



The GHA Breast Cancer Service



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If you are given a Breast Cancer diagnosis

A diagnosis of breast cancer can have many different emotional effects and you are likely to experience a range of emotions. When you are first diagnosed, you may feel:

- fear and uncertainty – unsure what the future holds
- shock – a feeling of ‘why me?’
- anger – asking ‘what have I done to deserve this?’
- disbelief – especially if you feel well and healthy
- relieved – that the cancer has been found
- anxiety – about treatment and the future
- sadness – because your life is changing
- numb – you might not feel anything at all

Whatever your initial feelings, you will probably go on to experience many different emotions.

You may feel determined not to let the cancer take over your life. You might be anxious about your treatment or sad because your life is changing. It is natural to feel hopeful on some days, and very low or anxious on others.

Everyone copes with a diagnosis of breast cancer in different ways, there is no list of right or wrong feelings to have and no correct order to have them in. It may help you to take time to rest, eat a healthy diet, keep active if you are able to and when you can, do something you enjoy.

The way you feel about your cancer and how it has affected you and your body will change over time. The concerns you have when you are diagnosed can be quite different from those at the end of treatment, and different again years later.

How you react to your breast cancer can depend not only on you but also on those around you or your cultural background. Some people feel they must keep putting on a brave face for family, friends and even for the doctors and nurses looking after them. Others prefer to let their feelings show and draw strength and support from people close to them.

During the early days of diagnosis and treatment, you will meet the breast care nurses. They are there to offer support and information to you and your family. Often they will be able to spend time with you, helping you understand your options and supporting you and will be one of your main contacts throughout treatment and afterwards.

You can contact The GHA Breast care nurses by:

Telephone **20007248** or Email **breastcarenurses@gha.gi**

Cancer Relief Service Gibraltar also offers support to people with cancer and can be contacted on 20042392

Breast Team

Breast cancer patients are looked after by a multidisciplinary team (MDT) of healthcare professionals, each, with their own expertise and committed to providing quality care. In the Gibraltar Health Authority the MDT includes:

Miss Christina Macano Consultant Surgeon (Lead)

Mr Muhamad Salman Associate Specialist Surgeon

Dr Marcela Zagurova Consultant Breast radiologist

Dr Naim Qandil Consultant Histopathologist

Dr David Ballesteros Consultant Oncologist

Dr Christina Lopez Consultant Oncologist

Dr Marta robles Consultant Oncologist

Dr Alvaro Flores Consultant Oncologist

Christine Gill Breast Care Nurse

Pamela Estella Breast Care Nurse

Natalia Pilcher, Gianna Viagas and Rebecca Aquilina Mammographers

Soraya Stone Surgical department secretary

Giovanella Alsina Radiology department secretary

The MDT meet regularly to discuss your care and treatment. The majority of your treatment for breast cancer is available here in Gibraltar. The exception being radiotherapy and some specific scans, for which you will receive a referral to a centre in nearby Spain. Occasionally it may be necessary to have some of your treatment in the UK at The Royal Marsden Breast Unit for e.g. if you require an immediate breast reconstruction (surgery to remove and reconstruct the breast in one operation).

What is Breast Cancer?

The breasts and lymph nodes

Breast cancer starts when cells in the breast begin to divide and grow in an abnormal way.

Breasts are made up of lobules (milk-producing glands) and ducts (tubes that carry milk to the nipple). These are surrounded by glandular, fibrous and fatty tissue. This tissue gives breasts their size and shape. The darker area of skin around the nipple is known as the areola. Breasts contain a network of thin tubes called lymph vessels. These are connected to the lymph nodes (glands) under the arm.

Primary breast cancer is breast cancer that has not spread beyond the breast or the lymph nodes (glands) under the arm.

Secondary breast cancer is when breast cancer cells spread from the first (primary) cancer in the breast through the lymphatic or blood circulation to other parts of the body.

This booklet focuses on the management of primary breast cancer. We also have information booklets available for patients with secondary breast cancer.

Types of Breast Cancer

Breast cancer usually begins either in the cells of the lobules, which are milk-producing glands, or the ducts, the passages that drain milk from the lobules to the nipple.

Non-invasive cancers stay within the milk ducts or lobules in the breast. They do not grow into or invade normal tissues within or beyond the breast. Non-invasive cancers are carcinoma in situ (“in the same place”) or pre-cancers.

Invasive cancers grow into and invade normal, healthy breast tissues. Most breast cancers are invasive.

Whether the cancer is non-invasive or invasive will determine your treatment choices, and how you might respond to the treatments, you receive.

In some cases, both invasive and non-invasive breast cancer are in the same specimen. This means that part of the cancer has grown into normal tissue and part of the cancer has stayed inside the milk ducts or milk lobules.

Sometimes there can be more than one tumor in the breast; this is referred to as multifocal or multicentric.

Breast cancer is not one single disease and there are several types. It can be diagnosed at different stages and can grow at different rates. This means that people have different treatments, depending on what will work best for them.

In most cases, breast cancer will be classified as one of the following.

Ductal carcinoma in situ or DCIS: DCIS is a non-invasive cancer that stays inside the milk duct.

Lobular carcinoma in situ or LCIS: LCIS is an overgrowth of cells that stay inside the lobule. It is not a true cancer; rather, it is a warning sign of an increased risk for developing an invasive cancer in the future in either breast.

Invasive ductal carcinoma (IDC): IDC is the most common type of breast cancer and begins in the milk duct but has spread into the surrounding normal tissue inside the breast.

Invasive lobular carcinoma (ILC): ILC starts inside the lobule but grows into the surrounding normal tissue inside the breast.

Inflammatory breast cancer: Inflammatory breast cancer is a fast-growing form of breast cancer that usually starts with the reddening and swelling of the breast, instead of a distinct lump.

Male breast cancer: Breast cancer in men is rare, but when it occurs, it is usually a ductal carcinoma.

Paget's disease of the nipple: Paget's disease of the nipple is a rare form of breast cancer in which cancer cells collect in or around the nipple.

Malignant phyllodes tumor of the breast: are rare breast tumors that start in the connective (stromal) tissue of the breast. Most phyllodes tumors are benign (not cancer), but about 1 out of 4 of these tumors are malignant (cancer).

Recurrent and/or metastatic breast cancer: is breast cancer that has returned after previous treatment or has spread beyond the breast to other parts of the body.

Just as no two people are exactly alike, no two-breast cancers are the same, either. Your doctor will order a series of tests on the cancer and nearby tissues to create a "profile" of how the breast cancer looks and behaves. Some of these tests are done after the initial biopsy (removal of tissue sample for testing), others in the days and weeks after your surgery. After each test is completed, your doctor receives a pathology report of results from the laboratory.

Breast cancer and inherited genes

About 5% to 10% of breast cancer cases are thought to be hereditary, meaning that they result directly from gene changes (mutations) passed on from a parent. The breast team follow specialist guidelines on genetic testing and will check if you are eligible for genetic testing.

Pathology

Your pathology report may include information about the rate of cell growth — what proportion of the cancer cells within the tumor are growing and dividing to form new cancer cells. Your pathology report is important because it provides information you and your doctor need to make the best treatment choices for your particular diagnosis. Those decisions depend on knowing characteristics such as:

- The size and appearance of the cancer
- How quickly it grows
- Signs of spread to nearby healthy tissues
- Hormone receptor status
- Some tests take longer than others

Cell Grade

Grade is a “score” that tells you how different the cancer cells’ appearance and growth patterns are from those of normal, healthy breast cells. Your pathology report will rate the cancer on a scale from 1 to 3:

Grade 1 or low grade, (sometimes also called well differentiated) grade 1 cancer cells look a little bit different from normal cells, and they grow in slow, well-organized patterns. Not that many cells are dividing to make new cancer cells.

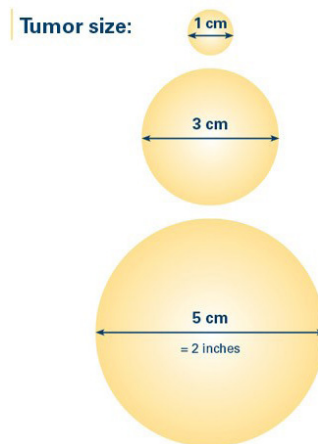
Grade 2 or intermediate/moderate grade, (moderately differentiated) Grade 2 cancer cells do not look like normal cells and are growing and dividing a little faster than normal.

Grade 3 or high grade (poorly differentiated), Grade 3 cells look very different from normal cells. They grow quickly in disorganized, irregular patterns, with many dividing to make new cancer cells.

Having a low-grade cancer is an encouraging sign. However, keep in mind that higher-grade cancers may be more susceptible than low-grade cancers to treatments such as chemotherapy and radiation therapy, which work by targeting fast-dividing cells.

Size of the Breast Cancer

“Size matters when it comes to breast cancer, but size is only one of the personality features on the list. You can have a small cancer that behaves like a bully, or a large cancer that is mild-mannered.”



Hormone Receptor Status

If the cancer is called **estrogen-receptor-positive** (or ER+) it has receptors for estrogen. This suggests that the cancer cells, like normal breast cells, may receive signals from estrogen that could promote their growth.

If the cancer is **progesterone-receptor-positive** (PR+) it has progesterone receptors. Again, this means that the cancer cells may receive signals from progesterone that could promote their growth. Roughly two out of every three breast cancers test positive for hormone receptors.

Testing for hormone receptors is important because the results help you and your doctor decide whether the cancer is likely to respond to hormonal therapy or other treatments. Hormonal therapy includes medications that either (1) lower the amount of estrogen in your body or (2) block estrogen from supporting the growth and function of breast cells. If the breast cancer cells have hormone receptors, these medications could help to slow or even stop their growth. If the cancer is **hormone-receptor-negative** (no receptors are present), then hormonal therapy is unlikely to work. You and your doctor will then choose other kinds of treatment.

HER2 Status

HER2 (human epidermal growth factor receptor 2) is a gene that can play a role in the development of breast cancer. Your pathology report will include information about **HER2 status**, which tells you if HER2 is playing a role in the cancer.

The HER2 gene makes HER2 proteins (also sometimes referred to as HER2/neu proteins). HER2 proteins are receptors on breast cells. Normally, HER2 receptors help control how a healthy breast cell grows, divides, and repairs itself. But in about 10% to 20% of breast cancers, the HER2 gene doesn't work correctly and makes too many copies of itself (known as HER2 gene amplification). All these extra HER2 genes tell breast cells to make too many HER2 receptors (HER2 protein overexpression). This makes breast cells grow and divide in an uncontrolled way.

Breast cancers with HER2 gene amplification or HER2 protein overexpression are called HER2-positive in the pathology report. HER2-positive breast cancers tend to grow faster and are more likely to spread and come back compared to HER2-negative breast cancers.

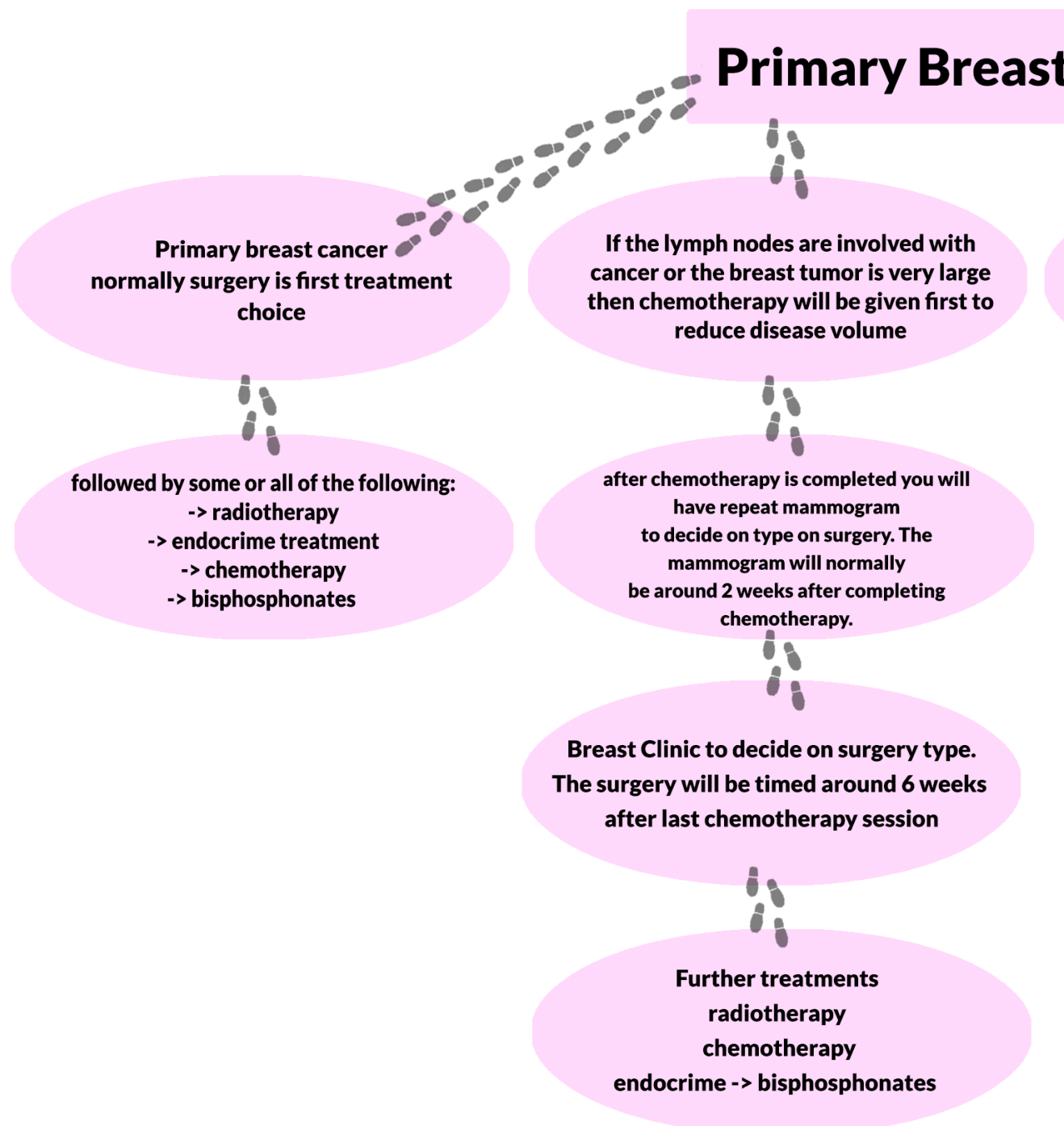
The results of HER2 testing will guide you and your cancer care team in making the best treatment decisions. There are several tests used to find out if breast cancer is HER2-positive, also some treatments are available specifically for HER2-positive breast cancer (e.g. Herceptin or Trastuzumab).

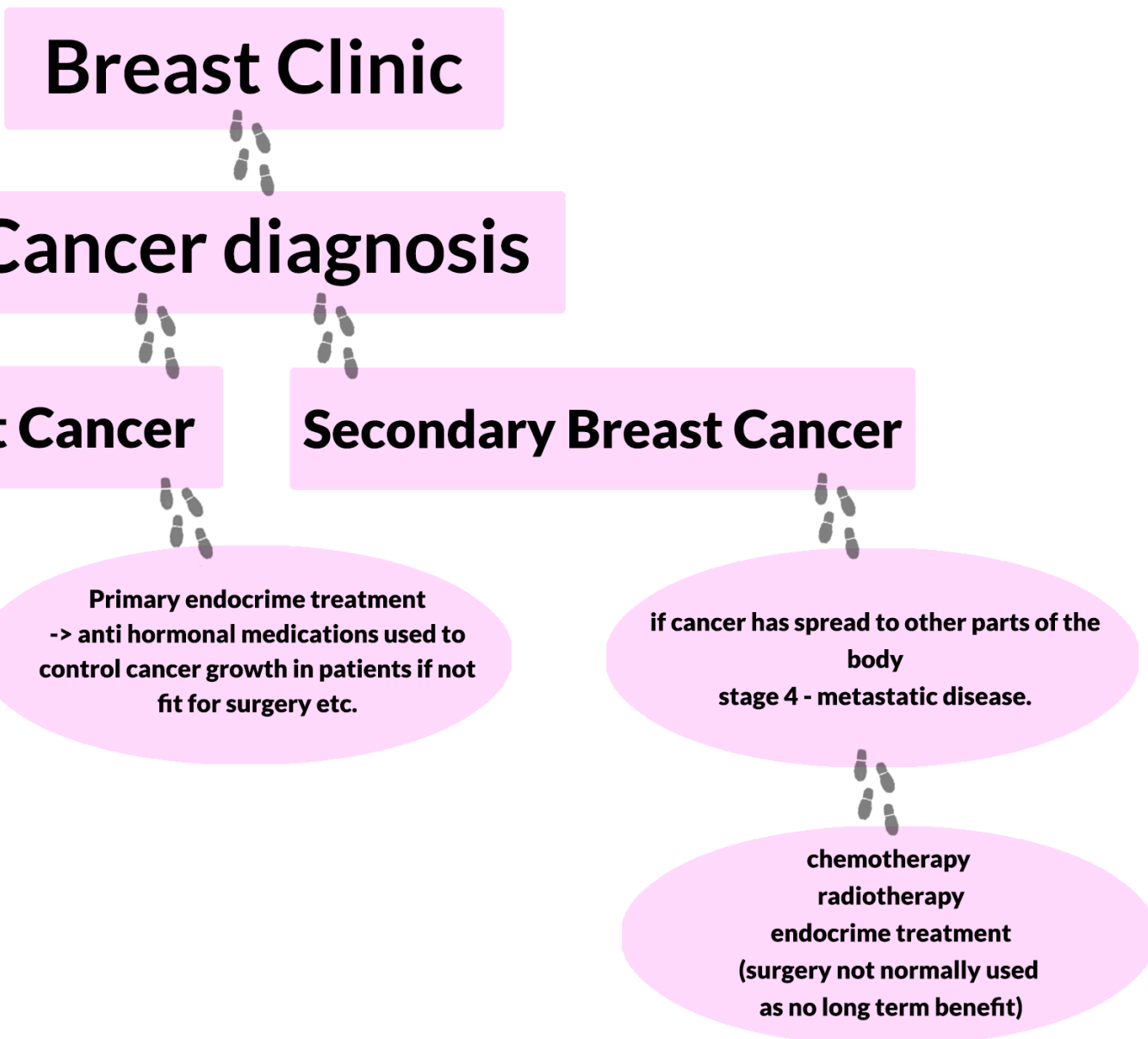
Ki 67

Ki 67 is a protein in cells that increases as they prepare to divide into new cells. A staining process can measure the percentage of tumor cells that are positive for Ki 67. The more positive cells there are, the more quickly they are dividing and forming new cells. A higher percentage of Ki 67 may indicate a more aggressive tumour. These cancers may also be more susceptible to chemotherapy.

Generally, if the cancer is high grade, large or if it has affected the lymph nodes under the arm, there is a higher risk of the breast cancer spreading to other parts of the body.

BREAST CANCER PATHWAY





Tumor Genomic Assays

Oncotype

Tumor genomic assays (or tests) analyze a sample of a cancer tumor to see how active certain genes are. The activity level of these genes affects the behavior of the cancer, including how likely it is to grow and spread. Genomic tests help to make decisions about whether chemotherapy after surgery would be beneficial.

There are several tests used to analyze the genes in a breast cancer to help predict whether the breast cancer will come back (recurrence).

Your doctor will consider your scores in combination with the other information in your pathology report to decide the best treatment plan for you.

Staging

Breast cancer can spread when cancer cells are transported from the breast through the lymphatic system or the bloodstream. Sometimes your treatment team will recommend other tests if they need more information about the stage of the cancer. This can help them decide the best treatment for you. These may include:

A bone scan

An MRI (magnetic resonance imaging) scan

A PET (positron emission tomography) scan

A chest x-ray

An abdominal and liver ultrasound scan

A CT (computerized tomography) scan

The stage of a cancer describes the size of the cancer and how far it has spread. There are different ways to describe breast cancer stages. The most common way is the 'TNM' cancer staging system. This is a scoring system used to describe:

T- Tumour - the size of the cancer

N - Nodes - the number of lymph nodes affected

M - Metastases, whether there's any spread of the cancer to other parts of the body

Another commonly used stage is a number staging system for breast cancer, which divides breast cancers into 4 stages, from 1 to 4. Stage 1 is the earliest stage and stage 4 means the cancer has spread to another part of the body.

1. Stage 1 breast cancer means that the cancer is small and only in the breast tissue, or it might be found in lymph nodes close to the breast.
2. Stage 2 breast cancer means that the cancer is either in the breast or in the nearby lymph nodes or both. It is an early stage breast cancer.
3. Stage 3 means that the cancer has spread from the breast to lymph nodes close to the breast or to the skin of the breast or to the chest wall.
4. Stage 4 breast cancer means that the cancer has spread to other parts of the body.

Treatment

The aim of treatment for primary breast cancer is to remove the cancer and reduce the risk of it returning in the breast or spreading to other parts of the body. People with breast cancer often get more than one kind of treatment. These can include surgery, chemotherapy, radiotherapy, hormone treatment, targeted treatment and bisphosphonate treatment.

You may have one of these treatments, a combination or all. The type or combination of treatments you have will depend on how the cancer was diagnosed and the stage it is at.

Breast cancer diagnosed at routine screening is more likely to be at an early stage; breast cancer diagnosed when you have symptoms may be at a later stage and require a different treatment.

Surgery

Surgery to cut out the cancer aims to remove the cancer in the breast and any affected lymph nodes under the arm.

You will be given a general anesthetic for your breast surgery. Before you're given a general anesthetic your overall health will be assessed at a pre assessment clinic to make sure you are safe for your operation. These days most breast cancer surgery can be carried as a day case.

Sometimes a guide-wire will be inserted into the area for excision prior to surgery if we cannot feel anything but it can be seen on ultrasound or mammogram. This will help the surgeon locate the correct area to remove.

Surgical Margins

To make sure that the entire tumor is removed, the surgeon will also remove a small area of healthy tissue around the tumor, called a margin. The pathologist examines this rim of tissue and reports that the surgical margins are:

- **Negative: (or clear margins)** No cancer cells are seen at the outer edge of the tissue that was removed (the tumor along with the rim of healthy surrounding tissue). Sometimes the pathology report also will tell you how wide the clear margin is — the distance between the outer edge of the surrounding tissue removed and the edge of the cancer. When margins are clear, usually no additional surgery is needed.
- **Positive:** Cancer cells come right out to the edge of the removed tissue. More surgery is usually needed to remove any remaining cancer cells.

Lymph Node Involvement

During surgery to remove an invasive breast cancer, your doctor removes one or some of the underarm lymph nodes so they can be examined under a microscope for cancer cells. This is known as a sentinel lymph node biopsy. The presence of cancer cells is known as lymph node involvement.

Lymph nodes are small, bean-shaped organs that act as filters along the lymph fluid channels. As lymph fluid leaves the breast and eventually

goes back into the bloodstream, the lymph nodes try to catch and trap cancer cells before they reach other parts of the body.

Although the goal of surgery is to remove all of the cancer in the breast, microscopic cells can be left behind. In some situations, this means that other surgery or radiotherapy can be required. It is also possible for microscopic cells to be present outside of the breast, which is why systemic treatment with medication is often recommended after surgery. For larger cancers, or those that are growing more quickly, or have involved lymph nodes at the time of diagnosis, doctors may recommend systemic treatment with chemotherapy or hormonal therapy before surgery, called “neoadjuvant treatment”.

There may be several benefits to having these treatments before surgery:

- Surgery may be easier to perform because the tumor is smaller.
- Your doctor may find out if certain treatments work well for the cancer.
- If you have any microscopic distant disease, it will be treated earlier.
- Women who may have needed a mastectomy could have breast-conserving surgery (lumpectomy) if the tumor shrinks enough before surgery.

Chemotherapy

Chemotherapy involves using anti-cancer (cytotoxic) medicine to kill cancer cells. It can be used after surgery to destroy any cancer cells that have not been removed and /or before surgery, to shrink a large tumour. Several different medicines are used in chemotherapy, and 2 to 3 are often given at once.

The choice of medicine and the combination will depend on the type of breast cancer you have and how far it has spread. There are many types of chemotherapy used to treat breast cancer. The medicines are usually given through a drip straight into a vein. In some cases, you may be given tablets that you can take at home.

You may have chemotherapy sessions once every 1 to 3 weeks, each treatment session is known as a cycle. You may have up to 8 or more cycles of chemotherapy. Your oncologist will decide the best treatment and number of cycles for you.

The side effects of chemotherapy depend on the individual, the drug(s) used, whether the chemotherapy has been combined with other drugs, and the schedule and dose used. These side effects can include fatigue, risk of infection, nausea and vomiting, hair loss, loss of appetite, diarrhea, constipation, numbness and tingling, pain, early menopause, weight gain, and chemo-brain or cognitive dysfunction. These side effects can often be very successfully prevented or managed during treatment with supportive medications, and they usually go away after treatment is finished.

For hair loss reduction, talk to the chemotherapy team about whether the cold cap technique is available for you. The Cancer Relief Centre provide wigs or head scarves for patients undergoing chemotherapy treatment free of charge. Rarely, long-term side effects will occur following chemotherapy.

Chemotherapy is given as an outpatient treatment here in St Bernard's hospital in the chemotherapy suite on the second floor.

Hormonal therapy may be given before surgery to shrink a tumor, make surgery easier, and/or lower the risk of recurrence. This is called neoadjuvant hormonal therapy. When given before surgery, it is typically

given for at least 3 to 6 months before surgery and continued after surgery. It may also be given solely after surgery to reduce the risk of recurrence. This is called adjuvant hormonal therapy.

Throughout your neoadjuvant treatment, the breast care nurses will keep in contact with you and as you approach your final treatment cycle, they will provide you with information about your appointments in the breast clinic with the surgeon to discuss your surgery.

A mammogram will be arranged prior to this appointment to help with planning the type of surgery best for you.

In general, it is not recommended that any further blood tests or biopsies be used to monitor response to treatment for people receiving neoadjuvant chemotherapy.

After surgery, the next step in managing early-stage breast cancer is to lower the risk of recurrence and to get rid of any remaining cancer cells in the body. These cancer cells are undetectable with current tests but are believed to be responsible for a cancer recurrence as they can grow over time.

Treatment given after surgery is called “adjuvant therapy.” Adjuvant therapies may include radiotherapy, chemotherapy, targeted treatment, hormonal treatment and/or bisphosphonate treatment.

Whether adjuvant therapy is needed depends on the chance that any cancer cells remain in the breast or the body and the chance that a specific treatment will work to treat the cancer.

Although having adjuvant treatment lowers the risk of recurrence, it does not completely get rid of the risk.

Radiotherapy

Radiotherapy uses controlled doses of radiation to kill cancer cells. It is usually given after surgery and chemotherapy to kill any remaining cancer cells.

The type of radiotherapy you have will depend on the type of breast cancer, lymph node involvement and the type of surgery you have had. Some women may not need to have radiotherapy at all.

Hormone therapy

Some breast cancers are stimulated to grow by the hormones oestrogen or progesterone, which are found naturally in your body. These are known as hormone receptor-positive cancers.

Hormone therapy lowers the levels of oestrogen or progesterone hormones in your body or stops their effects.

The type of hormone therapy you have will depend on the stage and grade of the cancer, which hormone it is sensitive to, your age, whether you have experienced the menopause, and what other type of treatment you are having.

You will probably have hormone therapy after surgery and chemotherapy, but as mentioned above, it is sometimes given before surgery to shrink a tumour and make it easier to remove.

In most cases, you will need to take hormone therapy for 5 to 10 years after having surgery.

Primary endocrine treatment

Hormone therapy may be used as the only treatment for breast cancer if your general health prevents you having surgery, chemotherapy or radiotherapy.

If the type of breast cancer you have is not sensitive to hormones, hormone therapy will have no effect.

Targeted treatments

Targeted treatment targets the cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. These treatments are very focused and work differently than chemotherapy. This type of treatment blocks the growth and spread of cancer cells and limits damage to healthy cells.

The first approved targeted therapies for breast cancer were hormonal therapies. Then, HER2-targeted therapies were approved to treat HER2-

positive breast cancer (e.g. Herceptin or Trastuzumab).

Bisphosphonates

If you have been through the menopause, you may be offered bisphosphonate treatment (Zometa).

Recent research has shown this may help to reduce the risk of breast cancer spreading to your bones and elsewhere in your body.

Zometa is given by an intravenous infusion once every 6 months for 3 years.

Recurrence

Recurrence is the term used for breast cancer that has come back after treatment. There are several different types of recurrence, depending on where in the body the cancer has returned.

Your follow-up after breast cancer treatment

Follow-up breast clinic appointments usually focus on how you are feeling and a breast examination. You can explain any problems, symptoms or treatment side effects you have. It is helpful to write down any questions beforehand so that you remember; this helps to get the most out of your appointment.

If you have any concerns you may be referred to another healthcare professional.

During the first 2 years after your treatment you will have regular appointments in the breast clinic. The frequency will decrease to annual follow-ups as long as you remain well in yourself. The oncologist will also see you if you have had chemotherapy as part of your treatment.

You will be followed up for 5 years in the breast clinic.

We will book you back into the GHA breast screening programme if all is well after your 5th and final follow-up appointment.

You will also be invited to the breast care nurses discharge clinic to discuss any concerns and be given general health/breast awareness and advice for the future. You will always have open access to the breast team via the breast care nurses in the future even after you have been discharged.

Mammograms and other tests

You will be invited to have yearly mammograms for 5 years after your treatment;

You'll be offered:

mammograms on both breasts if you had breast-conserving surgery or a mammogram only on your unaffected breast if you had a mastectomy (with or without reconstruction)

You will not be offered any mammograms if you had a double mastectomy.

You won't usually have other routine scans and tests unless you have symptoms that need checking. Several large studies have shown that having regular scans and blood tests when there are no symptoms is not useful in finding recurrence and doesn't improve overall survival.

Some people are offered scans to check their bone strength. This is because some treatments, such as hormone treatment and chemotherapy, can affect the bones and increase the risk of developing osteoporosis (thinning of bones).

Can breast cancer come back?

The treatment you have had will have been given to reduce the risk of breast cancer coming back.

After treatment, most cancers do not come back. But sometimes breast cancer can return. It is also possible to develop a new primary breast cancer.

Contacts

GHA:

Breast Care Nurses - Tel 200 07248

Open access to breast care services - breastcarenurses@gha.gi

Radiology enquiries - Tel 200 72266 Ext 2285

Support Groups in Gibraltar:

Breast Cancer Support Gibraltar - Tel 58008944
www.breastcancergib.org

Cancer Relief Centre - Tel 200 42312

Bosom Buddies - Tel 56449000

Cancer Research UK Gibraltar Branch -
cancerresearchgib@gibtelecom.net

Reference:

Breast Cancer Now - The research and care charity
www.breastcancernow.org

