if a nipple suddenly becomes inverted, particularly on one side only, it is a cause for concern and should be investigated.

Whilst all cancer is treatable and potentially curable, it is better to detect cancer as early as possible. Remember to go for screening (mammogram and sonar) once a year after the age of forty/fifty depending what your local screening guidelines are. Also, get your GP or a breast specialist to examine you once a year. Being breast aware also means learning to love your breasts and getting to know them.

You may be the best person to pick up when something is wrong with your body if you learn what is normal for you and what is not.

Fig. 2.1: *A clinical photograph of a woman with Paget's disease. You can clearly see the scaly, crusty skin of the destroyed nipple and the irregular areola outline.*

Fig. 2.2: *Inverted nipple due to breast cancer.*



how is breast cancer diagnosed?

When you feel a lump or are concerned that you may have developed a breast symptom, the first way to put your mind at ease is to know that more than 70% of all patients with breast symptoms do not have cancer. The only way to be sure of what the problem is, is to be seen by a specialist to ensure correct imaging and diagnosis.

"More than 70% of all patients with breast symptoms do not have cancer."

How is breast cancer diagnosed?

What will happen when I am seen by a doctor?

When you visit a general practitioner or breast specialist you are not just going to discuss your current problem, but also to chat about your general health and medical history. It is important to identify risk factors and potential health issues for the future and not to just focus on one aspect of your health. The best way to know exactly what type of lump it is, or the cause of your symptom(s) is to have your general practitioner or breast specialist carry out a triple assessment. This means that every lump or symptom is investigated and managed in the same rational manner.

What is triple assessment?

- ***Clinical examination***
  This involves not just an examination but a careful history of symptoms and risk factors. Your doctor will look at you to see if there are any visible breast changes such as skin thickening, nipple changes or dimples in the breast. After that your doctor will feel the breasts in the same way as you would do in a self-examination. They will feel into the axilla/armpit and all over the breast looking for lumps or pains. It is also important to look at the nipple carefully, checking for any discharge or abnormalities. Your doctor will do a full clinical examination to check for any other changes or abnormalities, including taking your blood pressure.

  If a lump or other abnormality is identified at this time, your doctor will discuss the implications with you. No doctor has X-ray fingers, so any clinical examination will always be accompanied by imaging, which is the next step.

- ***Radiology examination***
  This is imaging done by a specialist radiologist, and double-read by a second radiologist to ensure nothing is overlooked. Normally this includes a mammogram with at least two views (occasionally more views) and an ultrasound of the breast and axilla/armpit. In women under 35 the breast tissue is too dense to rely on mammograms alone so an ultrasound is done as well. An MRI scan is also useful as it offers a different way of assessing the breast tissue.

- ***Pathological diagnosis***
  If there is a lump or concerning area, the radiologist may wish to do a core needle biopsy. A core needle biopsy is best done by the radiologist because they can do the biopsy under X-ray (mammogram) or sonar guidance (i.e. under vision). The old technique of Fine Needle Aspiration (FNA) should not normally be used because it can be inaccurate and does not give enough information to the doctor. Surgical biopsies in theatre should almost never be done; not only are they not the best method of diagnosing cancer but they affect both the ability to treat cancer and impact survival negatively.

  The sample taken (by radiological core biopsy) will then be sent to a pathologist who will cut the core biopsy into small slices and stain them in a special way to allow easy identification of any abnormalities or cancers.

How is breast cancer diagnosed?

How soon will I be told if it is cancer?

Anyone from your general specialist to specialist breast surgeon or radiologist may be concerned about a lump, mass or concerning area on the mammogram, but no conclusive diagnosis can be made without a tissue sample being taken by biopsy. This test takes at least 48 hours. The most important thing to remember is that breast cancer is not a death sentence, neither is it an emergency. By the time a cancer is palpable (at 1 cm) it may have been present in your breast for at least five years.

There is never a requirement for an emergency mastectomy, and the best treatment for breast cancer always starts with a discussion in a multi-disciplinary unit as not all treatment should start with surgery and one may need to begin with chemotherapy rather than considering immediate surgery. So, even if a cancer diagnosis is made you still have time to consider your options and seek advice or another opinion. In fact, not rushing into treatment is the most important advice.

Breast cancer staging

Patients often ask what stage their cancer is once it has been diagnosed and how advanced it is. Although this might seem very important, the character (personality) of the cancer and the way it behaves and reacts to treatment is far more important. For instance, an early stage but aggressive cancer may progress more rapidly if not treated than a large but "laid-back" tumour.

Staging is based on clinical and laboratory findings. Staging systems are used to classify breast cancer to make it easier for the doctor to treat the disease in a logical manner, also ensuring all doctors dealing with breast cancers have a common, standardised base on which to plan their treatment strategies. The most commonly used staging system is the TNM staging system which allows doctors at particular centres to compare diagnosis stages and treatment with other centres all over the world. Thus, "what stage" breast cancer is diagnosed as in South Africa can be compared with those documented in the United Kingdom and United States of America.

With regard to the commonly used TNM staging system, the "T" refers to tumour size, the "N" refers to nodal status and the "M" is used to determine metastatic disease which is what it is called when the cancer has spread beyond the breast and regional lymph nodes to the rest of the body. Metastases are little islands of tumour cells that have spread from the primary cancer and taken root in distant tissues and organs. It is these metastases that eventually cause death. Doctors can detect metastases through a variety of methods once the tumour metastases are of a size that can

be visible on radiological investigations.

Part of the staging is to perform certain tests to determine whether the cancer has spread (M):

- X-rays of the chest check for lung spread
- X-rays of the bones and bone scans check for bone spread
- Brain scans check for brain metastases (MRI)
- Abdominal ultrasound (sonar and CAT scans) check for liver spread
- Blood tumour markers (these should be used as a serial assessment, not as individual values) only when cancer spread has been documented or suspected.

There are four stages of cancer:

- Stage zero, one and two cancers are early stages;
- Stage three cancers are locally advanced (large breast cancers greater than 5 cm)
- Stage four cancers have spread to elsewhere (M+).
- Let's remember biology of cancer rules; so, stage four HER2-positive breast cancer can have good long-term outcomes with the correct treatment. Most breast cancer patients can be treated for many years with oncology drugs.

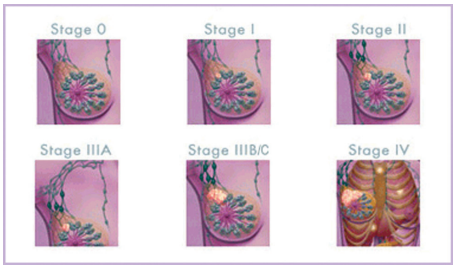


Fig. 2.3: *Breast cancer stages.*

It is your right to learn as much as you want about the cancer. Ask about new treatments and remember that your time with your doctor is just that: YOUR TIME, so take as much time as you need during your consultation. It is your body and your life, so become involved with your health. Remember that there are many new drugs and trials available and options that can be explored for all breast cancers.

can breast cancer be treated? what treatments are available?

If you or a loved one are diagnosed with breast cancer, a lot of time will be spent with doctors discussing various treatment options available to you.

Breast cancer management relies on a firm foundation of the multi-disciplined team. What that means is that every doctor involved in cancer treatment should be speaking to every other doctor and that this should be done in a multi-disciplinary meeting and documented with the feedback discussed with patient. The intention is that, from the start of a patient's treatment, there is an individual plan, tailored to the exact stage and type of breast cancer. The team of people involved in care includes the breast surgeon, the reconstructive (plastic) surgeon, the radiologist who carries out mammograms and biopsies, the oncology and radiation specialists (oncologists), as well as a psychologist and survivorship specialist. The most important person is the patient navigator; usually a nurse whose role is to ensure that the patient and family has support and guidance along all aspects of treatment.

Breast cancer management involves treatment of the whole body, not just the breast as we know that cancer cells can be found in other organs. It is important to eradicate the cancer, not just from the breast, but from the whole body. This is done using four different types of therapy, often managed by different members of the multi-disciplinary team. Team work to ensure the correct order of treatment is critical to ensure excellent patient outcomes.

"Each patient should have a unique treatment plan, tailored to their individual needs."

Treatment principles

Therapies can be divided into those that affect the breast, to get rid of the cancer present in the breast, or in the nearby lymph glands, and those therapies that seek out and destroy breast cancer cells that may be present elsewhere in the body.

The therapies are:

Whole body treatments to find any cancer that might have spread to other parts of the body:

- Oncology
- Chemotherapy
- Receptor-dependent treatments (hormonal)
- Target treatments
- Immunotherapy (usually drugs that manipulate the immune system)
- Radiation

Local treatments to the breast:

- Radiation
- Surgery

Each type of treatment can be considered independently, but remember that in almost all cancer management the patient will have at least one local and one whole body treatment. This does not mean that they may require all the different treatment methods. It is dependent on the type of breast cancer, patient choices and options made available by the specialists in the MDM.

When you have breast cancer, or think you might be at risk, it is important to see a doctor who is a breast cancer specialist and can advise you on the most modern, safest and most effective ways of curing the disease.

Oncology

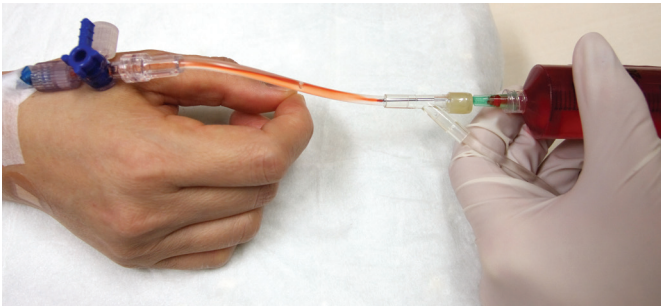
Oncology is the use of medicines to attack and kill cancer cells in your body. The simplest analogy is antibiotics to treat cancer. The concept of chemotherapy is to use cytotoxic (cell killer) treatment to kill cancer cells. These medicines may be given by means of a drip or in tablet form.

We know that cancer cells multiply more quickly than most of the body's normal cells. The cancer cells work very hard and are in the duplicating phase of the cell cycle almost constantly. Chemotherapy finds cancer cells by identifying all the rapidly dividing cells in the body and then attacks them by preventing them from duplicating further.

The treatment works well, but also affects normal cells in the body that divide quickly, such as the cells of the hair and the gut. Because these cells die too, patients can suffer from hair-loss or gut symptoms such as nausea, vomiting and diarrhoea.

The larger a breast cancer grows, and with certain breast cancer types, the greater the chance of it spreading to the rest of the body. Oncology drugs can find and attack cancer cells outside of the breast. This is why cutting out a cancer alone is not good enough and a form of oncology medicine is given to all patients with these types of cancer.

There are genetic methods of determining whether a patient will benefit from chemotherapy, and these use samples of the breast cancer tissue to analyse how aggressive it is. These tests are expensive but may be beneficial in ensuring that the correct patients get chemotherapy.



Understanding breast cancer

Reclassifying breast cancers

Breast cancer is one disease but has many faces. If you stand in a room of breast cancer survivors, the differences in the types of tumours will be as different as the sizes, shapes and personalities of the people they belong to. We used to classify breast cancers into broad groups of those that are hormone sensitive and those that are not. We now classify breast cancers into 4 families. Each family has a different way of living, behaving and generally spreading (leaving home). The first 2 families both have receptors for oestrogen (ER) and progesterone (PR) but are differentiated by understanding the division rate of the cells. This is called the KI and it is determined when the pathologist looks down the microscope and sees how many cells are dividing.

Luminal A breast cancers: are strongly ER and PR positive and have a cell division rate of under 15%.

Luminal B breast cancers: have variable ER and PR positivity and a KI of over 15%.

Doctors can use hormone and receptor blockers to prevent anything encouraging cancer growth or prevent any other potential cancer cells to develop. There is still so much we don't know about receptors, and a lot we are learning, but there are some receptors we know how to block. What we do know is that most luminal A cancers do not need chemotherapy at all and just require some form of cancer cell ER and PR blockade for a length of time.

Oestrogen receptors (ER) and progesterone receptors (PR)
If the cancer is positive for these receptors, it means that oestrogen (the female hormone) can encourage the cancer cells to grow and divide. By preventing oestrogen influencing the cells, drugs are used to block the receptors. The most common medicines are Tamoxifen and blockers called aromatase inhibitors.
Luminal B breast cancers are a large group of cancers that can have KI (division rates varying from 15% to 100%……and some may not require the addition of cytotoxic treatments (chemotherapies). This is where genetic profiling of cancer cells is so important in this group of patients.

The third biological type of breast cancer is a HER2-enriched and can be subdivided into:

HER2-positive, endocrine negative
HER2-positive, endocrine receptor positive (triple positive)

Her2 receptor over-expression
This is the newest abnormality to be found in breast cancer, and has changed the treatment of Her2 positive cancers which were often aggressive and may be ER/PR negative.

biology personalise treatments

All cells have Her2 receptors which encourage growth of normal cells. Some breast cancer cells have too many Her2 receptors which means that they promote the growth of cancer cells. Treatments that specifically target Her2 include Trastuzumab (sometimes known as Herceptin). This can be given with chemotherapy, with ER-blockers or by itself.

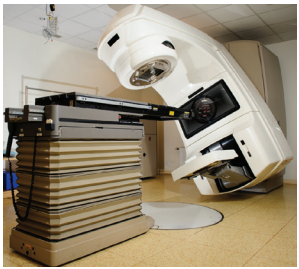
Much of the research into breast cancer care is around finding more receptors so that more medicines can be developed to block them. New treatments are continuously being tried out with current cancer patients and patients are welcome to participate in trials of a new treatment.

Radiation treatment

Radiation is another method of killing rapidly dividing cells such as those seen in breast cancer. It works in a local area, not throughout the body like chemotherapy. Radiation treatment is given by directing a beam of radiation, made up of thousands of X-rays, onto the breast which attack any cells which may be cancerous. It helps to reduce the risk of a cancer coming back after surgery, especially if the cancer is large or close to the rim of normal tissue to be removed. All cancer surgery, even the best, has a risk of leaving behind a few isolated cancer cells. If those cells start to divide again, the cancer can recur. Radiation 'mops up' any cancer cells that surgery may have left behind. There are a number of circumstances that increase the risk of cancer recurrence and in these situations, we know radiation is beneficial.

These are:

- When a cancer is very big (greater than 5 cm);
- When a cancer has involved glands under the arm (lymph nodes), or the glands have burden of cancer cells;
- When any breast tissue is left behind after an operation (radiation is always required in breast conserving treatment);
- When the multidisciplinary team is concerned that the margins of normal tissue around the cancer were too small (not a big enough 'fire break'). If there is true cancer at the margin however, the cancer should be removed with surgery, not radiation.



What treatments are available?

Surgery

In breast cancer management, surgery will take place at some point along the treatment path. Surgery can take place more than once, rarely for diagnosis, and mainly for treatment or reconstruction. There are three areas of surgery every patient will experience and therefore should discuss with their doctor: surgery to the breast, surgery to the axilla, and reconstructive surgery. Some of the operations that may have to be undergone are:

Sentinel Lymph Node Biopsy

Often the first part of cancer treatment, carried out to see if the cancer has spread from the breast to the glands under the arm (lymph nodes). On the day of the operation the patient is injected with a radioactive chemical / or siena (magnetized Fe particle and or blue dye which is not harmful, where the doctor uses a special probe and blue dye to find the first gland the cancer would have spread to the 'sentinel' (which means the guard). The surgeon will make a small cut in the armpit under a general anaesthetic and take this gland out.

If the cancer has spread, it is called 'locally-advanced' and increases the chance of it having spread outside the breast to the rest of the body. Cancer that has spread to the rest of the body is best treated with oncology medication.

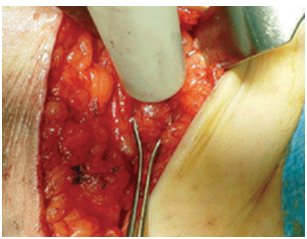


Fig. 2.4: *Sentinel lymph node biopsy.*

Mastectomy

The oldest and most well-known method of surgically treating breast cancer is a mastectomy. This is a procedure where the whole breast is removed from the body, and the patient is left with a flat chest and one scar. Very often, immediate reconstructive surgery can be carried out so that the patient has only one operation and is left with a similar breast mound to before the operation. A mastectomy today is choice and most often done as a skin and nipple sparing procedure.

Sometimes a woman may decide to have both breasts removed, called a bilateral mastectomy. This is only done after intense discussion of all the options, and a realistic assessment of the risk of further cancer in the other breast as well as psychological reasons for the procedure.

Fig. 2.5: *Bilateral mastectomy scars, 21 days post operation.*

Wide Local Excision or Breast Conserving Surgery

Also known as a 'lumpectomy' operation, this can take place if the surgeon believes it is possible to remove the cancer safely without removing the whole breast. This procedure might be elected because the cancer is small, or because the breasts are large enough to allow a big area to be removed. Cancer is never taken out alone, it is always taken out with a margin, which acts as a fire break between the cancer and the normal breast tissue. This precaution reduces the risk that the cancer may come back in the same place.

There are some important safety measures that must be taken when performing breast conserving treatment (BCT). The first requirement is that the surgeon must be sure that all the cancer can be removed safely. The second is that the patient must be willing and able to have radiation treatment, because BCT is not safe if you do not have radiation. Lastly, it is important that BCT is carried out with the help of a surgeon skilled in reconstructive techniques. Normally this is a plastic surgeon or a surgeon with comprehensive training in breast reconstruction.

Axillary lymph node dissection (ALND)

If the cancer has spread to the glands, a minimum of 7 glands (or glands still involved with cancer) under the arm will need to be removed. There will be some pain and stiffness around the arm after the operation, and in 1 out of 10 ladies, the arm may swell up after the operation (called lymphedema) because there is no longer a clear passage for fluid to flow from the arm back to the body. Most often an axillary dissection is done at the same time as the breast operation, through the same cut or a different one. If the sentinel lymph node biopsy is negative an ALND may not be required.

Reconstruction

All patients who have breast surgery should have the opportunity to have reconstruction. Reconstruction is most often done at the same time as the cancer surgery. All woman should have a discussion around breast reconstruction before cancer surgery. As soon as 5% of the breast is removed, a defect is left

Breast reconstruction is not plastic surgery. Once an area of the breast is removed if careful attention is not paid to moving tissue from the surrounding areas back to fill the defect; a permanent dent or deformity is left, and this is difficult to correct post-radiation therapy.

The reconstruction may be part of breast conserving surgery or after a mastectomy, either at the same operation or at a later date. Plastic surgeons can use tissue from other parts of the body to reconstruct the breast and they may also use prostheses, made of materials such as silicon, to give the shape of a breast under the skin and muscle, if there has been a mastectomy. All women have the right to be considered for reconstructive surgery, even if the operation was performed a long time ago.

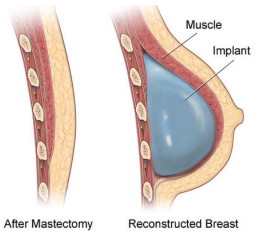


Fig. 2.6: *Breast reconstruction/ implant*

can I afford to be treated? how will I support my family?

A diagnosis of cancer can be one of the most stressful experiences of a person's life. In addition to the worries about survival and treatment, many patients find that they have concerns regarding the cost of medical treatment. In South Africa, 80% of patients are managed within the government health service and 20% have medical insurance which means that they can be treated in private hospitals. Many people find that they have let their medical aid run out or are not covered in a way they thought they were. If you do have medical aid, there are a number of criteria to check in the case of being diagnosed with breast cancer.

The most important thing to remember is that you cannot afford NOT to be treated for breast cancer.

"You cannot afford NOT to be treated for breast cancer."

Can I afford to be treated?

I haven't got medical aid. Now what do I do?

There are many excellent public hospitals and superb academic cancer specialists who work in government hospitals. As with all types of illnesses, knowledge is power. Knowing what management to expect will help you navigate the medical system. Books like this one and the internet can help you get more information to assist in your journey. There are many organisations whose aim it is to help patients who do not have the resources for travelling to a hospital or for managing treatments. See the "Help and Support" page for further details.

Navigation of medical aids

All medical aids, even hospital plans, have to provide some cancer cover. This will include in-patient care but may also include specialist fees, chemotherapy and cover for radiation and medications. The amount and type of treatments covered tends to depend on the medical aid plan that you are on, and it may require you to register for a cancer scheme after diagnosis. Always check when you consider signing up for, or are changing, medical aids to see what type of treatments you are covered for.

Fortunately, medical aids are not allowed to refuse cover for a patient with a pre-existing condition and that includes cancer. Remember to always mention these conditions to your medical aid so that you gain access to appropriate care and do not disqualify yourself.

Check your policy too as many companies encourage good health by funding screening mammography and Pap smears even to patients without day-to-day benefits.

Cancer policies

Even if you have medical aid, some of the initial concerns about cancer are not about survival or treatment; they are about affordability. As a result, many insurance companies offer policies which allow patients to unlock financial resources to bridge the gap between what is covered and what is required.

Disability cover

Disability cover protects your ability to earn a living. It allows you to retrieve money from your policy when you are unable to work for certain periods of

time, whether due to temporary or permanent disability. The policy may be related to your ability to work or your ability to carry out your specific occupation.

Estate planning (making a will)

No one likes to think of a time when they will not be here, but, as they say, 'Death, taxes and childbirth: there is never a convenient time for any of them!'

Your estate is everything that you own, from a house and car to your jewellery and cell phone. If you do not plan for who will receive these valuable items after you die, the government will decide this for you and may leave your family and dear ones without the resources they need when they need them most.

Drawing up a will is a simple exercise and shows how much you love the people around you. It is a good idea to also stipulate who should make decisions for you if you are too ill to decide for yourself.

Saving now for the future

Saving money is not easy, but if you are worried about how you can afford to cope in the event that you get ill, now is the time to start. Once you ensure that you have coverage in place for managing your expenses (such as medical aid and disability, cancer or life insurance) have a look at your monthly budget and look for ways in which you could save a small amount in an emergency fund each month. This can act as a financial buffer when you have a significant outlay, even if it might not be a medical expense, but it will be useful if you do have an unexpected medical diagnosis.

Budgeting also allows you to work towards paying off debts. The greatest fear in most patients is not how to afford future treatment, but rather how to keep up with past debts during a period where you may be unable to work.

If you do get into debt or cannot afford treatment, discuss the problem with your doctors. They may know of charities that can provide financial assistance or they may find a longer, but easier, solution to payments.

will I cope if I get cancer?

Most patients experience psychological problems following a diagnosis of breast cancer. The most difficult period is between diagnosis and surgery or treatment. Breast cancer patients will most likely experience some or most of the following emotions (all of which are quite normal):

- Anger
- Depression
- Anxiety
- A sense of helplessness
- A sense of powerlessness (vulnerability)
- A sense of unfairness

Breast cancer patients will also experience certain fears around their treatment, such as a fear of being sick, a fear of being in pain, a fear of side-effects of treatments and there is fear of disfigurement. It is important for all these fears to be discussed because many side effects of treatment and surgery can be alleviated. Knowing more about the treatment and realistic expectations of the course of management and future will help. Anxiety about disfigurement after mastectomy can be allayed by remembering that reconstructive surgery is an option in most breast cancer cases.

"It is normal to feel a sense of unfairness following a diagnosis of breast cancer."

What about my family?

Breast cancer affects not only the patient but also the patient's family and friends. Open communication between family members is important. Family may need time to understand and support their loved one undergoing such a difficult time. They may also have feelings of helplessness, shock and confusion. They may find it difficult to cope with these emotions and determine how best to support their loved one.

Children and Teenagers

Children whose close relatives (mother, sister or grandmother) have cancer are often aware of a change in their lives and the lives of those surrounding them. Even young children can sense that something is wrong, and this may frighten them. There may be a change in the daily routine or absence of a loved one and this can cause fear which manifests as anger or tantrums. Children may think that they are responsible and will require reassurance that this is not the case. Open and honest communication is best, addressing all fears and discussing their feelings. They may have lots of questions which should be encouraged and answered in a way they will understand.

Telling children and young people the truth about illnesses and cancer at a level they can understand and cope with, will reduce the stress, guilt or fear they may feel. Spend additional time with them and ensure that they have the opportunity to spend quality time with the cancer survivor. Older children and teenagers may be expected to take on additional responsibilities in the family and it is important to remember they are still children who need loving support.

Partners

One of the hardest life events is coping with illness in your partner. There may be feelings of fear, confusion or helplessness and an overwhelming concern which prevents effective communication. The key to navigating this difficult time is to maintain open and honest communication between partners with time taken to

be alone and to openly discuss feelings. Loving words and physical touch will remind your partner of your care. Another source of stress may be a change of roles and responsibilities within the family as well as concerns over financial well-being.

When a breast cancer patient requires long periods of time in hospital, there can be difficulty maintaining good contact and communication. The supporting partner may have a feeling of isolation or uselessness in their contribution to the treatment of their loved one. Often unrealistic expectations may need to be addressed and it is important to maintain life in the same way as it was before the diagnosis.

Intimacy issues between the patient and her partner should be addressed. This can be problematic because each partner must attempt to cope with their feelings. It may be difficult to express love physically in the same way as before, due to physical changes, pain or emotional preoccupations. Finding new ways to express love and gain satisfaction is part of exploring new methods of communication.

Some sexual problems may stem from the treatments for cancer themselves and others may be a result of emotional changes. Here too, communication between partners and involvement of healthcare providers can often help identify problems and find solutions to them. Understanding unrealistic expectations or unhelpful feelings of anxiety or guilt will help the situation immeasurably.

There are many healthcare workers who wish to give help and advice.

The more someone knows about breast cancer and the treatment options available to them, the better equipped they will be to deal with it. It is important for a partner, family, friends and health care practitioners to speak openly and honestly rather than pretending there are no problems or concerns. Sometimes it may be helpful to speak to other breast cancer survivors, a psychologist or a social worker.

what are the side effects of breast cancer treatment?

Because cancer is part of your body, it is difficult to find and kill cancer cells without harming at least some of the normal cells in your body. Most cancer treatments have side-effects, but just as each patient has an individualised treatment plan, each patient may have different responses to the different treatments.

If you are undergoing cancer treatment it is important to keep in close contact with your family doctor and your specialist doctors. They will help you manage the side-effects more easily. The field of survivorship deals specifically with managing the “new you” post initial cancer treatment.

"Cancer is part of your body - it is difficult to kill cancer cells without harming the normal cells."

Side effects of cancer treatment

Side effects of Breast Cancer Surgery

Pain in the region of your operation

Any operation can cause pain in the region surrounding the operation site. This pain should be short-lived and you should speak to your specialist doctor or nurse to help you with painkillers for a limited time. Pain can sometimes be a sign of infection, so it is important to seek advice if the pain is getting worse rather than better.

After a mastectomy, women can sometimes experience 'phantom breast pains' which means they experience feelings of pain or tenderness that appear to come from the breast that is no longer there. This is because the nerves to that breast have been cut as part of the mastectomy operation. It can take some time for the body to learn that the breast is no longer there and to adjust to the sensation of no longer having a breast. This may still happen even when the breast has been immediately reconstructed.

Loss of sensation

In order to remove a breast, the nerves in the skin and tissue below must be cut. This will lead to a feeling of numbness in the area the nerve supplied, normally over the skin of the chest area, and often in the inner aspect of the upper arm. It is normal to lose some sensation in these regions and it can take a number of years for sensation to return.

It is also important to remember if you have reconstruction of the nipple, that the new nipple will not have the sensation of your previous nipple.

Feeling of imbalance

When a woman undergoes a mastectomy, it can take some time for her to adjust to the new feeling of weight distribution in her chest, particularly if she is large-breasted. There may be feelings of imbalance, which can cause compensation in the muscles of the back and shoulders leading to pain. This can often be avoided with the consideration of immediate reconstruction of the breast or breast reduction on the other side. An external prosthesis in the bra can also require some getting used to.

Lymphedema

When a woman undergoes an operation and removal of some of the glands under the arm, it can cause swelling in the arm from retained body fluid. This is called lymphedema. The risk of lymphedema is increased when cancer treatment also includes radiation to the armpit. Approximately one in ten women who have gland surgery will get lymphedema, and this can range from mild swelling to a debilitating condition. A specialist physiotherapist can help with exercises to improve the drainage of the arm, and there are many implements and garments to wear which can also aid the condition. Patients with lymphedema can prevent the situation from getting worse by avoiding lifting heavy weights, exercising the arm and alerting their doctor to any signs of infection in the arm.

Stiffness in the shoulder

Following any major breast surgery, the pain of the operation, together with difficulty moving the arm due to drains and bandages, can lead to stiffness in the shoulder and pain when moving the arm. At its worst this can lead to a frozen shoulder, which may require orthopaedic treatment. Many years ago, patients were advised not to move the arm and shoulder for a long time after a breast operation, but this only made the problem far more common and more severe.

Fig. 2.7: *Lymphedema in patient following breast cancer surgery*

Side effects of Radiation Treatment

Skin changes

During radiation treatment the skin on and around the breast can become very sensitive and tender. It can be itchy or red too. This is because of the radiation and will settle down after the treatment ends. Sometimes the skin colour can change or fine veins ('telangiectasia') may develop over the skin around a mastectomy scar. These are small changes which may be permanent. It is important to discuss any skin lotions or creams a patient might wish to use during treatment with the radiation therapist before using them.

Changes in the size or shape of the breast

In most women, radiation does not affect the breast shape in any way. Sometimes however, when radiation therapy is used after a lumpectomy or breast conserving surgery, the treatment can result in the breast changing in density or size. The breast can become larger due to swelling within the breast during treatment, and in the long-term the breast can become smaller or firmer.

Fatigue

Many women find radiation can leave them feeling tired and fatigued after treatment, particularly later on in cancer management. The fact that the regime requires daily hospital visits can also leave a patient suffering from exhaustion.

Side effects of cancer treatment

Side effects of Chemotherapy

The side-effects of chemotherapy drugs depend heavily on which of the drugs are used and in what combination. Most of the side-effects of chemotherapy occur because, along with killing the cancer cells in your body, the chemotherapy can damage some of your ordinary cells too. The cells that are most frequently damaged are those that divide and multiply often. These include the cells of the hair and skin and cells of the gut and intestine.

More serious side-effects can include a depressed immune system with an increased risk of infection, and easy bruising or bleeding.

Nausea, vomiting, mouth ulcers and diarrhoea

These occur as the cells of the gut are damaged or killed by the chemotherapy agents and take time to replenish. Most of these side-effects can be managed well by your doctor and most of them go away during the recovery part of the chemotherapy cycle.

Hair loss

Many patients fear losing their hair and are surprised to find that many chemotherapy agents do not cause this side-effect. Even if the hair is lost, it will most commonly grow back after the treatment is finished. The selection of wigs and scarves available for women who have lost their hair is extensive, and many charities will support women in looking their best, even during chemotherapy. Cold caps to decrease hair loss can also be used.

Numbness and tingling of the hands and feet

The sensation of numbness can be uncomfortable or frustrating for a patient. It is a side-effect of some of the chemotherapy agents given in breast cancer. Oncology doctors work hard to prevent this becoming a problem in the long term. (Vitamin B is effective)

Fig. 2.8: *Patient receiving chemotherapy.*

Side Effects of Hormonal Treatments

Hormonal treatments are designed to starve breast cancer of the female hormones it feeds on. It does this by preventing the body from making the hormone or preventing it from getting to the cancer. This can simulate menopause in most women who take these treatments. The side-effects are therefore effects of the menopause.

Hot flushes, night sweats and vaginal dryness

A hot flush is a sudden rush of blood to the face and neck that can last for anything between a few seconds and an hour. It is difficult to treat with medication, but relaxation and loose clothing can often help to cope with these events. The same hormone deprivation that causes this can also cause your vagina to be dry which may cause increased infections in the bladder and painful intercourse.

Increased risk of clotting

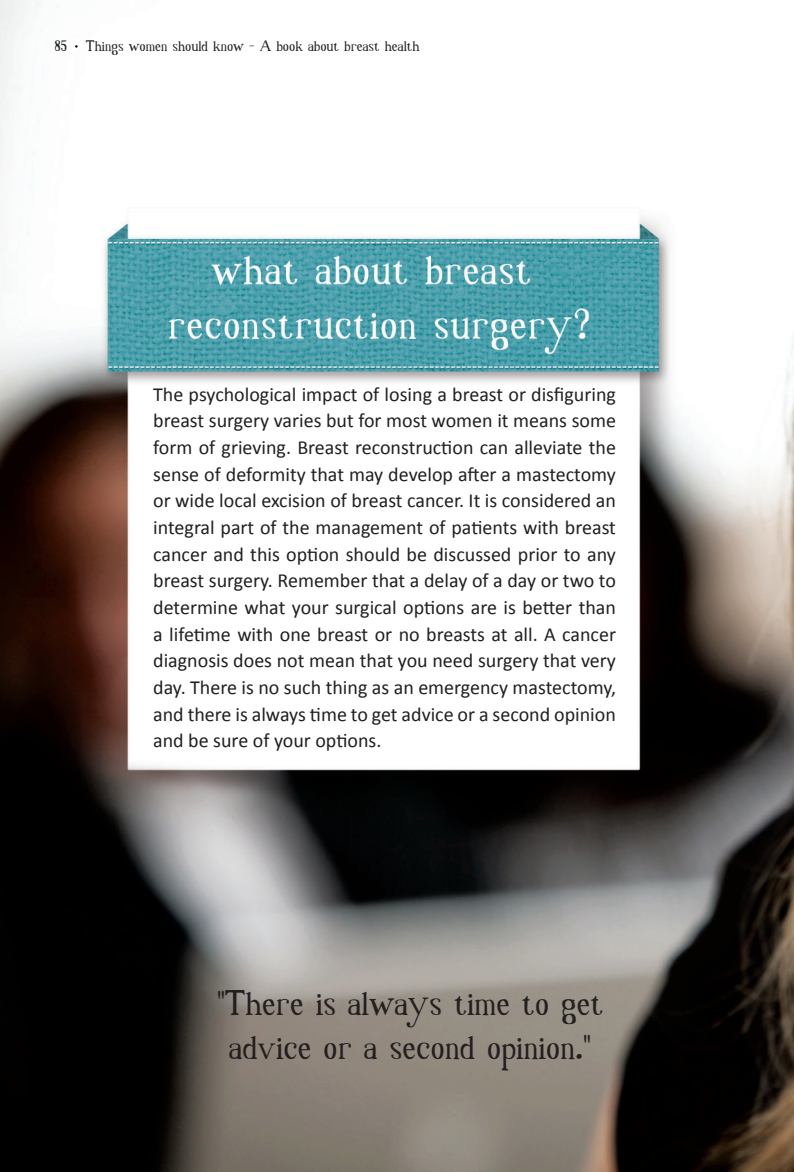
Some hormonal medications can increase your risk of developing clots ('thrombosis') in the veins of the legs and arms. It is important to tell your doctors if this has ever happened to you before, if you are taking hormone medications, as it may affect the medication you are given.

Bone and joint pains

Most of the hormone medications given to patients can affect the joints and bones in some way. They can cause arthritic pains in the joints or muscular aches that can be difficult to tolerate. Some of the medications can also cause thinning of the bones which should be monitored by your doctor.

what about breast reconstruction surgery?

The psychological impact of losing a breast or disfiguring breast surgery varies but for most women it means some form of grieving. Breast reconstruction can alleviate the sense of deformity that may develop after a mastectomy or wide local excision of breast cancer. It is considered an integral part of the management of patients with breast cancer and this option should be discussed prior to any breast surgery. Remember that a delay of a day or two to determine what your surgical options are is better than a lifetime with one breast or no breasts at all. A cancer diagnosis does not mean that you need surgery that very day. There is no such thing as an emergency mastectomy, and there is always time to get advice or a second opinion and be sure of your options.



Breast reconstruction surgery

When do we do reconstruction?

Breast reconstruction can be done immediately after the mastectomy or lumpectomy. It can also be delayed for a few months or even longer. The benefits of having reconstructive surgery at the time of the mastectomy are obvious in that it helps to preserve body image and avoids multiple operations. Having this procedure depends on the patient's age, the size of the tumour and the stage of the disease.

How do we do reconstruction?

The most common reconstructive techniques involve using the woman's own tissue to rebuild the breast (moving breast tissue around or in from areas close to the breast (autolgous flap) or having a silicone or saline implant. Despite bad publicity silicone implants have had in the past, they don't cause certain immune system disorders. There is a small incidence of a type of lymphoma with certain textured implants and this should be discussed with your reconstructive surgeon. The goal of reconstructive surgery is to obtain symmetry for the breasts; therefore, this can involve surgery to the other breast too, in the form of reduction, augmentation, mastopexy or prophylactic mastectomy and reconstruction. Even breast conserving procedures can be done so as to achieve the best cosmetic result. All women are entitled to a cosmetic result whether they have surgery for benign breast problems or cancer.

can a man get breast cancer?

The occurrence of male breast cancer varies throughout the world. In North America there seems to be an increasing incidence especially amongst black males, with about a thousand cases being diagnosed per year. Breast cancer is commonly found in men over sixty. We don't know how common it is in South Africa, but we think between 1-3% of all breast cancers occur in men.

"Male breast cancer is more common amongst men older than sixty."

Breast cancer in men

Who gets it?

The risk factors for male breast cancer are interesting; it is definitely not associated with benign male breast lumps or breast enlargement (gynaecomastia). There appears to be an inherited component because the lifetime risk of a male getting breast cancer if his mother and his sister had breast cancer is about 2.5%.

Male breast cancer is more common in families who have the BRACA2 gene mutation and in males who have Klinefelter syndrome (which is the chromosomal abnormality XXY). It seems to be increasing in men who work on electrical lines and factors such as radiation, X-rays and electromagnetic waves have also been implicated.

What type of breast cancer do men get?

Male breast cancer is almost always a ductal carcinoma (the most common type). Lobular carcinoma is rarely seen in men and when it is, it is usually in association with Klinefelter syndrome. Any variation of ductal carcinoma can be seen in male breast cancers including Paget's disease (cancerous eczema of the nipple). 80% to 90% of male breast cancers are responsive to hormones.

Male breast cancer is no different to female breast cancer. All people have some breast tissue, but men have less. When cancer does develop, it tends to be more advanced from early on, with the chest wall and skin also being involved.

The vast majority of male breast cancers present as a painless breast lump. They may have a nipple discharge or nipple changes, but very few are painful. About 5% of these cancers will present with spread to other organs (metastatic disease). Any unilateral breast mass that is firm, fixed or ulcerated in a man should raise suspicion.

How do we investigate it?

All potential cancers are investigated the same way, whether it is in men or women. The investigations that should be done are a mammogram and sonar. Sensitivity in mammograms is the same in men as it is in women. A core needle biopsy will provide the pathological diagnosis.

Treatment

The treatment for male breast cancer is the same as for women. It usually involves surgery, oncology (chemotherapy and hormone therapy) and radiation therapy working as a multi-disciplinary team. Men are normally managed with a mastectomy (can be done with reconstruction immediately and a sentinel or lymph node dissection), followed by chemotherapy and radiation treatments if necessary. Tumours that are greater than 2 cm have twice the risk of returning than those where the lesions are less than 1 cm, so it is important to make sure the margins are wide, and the cancer is well-treated. Hormone therapy can improve the survival rate if the cancer is sensitive to hormones.

Although the prognosis is believed to be worse in male breast cancer than in female breast cancer, it is actually identical stage for stage. Because men are often diagnosed at a later stage relative to the size of breast tissue they have, it gives the impression of a worse prognosis.

It is important for men with unilateral breast masses that are firm to seek medical attention and be assessed appropriately by a breast specialist.

Fig. 2.9: *A severe case of male breast cancer.*

where can I get help and support about breast cancer?

Your doctor will discuss the plan for your breast cancer treatment with you throughout the term of your care. Often the plan may change as new information is obtained, such as the results of a sentinel lymph node biopsy or the receptor status of your cancer. Every plan is likely to include surgery and at least one other modality of treatment. There are many different but equally good ways of treating breast cancer. Your doctor will discuss with you the way they think is best, based on the discussions within the multidisciplinary team and new evidence or new treatments which are always being developed.

The most important person in the discussion is you, or your loved one with cancer, and all the decisions around treatment are ultimately made by you. Doctors can give you the evidence and advice based on years of training and experience, but ultimately, the patient must decide what is best for them.

"There are many different but equally good ways of treating breast cancer."

Help and support

Take your time

By the time breast cancer is detected by a clinician or on a mammogram it will have been developing in the breast for approximately 2-6 years. There is no such thing as emergency treatment for breast cancer. While it is important to seek treatment immediately there is always time to discuss with your family and friends, with previous cancer survivors and with support groups concerning your feelings about your cancer and how you would like to proceed with your treatment.

Get a second opinion if you want one

There are different ways in which a breast cancer may be treated with equally good results. In different parts of the world the four pillars of treatments may be used in a different order. Your health and previous history of illnesses may influence the kind of treatment you are offered. No doctor will consider it an insult if you ask for a second opinion.

Read around the subject wisely

The internet is wonderful for opening doors to a world of knowledge and it is important that you research as much as you want into your treatment. Most large cancer organisations around the world have excellent and trustworthy information for patients, these include:

- Netcare Breast Care Centre of Excellence (SA): www.breasthealth.co.za
- CANSA (SA): www.cansa.org.za
- Breast Health Foundation (SA): www.mybreast.org.za
- National Cancer Institute (USA): www.cancer.gov
- Susan G Komen for the Cure (USA): www.komen.org
- Breakthrough Breast Cancer (UK): www.breakthrough.org.uk
- Macmillan Cancer Care (UK): www.macmillan.co.uk
- American Cancer Society (USA): www.cancer.org

Be warned that there is a lot of advice and treatment options offered on the internet that is not based on scientific evidence. Many people have sought other methods of treating cancer but without good results. When you are researching on the internet, it is important to read critically and not to trust everything you read. Discuss any concerns or readings you have done with your doctor as he or she will often be able to help you determine the trustworthiness of the source.

Get support

You do not have to endure cancer alone. In every part of the country there are networks of breast cancer survivors who are ready to support you from diagnosis onward. Some of these organisations are:

- Bosom Buddies: www.bosombuddies.cfsites.org
- Reach for Recovery: www.reach4recovery.org.za
- Look Good... Feel Better...: www.lgfb.co.za
- People Living With Cancer: www.plwc.org.za

Many of these organisations hold meetings for cancer sufferers to receive support and gain information about the disease. They also get involved in fundraising for breast cancer charities. Most organisations are committed to helping you fight your cancer and walking with you every step of the way. You never stop being a breast cancer survivor, and in time you will be able to support others too.

change (CHānj),

n. The act or instance of making or becoming different.

Dictionary.com

your life

can I avoid getting breast cancer?

Unfortunately, the answer is that nothing can stop you from getting breast cancer. All the scientists and doctors in the world have not yet been able to determine a way to prevent cancer developing.

But the good news is that we are clear about the ways we can cure cancer, and that cancer caught early is normally the easiest to cure.

"There is no way to prevent cancer from developing."

Can I avoid getting breast cancer?

Why is a healthy diet and lifestyle important?

It is a good idea to lose weight because we know that an increased BMI can increase your risk of breast cancer after menopause. Following a healthy diet is good for you and can reduce your risk of other cancers (e.g. colon cancer). It is also good for your heart to eat healthily and exercise regularly. There is no known way to prevent breast cancer and there is no diet (despite the claims of some being marketed currently) to prevent or reduce breast cancer.

Why are regular mammograms important?

Regular mammography provides a method of early diagnosis and allows doctors to investigate worrying areas of the breast before they develop into cancer, but it does not prevent a patient from getting cancer. We have not developed any method of doing that yet. We only know how to reduce the risk of getting cancer.

Myths: what causes breast cancer?

We may not understand fully why cancer occurs and we may not know how to prevent it, but we do know what doesn't cause cancer. Here are some of the myths you may have heard. The good news is that they are not true.

"The pill causes breast cancer..."

Many trials have looked at the link between oral contraceptives ("the Pill") and breast cancer. The pill contains hormones which mimic the hormones that the body uses to control fertility (oestrogen and progesterone) and it has been shown that these can increase the risk of getting breast cancer. In the decade after the pill is stopped however, your risk re- turns to normal. Only some studies show this risk and it seems that it may only affect some people, particularly those who are on the pill over the age of 40. It is important to discuss this kind of risk before you start the pill, particularly if your family or personal risk of breast cancer is high.

"Continual use of anti-perspirants and deodorants cause breast cancer..."

This worry comes from the idea that it is good for the body to sweat to get rid of potential 'toxins. If these 'toxins' build up they may cause cancer. Whilst many people are concerned that there may be environmental reasons for people getting cancer, it is unlikely that a failure to sweat or toxin build-up is responsible. This claim has been examined in a study from a large cancer centre in America. It found no association between anti-perspirants and cancer.

In another study, the investigators were concerned that chemicals in many beauty products called parabens, were showing up in the cells of breast cancers. The method the scientists used to investigate this was flawed however, and the link has been disproved. You must al- ways think carefully when reading scare stories about cancer and it is a good idea to get advice from the big cancer organisations who examine these claims carefully. The National Cancer Institute in the USA believes that there is insufficient data to support the link. So, between parabens and cancer for now it is safe to use paraben-containing anti-perspirants, face creams, shampoos and other such products.

"Wearing a bra can give you cancer..."

There is no relationship between wearing a bra and getting cancer. It is sometimes believed that bras stop toxins flowing out of the breast, but this has never been proven and does not make anatomical sense. It is true that obesity is a risk factor for cancer, so it may be that slender women, who may not need to wear bras, get cancer less often but it is unrelated to the bra.

"Drinking water from plastic bottles can give you cancer..."

Plastic bottles are made from many

chemicals and some of these, called dioxins, have been found to cause cancer in animal experiments. It is thought that exposing water to the bottles, especially if heated by the sun, can cause the chemicals such as BPA to flow out into the water and increase the risk of cancer. As yet there is no correlation between breast cancer and these chemicals in humans. Most disposable bottles used for water do not contain BPA but to be on the safer side you can opt for bottles labelled BPA-free, or labelled five, four, two or one in the recycling emblem on the bottom.

"Using cell phones could be harmful to your breasts..."

The largest study done on this subject, published in 2010 could not find a link, but it was also unable to disprove a link. One of the problems is determining frequency of cell phone use from self-ratings. One type of brain cancer was increased among frequent cell phone users but overall, they had a lower rate of cancer than never users.

what is a healthy lifestyle?

"Healthy living" is the new catch phrase of our time. The media is filled with stories and pictures of people exercising, eating health foods and living the good life. Taking a look at the evidence, world medical literature to date strongly suggests that living a healthy lifestyle is indeed beneficial.

But what exactly is a "healthy lifestyle" and how do we ensure we live a healthy life? While there is nothing wrong with healthy living, many of the messages carried in the media are overstated. People are told to mega dose on vitamins, to follow fad diets and to buy "wonder pills" that claim to give them new vigour and vitality. Many even suggest they can prevent cancer.

So, what is the truth?


"Medical literature strongly suggests that
living a healthy lifestyle is beneficial."

What is a healthy lifestyle?

There seems to be a close relationship between dietary fat intake and breast cancer incidence in most populations. Although this does not prove that a diet high in saturated fats will significantly increase the risk of breast cancer, it is very suggestive. Closely associated is the observation that obesity has been shown to double the breast cancer risk in women after menopause. So, if you are over-weight and over fifty years, your risk of getting carcinoma of the breast is twice that of an optimal-weight fifty-year-old female. No association between obesity and breast cancer has ever been demonstrated in pre-menopausal females or women who are still having their periods. There are many other advantages to eating a low-fat, high-fibre diet.

Eating a healthy diet

Try to replace saturated fat with good, healthy fats in your diet. These so-called good fats are unsaturated, either poly-unsaturated or mono-unsaturated.

These are found in vegetable oils such as sunflower, safflower, corn and soya bean oils as well as olive oil, avocados and rapeseed oil (canola oil). The important component of these oils is the omega-6 fatty acid, linoleic acid. The other good fat is fish oil fat. The chemicals in fish oil are eicosapentaenoic acid and docosahexaenoic acid, which are beneficial to the body. Fish oils tend to lower the triglyceride fats in the body and contain omega-3 fatty acids and are found in high concentration in cold seawater fish such as mackerel and salmon.

Eat plenty of fresh fruit and vegetables. These should form a large component of any diet since, besides being a source of fibre (roughage), these foods contain the antioxidant vitamins (vitamins E, C and A) which are the free radical scavengers in the body. They mop up the toxic free radicals that may play a part in cancer, heart disease, aging and so on.

We should eat about thirty grams of fibre per day. In South Africa, rural people tend to eat more fibre and easily reach this target, but urban people tend to eat half of this or less. One of the best ways to boost fibre intake is to supplement your daily fibre intake with a high-quality fibre supplement. Other ways to boost your fibre intake include eating unrefined breads and cereals and plenty of fresh vegetables. A recently completed study involving more than 40 000 people over a period of ten years in the USA found an inverse relationship between increased fibre intake and decreased heart attacks.

Avoid heavy alcohol consumption

There is a strong correlation between high alcohol consumption and breast cancer. Women who drink more than two units of alcohol per day (one large glass of wine) may have a higher risk of getting breast cancer. Before alcohol is given up totally, it is important to remember that small daily doses of alcohol are actually good for you. In small quantities it can reduce the risk of heart disease. This is because alcohol raises the levels of good cholesterol (HDL cholesterol) which decreases the chance of coronary artery disease.

What does exercise do for you?

Exercise increases good cholesterol which is protective against heart disease. It also helps blood pressure and helps you to lose weight. Recent findings from a large study in the USA found that breast cancer patients who walk or exercise for three to five hours a week are 50% less likely to die from their cancer.

Give up smoking

Each cigarette you smoke harms your health and passive smoking harms those around you. Cigarette smoke causes health problems due to blocked arteries, cancer (lung, bladder, oral) and obstructive lung disease (emphysema, chronic bronchitis, aggravates asthma). It should be noted however, that no correlation between smoking and breast cancer has ever been demonstrated, so smoking does not cause breast cancer.

Avoid prolonged stress

It is difficult to avoid stress nowadays. Although it has repeatedly been demonstrated that stress can damage your health, there is no relationship between stress and breast cancer. The hormones that are affected by stress however can suppress the immune system with decreased wellness. Some good ways to bring down stress levels are through exercise or by increasing the ability to relax, by using relaxation techniques, listening to music, being in nature. Alternative medicine such as aromatherapy, reflexology or acupuncture may also help.

What is good for you?

- Eating a low saturated fat, low salt, high-fibre diet.
- Taking some supplement or vitamins if you feel you need them.
- Exercising regularly (half an hour of aerobic exercise on alternate days is the minimum).
- Quit smoking.
- Restricting alcohol consumption to two units per day.
- Avoiding stress.

What is bad for you?

- Taking mega doses of vitamins (particularly vitamin A).
- Taking mega doses of minerals (particularly iron, zinc, selenium).
- Passive smoking (even if you do not smoke yourself, sitting in a room with other smokers can be damaging to your health).
- Listening to the glib promises of unbelievable vitality if you take this new “natural remedy”. In other words, beware of the “gurus”.
- Not going to your doctor when you notice something is wrong.

what about supplements for breast health?

It is important to remember that many vitamins, supplements and herbs contain active ingredients which can interact with other medications you take. For instance, some supplements can decrease the effectiveness of breast cancer chemotherapy and radiation. It is extremely important to consider all supplements as medications and inform your doctor of what you are taking.


"Consider all supplements as medications."

Supplements for breast health

Evening Primrose Oil (EPO)

The therapeutic use of evening primrose oil (EPO) was long considered as "alternative medicine" but today European and American physicians commonly prescribe it as the drug of choice to treat mastalgia, i.e. tender and lumpy breasts with symptoms of pain and dull heaviness. The effective ingredient of EPO is gamma linolenic acid (GLA), which in the body turns into prostaglandin (PGE1). It seems to correct the disturbed fatty acid metabolism often prevalent in mastalgia and PMS. Mastalgia often occurs in connection with premenstrual syndrome (PMS) for which EPO also is an effective, relatively cheap and safe therapy. The response to EPO therapy is usually slow, often requiring over 6 months for full results. **AVOID DURING PREGNANCY.**

Folic Acid

A team of American and Chinese researchers has discovered that folic acid (folate) may be effective in helping prevent breast cancer in both pre- and post-menopausal women. The researchers found a clear correlation between dietary intake of folic acid and the risk of breast cancer. The protective effect of folic acid was even more pronounced in women who also had a high dietary intake of vitamin B6, vitamin B12 and methionine. Researchers believe that folic acid exerts its protective effect by preventing errors in DNA replication and by helping to regenerate methionine, a vital component in DNA synthesis. They also point out that both vitamin B12 and vitamin B6 are vital cofactors required for folic acid to "do its job".

NOTE: Most multivitamins have levels of folic acid, vitamin B6 and vitamin B12 well above the levels found to be beneficial in the Chinese study.

Vitamin B6

Vitamin B6 improves the symptoms of PMS (premenstrual syndrome) and fibrocystic breast changes. Some women find that taking vitamin B6 supplements eases PMS symptoms. This is particularly true for women who suffer from severe breast pain and fibrocystic breasts, specifically around the time that PMS symptoms occur. The nutrient appears to help by assisting the liver in its effort to wash excess oestrogen from the body. In addition, B6 raises levels of the hormone progesterone and assists in the manufacture of serotonin, a neurotransmitter that enhances mood.

Green Tea or Green Tea Extract

American researchers recently concluded that a compound in green tea inhibits the growth of cancer cells. The secret of green tea lies in the fact that it is rich in catechin polyphenols, particularly epigallocatechin gallate (EGCG). EGCG is a powerful antioxidant which, besides inhibiting the growth of cancer cells, also kills cancer cells without harming any of the healthy tissue. Further studies have shown, however, that it is unlikely that the average intake of green tea will protect against cancer.

Indole-3-Carbinol

Cruciferous vegetables of the Brassica genus, for example broccoli, Brussels sprouts, cabbage and cauliflower contain indole-3-carbinol and research-

ers suspect that this component is one of several found in vegetables that may protect against cancer. Diets high in fruits and vegetables are associated with a decreased risk of cancer. In premenopausal women, a supplement containing I3C and 7-hydroxymatairesinol significantly increased the urinary 2:16-hydroxyestrone ratio, a known biomarker for the reduction of breast cancer risk. Because it may induce cytochrome P450 enzymes (14), I3C may interact with several medications. Root vegetables such as turnips also contain some indole-3-carbinol.

Grape Seed Extract

The antioxidants in grape seed extract work hard at helping to control cellular damage, routinely hunting down and neutralising mutations within the genetic material of cells that could lead to tumour formation. The development and progression of cancers of the lung, breast, stomach, prostate, colon, skin and other body parts may be stalled as a result.

Rooibos Tea

Rooibos Tea has been thought to be a healthy alternative to other types of hot drinks. It contains 37 antioxidant compounds which destroy harmful free radicals in the body, thus protecting the cells against attack. There has never been a scientific study of the potential cancer-fighting benefits of rooibos tea, however.

are there other cancers I can be screened for?

Increasing your general wellness means increasing your knowledge of diseases and understanding your risks. Your risk of becoming ill or suffering from different medical conditions changes throughout your life. This is a guide to the ways you can maintain good health and increase your vigilance against possible diseases throughout the course of your life. It is important to have a general practitioner who will get to know you and understand your health conditions from as early a stage as possible.

"Your risk of becoming ill changes throughout your life."

Screening for other cancers

I am a young woman (19-39)

- ***General health:*** Get a full check-up once a year, including a discussion about weight, smoking and alcohol consumption. This also includes surveillance for depression, thyroid diseases and surveillance of moles.
- ***Heart:*** Have your blood pressure checked every year, and cholesterol checked routinely.
- ***Reproductive screening:*** Have a cervical (Pap) smear every year for cervical cancer screening. Ensure you know your HIV status and practice safe sex.
- ***The senses:*** Have a hearing test every ten years. Make sure you are seeing your dentist regularly to avoid nasty surprises.

I am in my middle age (40-49)

- ***General health:*** Get a full check-up once a year, including a discussion about weight, smoking and alcohol consumption. This also includes surveillance for depression, thyroid diseases and surveillance of moles.
- ***Heart:*** Have your blood pressure checked every year, and cholesterol checked routinely.
- ***Blood sugar:*** Ask your doctor to check your blood sugar level to check for diabetes every one to three years.
- ***Reproductive screening:*** Continue with cervical (Pap) smears every year. Ensure you know your HIV status and practice safe sex.
- ***The senses:*** Have a baseline eye test at 40 and continue every two years. Continue with hearing tests every ten years and make sure you are seeing your dentist regularly.

I am a mature woman (50-65)

- ***General health:*** Get a full check-up once a year, including a discussion about weight, smoking and alcohol consumption. This also includes surveillance for depression, thyroid diseases and surveillance of moles.
- ***Heart:*** Have your blood pressure checked every year, and cholesterol checked routinely.
- ***Blood sugar:*** Ask your doctor to check your blood sugar level for diabetes every one to three years.
- ***Strong bones:*** Discuss having a bone mineral density test after you reach menopause.
- ***Reproductive screening:*** Continue with cervical (Pap) smears every year. Ensure you know your HIV status and practice safe sex.
- ***Keeping a healthy gut:*** Guard against colonic polyps and cancer by having a flexible sigmoidoscopy every five years or colonoscopy every ten years. Fecal occult blood tests may also assist in ensuring any colon problems are picked up before they develop into cancer.
- ***The senses:*** Continue to have an eye test every two years. Continue with hearing tests every ten years and make sure you are seeing your dentist regularly.

I am older and wiser (above 65 years)

- ***General health:*** Get a full check-up once a year, including a discussion about weight, smoking and alcohol consumption. This also includes surveillance for depression, thyroid diseases and surveillance of moles.
- ***Heart:*** Have your blood pressure checked every year, and cholesterol checked routinely.
- ***Blood sugar:*** Ask your doctor to check your blood sugar level for diabetes every one to three years.
- ***Strong bones:*** Have at least one bone mineral density test to ensure you are not at risk of increased fractures from weak bones.
- ***Reproductive screening:*** If you have had three negative smears and are not at high risk, you can choose whether to stop having cervical (Pap) smears. Ensure you know your HIV status and practice safe sex.
- ***Keeping a healthy gut:*** Guard against colonic polyps and cancer by having a flexible sigmoidoscopy every five years or colonoscopy every ten years. Fecal occult blood tests may also assist in ensuring any colon problems are picked up before they develop into cancer.
- ***The senses:*** Continue to have an eye test every two years. Continue with hearing tests every ten years and make sure you are seeing your dentist regularly.

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