



Understanding Breast Cancer

A guide for people with cancer,
their families and friends

Cancer
information

For information & support, call

13 11 20



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Note to reader

Always consult your doctor about matters that affect your health. This booklet is intended as a general introduction to the topic and should not be seen as a substitute for medical, legal or financial advice. You should obtain independent advice relevant to your specific situation from appropriate professionals, and you may wish to discuss issues raised in this book with them.

All care is taken to ensure that the information in this booklet is accurate at the time of publication. Please note that information on cancer, including the diagnosis, treatment and prevention of cancer, is constantly being updated and revised by medical professionals and the research community. Cancer Council Australia and its members exclude all liability for any injury, loss or damage incurred by use of or reliance on the information provided in this booklet.

Cancer Council

Cancer Council is Australia's peak non-government cancer control organisation. Through the eight state and territory Cancer Councils, we provide a broad range of programs and services to help improve the quality of life of people living with cancer, their families and friends. Cancer Councils also invest heavily in research and prevention. To make a donation and help us beat cancer, visit cancer.org.au or call your local Cancer Council.



Cancer Council Australia

Level 14, 477 Pitt Street, Sydney NSW 2000

Telephone 02 8063 4100 **Facsimile** 02 8063 4101 **Email** info@cancer.org.au **Website** cancer.org.au

ABN 91 130 793 725

About this booklet

This booklet has been prepared to help you understand more about early and locally advanced breast cancer. Many people feel shocked and upset when told they have breast cancer. We hope this booklet will help you, your family and friends understand how breast cancer is diagnosed and treated. It includes information about support services.

We cannot give advice about the best treatment for you. You need to discuss this with your doctors. However, this information may answer some of your questions and help you think about what to ask your treatment team (see page 67 for a question checklist).

This booklet does not need to be read from cover to cover – just read the parts that are useful to you. Some medical terms that may be unfamiliar are explained in the glossary (see page 68). You may also like to pass this booklet to family and friends for their information.

How this booklet was developed

This information was developed with help from a range of health professionals and people affected by breast cancer. It is based on international clinical practice guidelines for breast cancer.¹

If you or your family have any questions, call Cancer Council **13 11 20**. We can send you more information and connect you with support services in your area. You can also visit your local Cancer Council website (see back cover).



**Cancer
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13 11 20**

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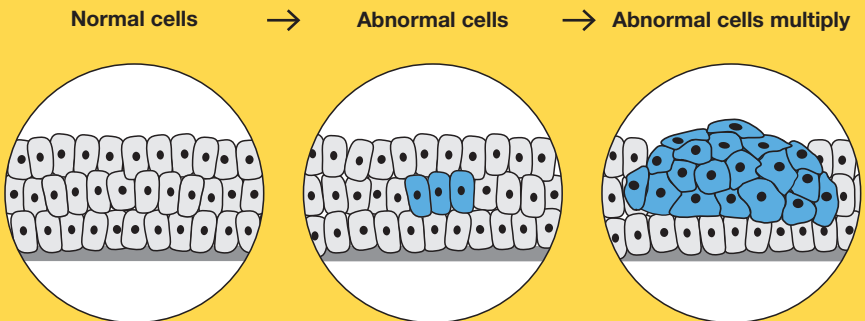
What is cancer?

Cancer is a disease of the cells. Cells are the body's basic building blocks – they make up tissues and organs. The body constantly makes new cells to help us grow, replace worn-out tissue and heal injuries.

Normally, cells multiply and die in an orderly way, so that each new cell replaces one lost. Sometimes, however, cells become abnormal and keep growing. In solid cancers, such as breast cancer, the abnormal cells form a mass or lump called a tumour. In some cancers, such as leukaemia, the abnormal cells build up in the blood.

Not all tumours are cancer. Benign tumours tend to grow slowly and usually don't move into other parts of the body or turn into

How cancer starts

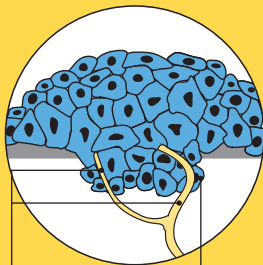


cancer. Cancerous tumours, also known as malignant tumours, have the potential to spread. They may invade nearby tissue, destroying normal cells. The cancer cells can break away and travel through the bloodstream or lymph vessels to other parts of the body.

The cancer that first develops is called the primary cancer. It is considered localised cancer if it has not spread to other parts of the body. If the primary cancer cells grow and form another tumour at a new site, it is called a secondary cancer or metastasis. A metastasis keeps the name of the original cancer. For example, breast cancer that has spread to the liver is called metastatic breast cancer, even though the main symptoms may be coming from the liver.

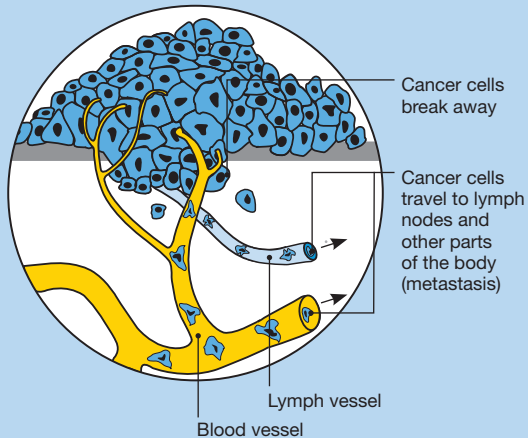
How cancer spreads

→ Malignant cancer



Grows own
blood vessels
(angiogenesis)

Invades
surrounding
tissue



Cancer cells
break away

Cancer cells
travel to lymph
nodes and
other parts of
the body
(metastasis)

Lymph vessel

Blood vessel



The breasts

Women and men both have breast tissue.

In women, breasts are mostly made up of lobes, lobules and ducts:

- **Lobes** – Each breast is divided into 12–20 sections called lobes.
- **Lobules** – Each lobe contains glands that produce milk. These milk glands are called lobules.
- **Ducts** – The lobes and lobules are connected by fine tubes called ducts. The ducts carry milk to the nipples.

In men, breast tissue has ducts but few or no lobes and lobules.

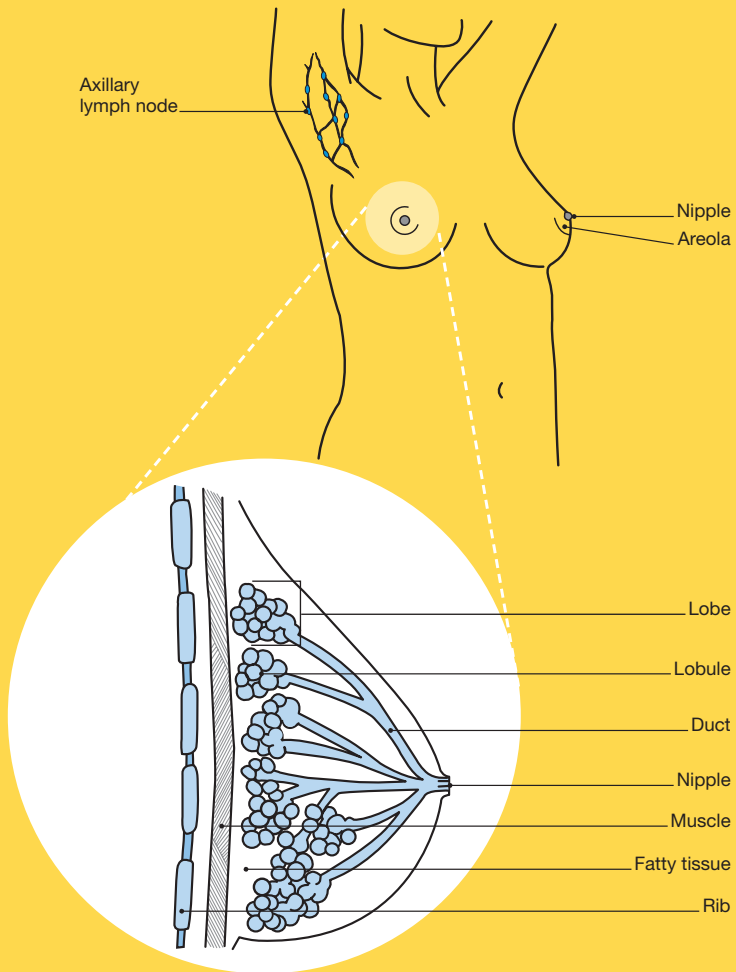
Both female and male breasts also contain fibrous and fatty tissue. Some breast tissue extends into the armpit (axilla). This is known as the axillary tail of the breast.

Breast cancer and the lymphatic system

The lymphatic system is an important part of the immune system. It protects the body against disease and infection. It is made up of a network of thin tubes called lymph vessels that are found throughout the body. Lymph vessels connect to groups of small, bean-shaped structures called lymph nodes or glands.

Lymph nodes are found throughout the body, including in the armpits, breastbone (sternum), neck, abdomen and groin. The lymph nodes in the armpit (axillary lymph nodes) are often the first place cancer cells spread to outside the breast. During surgery for breast cancer (or, sometimes, in a separate operation), some or all of the lymph nodes will be removed and examined for cancer cells. See pages 34–35 for information about surgery to remove lymph nodes.

The breasts





Key questions

Q: What is breast cancer?

A: Breast cancer is the abnormal growth of the cells lining the breast ducts or lobules. These cells grow uncontrollably and have the potential to spread to other parts of the body. Both women and men can develop breast cancer, although breast cancer is rare in men. Most breast cancers are found when they are invasive. Invasive breast cancer means the cancer has spread from the breast ducts or lobules into the surrounding breast tissue.

Q: What are the different types of invasive breast cancer?

A: The main types of invasive breast cancer are:

- **invasive ductal carcinoma (IDC)** – starts in the ducts and accounts for about 80% of breast cancers
- **invasive lobular carcinoma (ILC)** – starts in the lobules and makes up about 10% of breast cancers.

Less common types include inflammatory breast cancer and Paget's disease of the nipple.

This booklet covers early and locally advanced breast cancer (cancer that hasn't spread beyond the breast tissue and nearby lymph nodes). Invasive breast cancer that has spread further is called advanced or metastatic. If you are looking for information about advanced breast cancer, inflammatory breast cancer or Paget's disease of the nipple, call Cancer Council 13 11 20, or visit Breast Cancer Network Australia at bcna.org.au or Cancer Australia at canceraustralia.gov.au.

Q: What is carcinoma in situ?

A: Sometimes tests find abnormal cells in the breast known as carcinoma in situ. These cells usually do not cause any symptoms and cannot spread to the lymph nodes or around the body as invasive breast cancer cells can. However, they may eventually turn into invasive breast cancer. There are two main types of carcinoma in situ in the breast:

Ductal carcinoma in situ (DCIS) – abnormal cells in the ducts of the breast. DCIS is considered non-invasive breast cancer and usually develops into invasive breast cancer over time. In most cases, DCIS is treated in the same way as early invasive breast cancer (see pages 27–50).

Lobular carcinoma in situ (LCIS) – abnormal cells in the lobules of the breast. This is not cancer, but increases the risk of developing cancer in either breast. However, most women with LCIS won't develop breast cancer. If you have LCIS, you will usually have regular screening mammograms or other scans. Some less common types of LCIS may need surgery.

DCIS and LCIS are very rare in men.



Breast cancers are also categorised according to whether they are sensitive to hormones (hormone receptor status), have high levels of growth factors (HER2 positive) or are none of these (triple negative). See pages 22–23 for information about these categories.

Q: What are the risk factors?

A: In most people, the exact cause of breast cancer is unknown, but some factors can increase the risk. Most people with breast cancer have no known risk factors, aside from getting older. Having risk factors does not necessarily mean you will develop breast cancer.

In women, risk factors include:

- older age
- a strong family history, with several first-degree relatives (e.g. mother, sister) diagnosed with breast cancer and/or a particular type of ovarian cancer. However, most women diagnosed with breast cancer do not have a family history
- inheriting a mutation in the BRCA1 or BRCA2 genes (see opposite) – more common with Ashkenazi Jewish heritage
- a previous diagnosis of breast cancer or ductal carcinoma in situ (DCIS)
- a past history of particular non-cancerous breast conditions, such as lobular carcinoma in situ (LCIS) or atypical ductal hyperplasia (abnormal cells in the lining of the milk ducts)
- regularly drinking alcohol
- being overweight after menopause
- a lack of physical activity
- having had radiation therapy to the chest for Hodgkin disease, especially if diagnosed under 30
- long-term hormone replacement therapy (HRT) use (slight increase in breast cancer risk).

Having children and breastfeeding can both slightly reduce breast cancer risk.

In men, risk factors include:

- older age
- a strong family history, with several first-degree relatives (male or female) who have had breast cancer; a relative diagnosed with breast cancer under the age of 40; or several relatives with ovarian or colon cancer
- inheriting a mutation in the BRCA1 or BRCA2 genes
- a rare genetic syndrome called Klinefelter syndrome – men with this syndrome have three sex chromosomes (XXY) instead of the usual two (XY).

Inherited breast cancer gene

Most people diagnosed with breast cancer do not have a family history of the disease. However, a small number of people have inherited a gene fault that increases their breast cancer risk.

Everyone inherits a set of genes from each parent, so they have two copies of each gene. Sometimes there is a fault in one copy of a gene. This fault is called a mutation.

The two most common gene mutations that are linked to breast cancer are on the BRCA1

and BRCA2 genes. Women in families with an inherited BRCA1 or BRCA2 change are at an increased risk of breast and ovarian cancers. Men in these families may be at an increased risk of breast and prostate cancers.

People with a strong family history of breast cancer can attend a family cancer clinic for tests to see if they have inherited a gene mutation. For more information about genetic testing, talk to your doctor or breast care nurse, or call Cancer Council **13 11 20**.

Q: What are the symptoms?

A: Some people have no symptoms and the cancer is found during a screening mammogram (a low-dose x-ray of the breast) or a physical examination by a doctor.

If you do have symptoms, they could include:

- a lump, lumpiness or thickening, especially if it is in only one breast
- changes in the size or shape of the breast
- changes to the nipple, such as a change in shape, crusting, sores or ulcers, redness, a clear or bloody discharge, or a nipple that turns in (inverted) when it used to stick out
- changes in the skin of the breast, such as dimpling or indentation, a rash, a scaly appearance, unusual redness or other colour changes
- swelling or discomfort in the armpit
- persistent, unusual pain that is not related to your normal monthly menstrual cycle, remains after your period and occurs in one breast only.

Most breast changes aren't caused by cancer. However, if you have symptoms, see your doctor without delay.



For an overview of what to expect during all stages of your cancer care, visit cancerpathways.org.au/optimal-care-pathways/breast-cancer. This is a short guide to what is recommended, from diagnosis to treatment and beyond.

Q: How common is breast cancer?

A: Apart from non-melanoma skin cancer, breast cancer is the most common cancer found in Australian women – it represents 28% of all cancers diagnosed in women. About 17,000 women are diagnosed with breast cancer each year, and one in eight will be diagnosed by the age of 85.²

Although breast cancer can occur at any age, it is more common in women over 40. Almost 70% of breast cancers are diagnosed in women aged 40–69, and about 25% are diagnosed in women aged 70 and over. In rare cases, women are diagnosed during pregnancy.

About 140 men are diagnosed with breast cancer in Australia each year, and most of these men are over 50. Resources are available for men diagnosed with breast cancer – visit Cancer Australia’s website at breastcancerinmen.canceraustralia.gov.au.

Q: Which health professionals will I see?

A: Your general practitioner (GP) will arrange the first tests to assess your symptoms. If these tests do not rule out cancer, you’ll usually be referred to a specialist breast service for further tests.

If breast cancer is diagnosed, you will usually first see a breast surgeon who will consider treatment options. Often these will be discussed with other health professionals at what is known as a multidisciplinary team (MDT) meeting. During and after treatment, you will see a range of health professionals who specialise in different aspects of your care (see next two pages).

Health professionals you may see

GP	assists you with treatment decisions and works in partnership with your specialists in providing ongoing care
breast physician	diagnoses breast cancer and coordinates treatment for breast cancer in some clinics
breast surgeon*	specialises in surgery and performs biopsies; some breast surgeons also perform breast reconstruction and plastic surgery procedures
oncoplastic breast surgeon*	specialises in using plastic surgery techniques to reconstruct breast tissue after surgery
reconstructive (plastic) surgeon*	performs breast reconstruction for women who have had a mastectomy
anaesthetist*	administers anaesthetic before surgery and monitors you during the operation
pathologist*	examines cells and tissue samples that are removed from the breast to work out the type and extent of the cancer
breast care nurse	provides information, support and referral to women affected by breast cancer during and after treatment
nurse	administers drugs and provides care, information and support throughout treatment
radiologist*	analyses x-rays, mammograms, ultrasounds and other scans

radiation oncologist*	treats cancer by prescribing and coordinating a course of radiation therapy
radiation therapist	plans and delivers radiation therapy
medical oncologist*	treats cancer with drug therapies such as chemotherapy, hormone therapy, targeted therapy and immunotherapy
lymphoedema practitioner	educates people about lymphoedema prevention and management, and provides treatment if lymphoedema occurs; often a physiotherapist
dietitian	recommends an eating plan to follow during treatment and recovery
exercise physiologist	prescribes exercise to help people with medical conditions improve their overall health, fitness, strength and energy levels
physiotherapist, occupational therapist	assist with physical and practical problems, including restoring movement and mobility after treatment, and recommending aids and equipment
social worker	links you to support services and helps you with emotional, practical or financial issues
genetic counsellor	provides advice for people with a strong family history of breast cancer or with a genetic condition linked to breast cancer
psychiatrist*, psychologist, counsellor	help you manage your emotional response to diagnosis and treatment

* *Specialist doctor*



Diagnosis

If you have symptoms of breast cancer, your GP will take a full medical history, which will include your family history. They will also perform a physical examination, checking both your breasts as well as the lymph nodes under your arms and above your collarbone.

To find out if your breast change has been caused by cancer, your GP may arrange some tests, such as a mammogram (see below) and biopsy (see pages 18–19). They may also refer you to a specialist for these and other tests.

Mammogram

A mammogram is a low-dose x-ray of the breast tissue. This x-ray can check any lumps or other changes found by the physical examination. It can also find changes that are too small to be felt during a physical examination.

During the mammogram, one breast at a time is pressed between two x-ray plates, which spread the breast tissue out so that clear pictures can be taken. This can be uncomfortable, but it takes only about 20 seconds. Both breasts will be checked.

Tomosynthesis – Also known as three-dimensional mammography or digital breast tomosynthesis (DBT), tomosynthesis takes x-rays of the breast from different angles and uses a computer to combine them into a three-dimensional image. This form of breast imaging is sometimes used to find small breast cancers, particularly in women with dense breast tissue.

Ultrasound

An ultrasound is a painless scan that uses soundwaves to create a picture of your breast. It will be done if a mammogram picks up breast changes, or if you or your GP can feel a lump that doesn't show up on the mammogram.

The person performing the ultrasound will spread a gel on your breast, and then move a small device called a transducer over the area. This sends out soundwaves that echo when they meet something dense, like an organ or a tumour. A computer creates a picture from these echoes. The scan is painless and takes about 15–20 minutes.

MRI

A magnetic resonance imaging (MRI) scan uses a large magnet and radio waves to create pictures of the breast tissue on a computer.

Breast MRI is not a standard test for breast cancer and can involve extra costs. It is mainly used to screen people who are at high risk of breast cancer or to diagnose breast cancer in women with very dense breast tissue or implants. It may also be used to help plan breast surgery.

Before an MRI, you will have an injection of a contrast dye to make any cancerous breast tissue easier to see. You will lie face down on a table with cushioned openings for your breasts and rest your arms above your head. The table slides into the machine, which is large and shaped like a cylinder. The scan is painless and takes 30–60 minutes.

Biopsy

During a biopsy, a small sample of cells or tissue is removed from your breast. A specialist doctor called a pathologist examines the sample and checks it for cancer cells under a microscope.

There are a few ways of taking a biopsy, and you may need more than one. The biopsy may be done in a specialist's rooms, at a radiology practice, in hospital or at a breast clinic.

Core biopsy – A needle is used to remove a piece of tissue (a core) from the lump or abnormal area. It is usually done under local anaesthetic, so your breast will be numb, although you may feel some pain or discomfort when the anaesthetic is given. During the core biopsy, a mammogram, ultrasound or MRI scan is used to guide the needle into place. You may have some bruising to your breast afterwards.

Vacuum-assisted stereotactic core biopsy – In this type of core biopsy, a number of small tissue samples are removed through one small cut (incision) in the skin using a needle and a suction-type instrument. This biopsy is done under a local anaesthetic, but you may feel some discomfort. A mammogram, ultrasound or MRI may be used to guide the needle into place.

Fine needle aspiration (FNA) – A thin needle is used to take cells from an abnormal lymph node (core biopsy is preferred for breast lumps). Sometimes an ultrasound is used to help guide the needle into place. A local anaesthetic may be used to numb the area where the needle will be inserted.

Surgical biopsy – If the abnormal area is too small to be biopsied using other methods, or the biopsy result is not clear enough to rule out cancer, a surgical biopsy is done. Before the biopsy, a guide wire may be put into the breast to help the surgeon find the abnormal tissue. You will be given a local anaesthetic, and the doctor may use a mammogram, ultrasound or MRI to guide the wire into place. The biopsy is then done under a general anaesthetic. The lump and a small area of nearby breast tissue are removed, along with the wire. This is usually done as day surgery, but some people stay in hospital overnight.

Further tests

If the tests described on pages 16–19 show that you have breast cancer, one or more tests may be done to check whether the cancer has spread to other parts of your body. Bone scans and CT scans (see page 20) are not routine tests for breast cancer and are only done if the cancer has a high risk of spreading.

Blood tests – Blood samples may be taken to check your general health and to look at your bone and liver function for signs of cancer.

Chest x-ray – Your doctor may take an x-ray of your chest to check your lungs for signs of cancer.



Before having scans, tell the doctor if you have any allergies or have had a reaction to contrast during previous scans. You should also let them know if you are diabetic, have kidney disease or are pregnant.

Bone scan – A bone scan may be done to see if the breast cancer has spread to your bones. A small amount of radioactive material is injected into a vein, usually in your arm. This material is attracted to areas of bone where there is cancer. After a few hours, the bones are viewed with a scanning machine, which sends pictures to a computer. This scan is painless and the radioactive material is not harmful. You should drink plenty of fluids on the day of the test and the day after.

CT scan – A CT (computerised tomography) scan uses x-rays and a computer to create detailed, cross-sectional pictures of the inside of the body. Before the scan, you will either drink a liquid dye or be given an injection of dye into a vein in your arm. This dye, known as the contrast, makes the pictures clearer. You will lie flat on a table while the CT scanner, which is large and round like a doughnut, takes pictures. This painless test takes 30–40 minutes.

Prognosis

Prognosis means the expected outcome of a disease. You may wish to discuss your prognosis with your doctor, but it is not possible for anyone to predict the exact course of the disease. In working out a prognosis, your doctor will consider the stage and grade of the cancer (see opposite), as well as its hormone receptor and HER2 status (see pages 22–23).

Survival rates for people with breast cancer have increased significantly over time due to better tests and scans, earlier detection, and improvements in treatment methods. Most people with early or locally advanced breast cancer can be treated successfully.

Staging breast cancer

The tests described on pages 18–20 show whether the cancer has spread to other parts of the body. This is called staging.

Stage I	Tumour less than 2 cm and no spread to lymph nodes.
Stage IIA	Tumour less than 2 cm and spread to 1–3 lymph nodes in armpit; or tumour 2–5 cm and no spread to lymph nodes.
Stage IIB	Tumour 2–5 cm and spread to 1–3 lymph nodes in armpit; or tumour more than 5 cm and no spread to lymph nodes.
Stage IIIA	Tumour less than 5 cm but spread to 4–9 lymph nodes in armpit or any lymph nodes under breastbone; or tumour more than 5 cm and spread to 1–9 lymph nodes.
Stage IIIB	Tumour any size but spread to nearby muscles and skin.
Stage IIIC	Tumour any size but spread to at least 10 lymph nodes in armpit; or to at least 1 node under breastbone and at least 1 in armpit; or to at least 1 node near collarbone.

Stages I and II are called early breast cancer, while stage III is referred to as locally advanced. Stage IV breast cancer has spread to other parts of the body and is called advanced or metastatic (see page 8).

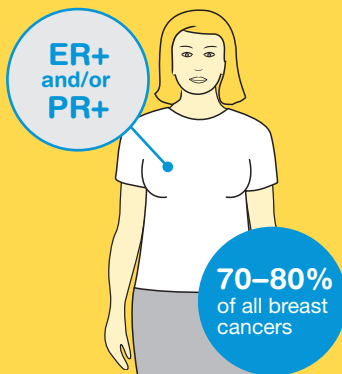
Grading breast cancer

The grade describes how active the cancer cells are and how fast the cancer is likely to be growing.

Grade 1 (low grade)	Cancer cells look a little different from normal cells. They are usually slow-growing.
Grade 2 (intermediate grade)	Cancer cells do not look like normal cells. They are growing faster than grade 1 cancer cells.
Grade 3 (high grade)	Cancer cells look very different from normal cells. They are fast-growing.

Tests on breast tissue

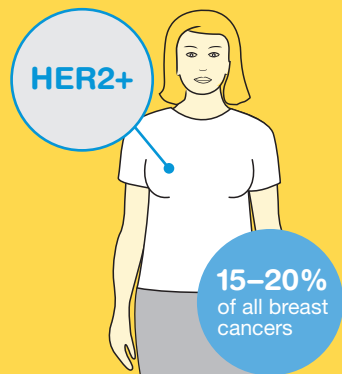
If tests on the biopsy sample show that it is breast cancer, extra tests will be done to work out the factors shown here and help plan treatment. Your surgeon may suggest leaving some of these tests until the whole lump is removed and examined after surgery (see pages 28–32). The results will be included in the pathology report.



Hormone receptor status

Hormones are chemicals in the body that transfer information. Both women and men produce the female sex hormones oestrogen (ER) and progesterone (PR), although the levels are lower in postmenopausal women and in men.

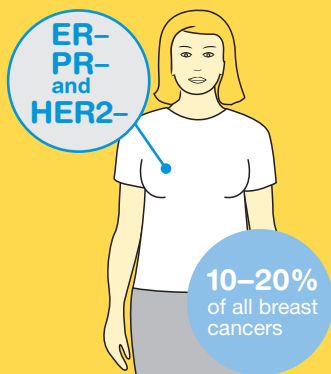
A hormone receptor is a protein in a cell. Most breast cancers have cells with hormone receptors that receive signals from oestrogen or progesterone, so these hormones may be helping the cancers grow. These cancers are called hormone receptor positive (ER+ and/or PR+) or hormone sensitive cancers. They are likely to respond to hormone therapy that blocks oestrogen.



HER2 status

HER2 (human epidermal growth factor receptor 2) is a protein that is found on the surface of cells. This protein causes the cells to grow and divide in an uncontrolled way.

Tumours that have high levels of these receptors are called HER2 positive (HER2+). Tumours with low levels are called HER2 negative (HER2–). Treatment with targeted therapy, such as trastuzumab (brand name Herceptin, see pages 48–49), as well as chemotherapy, is usually recommended for HER2+ breast cancer.



Triple negative breast cancer

Some breast cancers are hormone receptor negative (ER- and PR-) and HER2 negative (HER2-). These are called triple negative cancers.

Triple negative cancers do not respond to hormone therapy nor to targeted therapy aimed at HER2. However, triple negative cancers often respond well to chemotherapy.

As triple negative is a less common form of breast cancer, you may find it helpful to talk to other women with a similar diagnosis. See page 64 for peer support services.

Genomic assays

Genomic assays, also called molecular assays, are tests that look at the patterns of certain genes within the cancer cells. These patterns help predict the risk of the cancer coming back, and this information helps guide treatment. For example, if there is a low risk of the cancer coming back, you may not need chemotherapy.

The genomic assays that are currently available are only for breast cancer that is ER+ and HER2-. They include the Oncotype DX Breast Cancer Assay, EndoPredict and Prosigna. These tests can cost up to several thousand dollars and are not currently covered by Medicare or private health funds.

It is important to remember that the standard pathology tests that are done on all breast cancers often provide enough information to guide treatment plans. If you and your oncologist decide that it is worth having a genomic assay, the test you choose will depend on a number of factors, including your doctor's experience. Your doctor can provide you with further information.



Key points about diagnosing breast cancer

Main tests

Tests to diagnose breast cancer include:

- physical examination
- mammogram (breast x-ray)
- ultrasound
- MRI (for those with strong family history)
- biopsy (taking a tissue sample).

Other tests

Other tests can give more information about the cancer to help guide treatment. These tests may include:

- blood tests
- chest x-ray
- bone scan
- CT scan.

Key information about the cancer

- The stage shows how far the cancer has spread. Early breast cancer is stage I or II. Locally advanced breast cancer is stage III.
- The grade indicates how fast the cancer is likely to grow.
- Hormone receptor status (ER+/- and/or PR+/-) shows whether the cancer may respond to hormone therapy.
- HER2 status (HER2+/-) shows whether the cancer may respond to targeted therapy.
- Genomic assays look at gene patterns within cancer cells. These can help work out if chemotherapy is needed.



Making treatment decisions

Sometimes it is difficult to decide on the type of treatment to have. You may feel that everything is happening too fast, or you might be anxious to get started. Check with your specialist how soon treatment should begin – often it won't affect the success of the treatment to wait a while. Ask them to explain the options, and take as much time as you can before making a decision.

Know your options – Understanding the disease, the available treatments, possible side effects and any extra costs can help you weigh up the options and make a well-informed decision. Check if the specialist is part of a multidisciplinary team (see page 13) and if the treatment centre is the most appropriate one for you – you may be able to have treatment closer to home, or it might be worth travelling to a centre that specialises in a particular treatment.

Record the details – When your doctor first tells you that you have cancer, you may not remember everything you are told. Taking notes or recording the discussion can help. It is a good idea to have a family member or friend go with you to appointments to join in the discussion, write notes or simply listen.

Ask questions – If you are confused or want to check anything, it is important to ask your specialist questions. Try to prepare a list before appointments (see page 67 for suggestions). If you have a lot of questions, you could talk to a cancer care coordinator or nurse.

Consider a second opinion – You may want to get a second opinion from another specialist to confirm or clarify your specialist's recommendations or reassure you that you have explored all of

your options. Specialists are used to people doing this. Your GP or specialist can refer you to another specialist and send your initial results to that person. You can get a second opinion even if you have started treatment or still want to be treated by your first doctor. You might decide you would prefer to be treated by the second specialist.

It's your decision – Adults have the right to accept or refuse any treatment that they are offered. For example, some people with advanced cancer choose treatment that has significant side effects even if it gives only a small benefit for a short period of time. Others decide to focus their treatment on quality of life. You may want to discuss your decision with the treatment team, GP, family and friends.

➤ See our *Cancer Care and Your Rights* booklet.

Should I join a clinical trial?

Your doctor or nurse may suggest that you take part in a clinical trial.

Doctors run clinical trials to test new or modified treatments and ways of diagnosing disease to see if they are better than current methods. For example, if you join a randomised trial for a new treatment, you will be chosen at random to receive either the best existing treatment or the modified new treatment. Over the years, trials have improved treatments

and led to better outcomes for people diagnosed with cancer.

You may find it helpful to talk to your specialist, clinical trials nurse or GP, or to get a second opinion. If you decide to take part in a clinical trial, you can withdraw at any time.

For more information, visit australiancancertrials.gov.au.

➤ See our *Understanding Clinical Trials and Research* booklet.

Treatment

Treatment for early or locally advanced breast cancer aims to remove the cancer and reduce the risk of the cancer spreading or coming back (recurring – see page 62). As there are different types of breast cancer, treatment varies from person to person. Your doctors will recommend the most suitable treatment for you.

The choice of treatment will depend on your test results, where the cancer is in the breast, the cancer's stage and grade (see page 21), and whether the cancer is hormone receptor or HER2 positive or triple negative (see pages 22–23), along with your age and general health, and your preferences. Usually more than one treatment is used, and treatments may be given in different sequences and combinations.

Men diagnosed with early or locally advanced breast cancer have similar treatment options to women. Some men may struggle with feelings of isolation or embarrassment, as breast cancer is most commonly diagnosed in women. Resources for men with breast cancer are available at breastcancerinmen.canceraustralia.gov.au.

Treatments for early or locally advanced breast cancer

Surgery Pages 28–41

Chemotherapy Pages 41–43

Radiation therapy Pages 43–45

Hormone therapy (only for ER+ and/or PR+ cancers) Pages 46–48

Targeted therapy (only for HER2+ cancers) Pages 48–49

Surgery

If you have been diagnosed with early or locally advanced breast cancer, you will usually be offered surgery to remove the cancer. In some cases of locally advanced breast cancer, treatment begins with chemotherapy (see page 41) to shrink the tumour before surgery.

Surgery for early breast cancer will be either breast-conserving surgery, where part of the breast is removed, or a mastectomy, where the whole breast is removed. A mastectomy is usually recommended for locally advanced breast cancer.

In most cases, breast surgery also involves removing one or more lymph nodes from the armpit (see pages 34–35). In some cases, breast reconstruction (see page 32) will be done at the same time as a mastectomy, but it may also be done as a separate operation later.

Which surgery should I have?

Some women will be offered a choice between breast-conserving surgery and a mastectomy. Men don't usually have breast-conserving surgery.

Research has shown that breast-conserving surgery, when combined with sentinel node biopsy (see pages 34–35) and followed by radiation therapy

(pages 43–45), is as effective as mastectomy for most women with early breast cancer. The chance of the cancer coming back in another part of the body is the same with either type of surgery.

The operations have different benefits, risks and side effects. Talk to your doctor about the best option for you.

Types of surgery

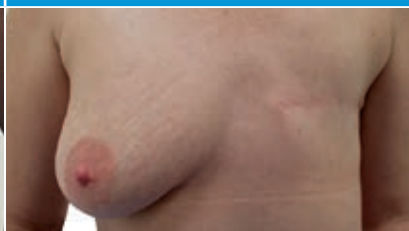
How your breasts look after surgery will depend on the type of surgery and a range of individual factors. Your surgeon can show you more examples to help you choose the surgery that is right for you.

Breast-conserving surgery



Two years after surgery to left breast. The surgery was followed by radiation therapy.

Mastectomy



Left breast removed, with no reconstruction.

Nipple-sparing mastectomy with implant reconstruction



Right breast removed with a nipple-sparing mastectomy, followed by reconstruction using an implant. If it is not possible to keep the nipple, there is the option of having a nipple reconstruction later.

Mastectomy with a flap reconstruction



Right breast removed, followed by reconstruction using tissue from the back. A reconstruction can also be done with tissue from the abdomen, buttock or thigh. Some women choose to have a nipple reconstruction later.

Breast-conserving surgery

Surgery to remove the breast cancer and some surrounding healthy tissue is called breast-conserving surgery. It is also called a lumpectomy or wide local excision. Breast-conserving surgery is recommended if the cancer is relatively small compared to the size of your breast. The surgeon removes the tumour and a rim of breast tissue, while leaving as much breast tissue as possible. This will leave a scar and may change the size and shape of the breast and the position of the nipple.

The removed tissue is sent to a laboratory. A specialist called a pathologist checks it under a microscope to see if there is an area of healthy cells around the cancer – this is known as a clear margin. The pathologist will create a report, which will include information about:

- the size and grade of the cancer (see page 21)
- whether there are cancer cells near the edge (margin) of the removed breast tissue
- whether the cells are hormone receptor positive and/or HER2 positive or triple negative (see pages 22–23)
- whether the cancer has spread to any lymph nodes (see page 21).

The report will help guide further treatment. If cancer cells are found at the edge of the removed tissue (an involved or positive margin), there is a greater chance of the cancer returning. You may need more tissue removed (re-excision or wider excision), or your doctor may recommend a mastectomy (see opposite).

After breast-conserving surgery, most women have radiation therapy to the whole breast to destroy any undetected cancer cells that may be left in the breast or armpit, and to keep the cancer from coming back.



Oncoplastic breast-conserving surgery combines oncological surgery (to remove the cancer) with plastic surgery (to reshape the breast and try to preserve its appearance). It is performed by oncoplastic breast surgeons.

Occasionally, radiation therapy may not be required. Some women also need chemotherapy, targeted therapy or hormone therapy.

Mastectomy

Surgery to remove the whole breast is called a mastectomy. You may be offered a mastectomy if:

- there is cancer in more than one area of the breast
- the cancer is large compared to the size of the breast
- you have had radiation therapy to the same breast before and so cannot have it again
- clear margins cannot be obtained
- you find out that you have the BRCA1 or BRCA2 gene mutation at the time of your breast cancer diagnosis.

You may decide that you would prefer a mastectomy rather than breast-conserving surgery, especially if you can't have radiation therapy. Some women choose a mastectomy even for a very small cancer.

Most mastectomies remove the nipple with the breast. In some cases, the surgeon may be able to perform a skin-sparing or nipple-sparing mastectomy. This means that more of the normal skin – with or without the nipple – is kept. It allows the surgeon to do an immediate breast reconstruction (see page 32).

If you don't have an immediate reconstruction, you can wear a soft temporary breast prosthesis inside your bra while your surgical wound heals. After this time, you can be fitted for a permanent breast prosthesis (see pages 54–55).

Double mastectomy – Some women who need a mastectomy because of cancer in one breast choose to have the other breast removed as well. This surgery is known as a contralateral prophylactic mastectomy. Your surgeon may recommend a double mastectomy if you have the BRCA1 or BRCA2 gene mutation, because the mutation increases the risk of developing another breast cancer. Some women with average risk also choose to have a double mastectomy, even though it does not normally make any difference to survival rates.

Breast reconstruction

A breast reconstruction is a type of surgery in which a breast shape is created using a silicone implant, tissue from another part of your body, or a combination of both.

Some women have a breast reconstruction at the same time as a mastectomy (immediate reconstruction). Others are advised or prefer to wait for several months or longer before having a reconstruction (delayed reconstruction). Some women choose not to have a reconstruction at any stage.

If you're not having an immediate reconstruction but might consider it in the future, discuss this with your surgeon before surgery, as it will help them to plan the mastectomy.

➤ See our *Breast Prostheses and Reconstruction* booklet.



Anne's story

I was having a routine mammogram when they found a large lump. I had always had lumpy breasts but neither I nor my GP could feel this lump. I went for an ultrasound and while they were doing it, people just kept coming in and I thought, "Oh, okay, everyone's taking a lot of interest in this." The biopsies then confirmed that it was cancer.

I'd had benign breast lumps and biopsies practically my whole life, so I'd already had a strategy that if they found something, I was just going to have a mastectomy on both sides. And so once I did get my diagnosis, that was my plan. Certainly the tumour looked too large to just do a lumpectomy or do any saving of the breast tissue.

Of course, they wanted to do everything in two weeks and so that is a bit head-spinning. I just sort of thought, "Well, great I'll have my breasts removed. End of checklist." But then they found I had positive lymph

nodes and I needed to have full axillary clearance on the right. I think that was the most daunting because it meant it had spread and I was also worried about the lymphoedema risk.

I really felt like I was spiralling out of control at that point and knew I needed to learn some anxiety management – the breast care nurses and the Cancer Council relaxation and meditation CDs really helped with that.

After the surgery, I started seven months of chemotherapy. And then I had five weeks of radiation therapy. I was lucky I could have it close to home – it made such a difference not having to travel.

I chose the bilateral mastectomy because I was so busy, it would have been odd to have just one done. Although, having said that, I would now always encourage someone to do the least amount of surgery that they're advised to do. Because things have changed even in the five years since I had my surgery.

Removing lymph nodes

The lymph nodes in the armpit (axillary lymph nodes) are often the first place breast cancer cells spread to outside the breast. To see whether the cancer has spread, some or all of the lymph nodes are removed and checked for cancerous cells.

The operation to remove lymph nodes is called axillary surgery. It is usually performed during breast surgery, but may be done in a separate operation. There are two main types of axillary surgery:

Sentinel node biopsy – When breast cancer first spreads beyond the breast, it is likely to go to particular lymph nodes in the armpit or sometimes near the breastbone (sternum). There may be one, two or a few of these lymph nodes, which are known as the sentinel nodes. A sentinel node biopsy finds and removes them so they can be tested for cancer cells. The procedure is outlined in the box opposite.

If the sentinel nodes are clear of cancer cells, no further surgery is needed. If one or more sentinel nodes contain cancer cells, axillary dissection or radiation therapy to the armpit may be considered.

Axillary dissection (clearance) – The surgeon will remove most or all of the axillary lymph nodes (usually 10–20 nodes). If they contain cancer cells, your doctor may recommend chemotherapy, radiation therapy, targeted therapy and/or hormone therapy.

Side effects – Possible side effects of both types of axillary surgery include: arm or shoulder stiffness; numbness in the arm, shoulder, armpit and parts of the chest; lymphoedema (see pages 51–52); and

seroma (fluid collecting near the surgical scar). However, these side effects are usually less severe after a sentinel node biopsy than after axillary dissection because fewer lymph nodes are removed. Your surgeon will discuss the potential side effects with you before the operation and explain how they can be managed.

Finding the sentinel nodes

To work out which lymph nodes are the sentinel nodes, you may have the following procedures:

1 Lymphatic mapping

This is done either the day before or on the morning before the biopsy. A small amount of a radioactive substance is injected into the breast. A scan is taken to show which nodes the substance flows to first. These are likely to be the sentinel nodes.

2 Blue dye injection (not always used)

For the biopsy, you will have a general anaesthetic. If blue dye is being used, it will be injected into the breast. The dye moves into the lymphatic vessels and stains the sentinel nodes blue first. Because of the dye, you will have bluish urine the next day and may have a blue patch on the breast for some weeks.

3 Handheld probe

As well as looking at where the blue dye travels to first, the surgeon uses a handheld probe during the operation to detect the radioactive substance that was injected during the lymphatic mapping. This helps to confirm that the correct sentinel nodes have been identified and the surgeon can then remove them for testing.

What to expect after breast surgery

How long you stay in hospital will depend on the type of surgery you have and how well you recover. Most people can walk around and shower the day after surgery. If you have any questions about your recovery, ask the doctors and nurses caring for you. Many people are referred to a breast care nurse for information and support.

Tubes and dressings – You may have one or more drainage tubes in place to remove fluid from the surgical site. These may remain in place for up to 10 days, depending on the type of surgery. A dressing will cover the wound to keep it clean, and it will usually be removed after about a week.

Some people are discharged from hospital with drains still in place, but this will depend on your situation and your doctor's advice. Nursing staff will teach you how to manage the drains at home, or you may be referred to a community nurse or your GP.

Movement – While you are in hospital, you will be advised to move your legs when you are in bed to help prevent blood clots, and to get up and walk around when you are able. You may have to wear elastic (compression) stockings or use other devices to help prevent blood clots in the deep veins of your legs (deep vein thrombosis or DVT). Your doctor might also prescribe medicine that lowers the risk of clots.

Pain – You will be given pain relief through an intravenous (IV) drip, via an injection, or as tablets, and you will be given pain medicine when you go home. Any bruising and swelling at the surgery site will usually settle down in 2–3 weeks.

Sense of loss – Breast surgery may change the appearance of your breast, and this can affect how you feel about yourself (self-image and self-esteem, see page 54). You may feel a sense of loss if you've had a mastectomy and find that your sense of identity or femininity has been affected. It is normal to grieve the loss of your breast.

Talking to someone who has had breast surgery might be helpful. Cancer Connect may be able to link you to someone who has had a similar experience to you. You may also benefit from speaking with a counsellor or psychologist for emotional support and coping strategies. Call Cancer Council 13 11 20 for details.

Exercising your arm

After surgery, ask your treatment team when you can slowly begin to exercise your arm and shoulder. This will help it feel better and get back to normal faster. Arm and shoulder exercises will also move any fluid that has collected near the surgical scar (seroma) and help to prevent lymphoedema (see pages 51–52).

- ▶ Look for the *Arm & shoulder exercises after surgery* poster on your local Cancer Council website (see back cover).



What to expect when you get home

Recovering from breast surgery will take time. If you need home nursing care, ask hospital staff about services that are available in your area.

Getting back on your feet



Recovery time

The time it takes to recover from breast surgery varies. Most people start to feel better within about two weeks.

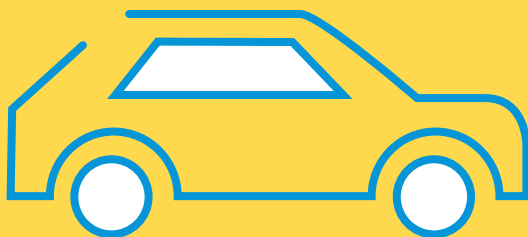


Get help

Ask friends or family to help you out while you recover, e.g. with household chores, meals or errands.

Rest up

Get plenty of rest in the first few days after being discharged from hospital. Take it easy and do only what is comfortable.



Resuming activities

Check with your surgeon and/or breast care nurse about when you can start doing your regular activities. For example, some surgeons tell you to avoid driving until the stitches are removed or until your arm is more agile.

Caring for the wound



Follow-up

Report any redness, pain, fever, swelling or wound discharge to your surgeon or breast care nurse.



Comfort first

If you want to wear a bra, choose a soft bra or crop top. A sterile gauze pad placed inside your bra may help with rubbing on any tender areas.

Seek advice

Talk to your surgeon and breast care nurse about the best way to look after the wound.

Avoid cuts

Talk to your treatment team if you want to shave your armpits. They may advise you to wait for a time.



Bathe carefully

Keep the wound clean, and gently pat it dry after showering.



Moisturise

Gently massage the area with moisturiser once the stitches have been removed and the wound has completely healed.

Don't use deodorant

If the wound is under your arm, avoid using deodorant until it has completely healed.

Side effects of surgery

Talk to your doctor or breast care nurse about ways to deal with the side effects of surgery. Most side effects can be managed. For more information, see the *Living with breast cancer* chapter (pages 51–57).

Fatigue – Feeling tired and having no energy is common. Cancer treatment and the emotional impact of the diagnosis can be tiring. Fatigue may continue for a few weeks or months. There is evidence that exercise during and after cancer treatment can help improve fatigue.

- See our *Exercise for People Living with Cancer* booklet or call Cancer Council 13 11 20 to find out about exercise programs. YWCA Encore is a free exercise program for women who have had breast cancer surgery – visit ywcaencore.org.au or call 1800 305 150.

Shoulder stiffness – Gentle arm and shoulder exercises can help prevent or manage shoulder stiffness. Talk to your health care team and see the box on page 37 for more information about these exercises.

Numbness and tingling – Surgery can cause bruising or injury to nerves, which may cause numbness and tingling in the chest and arm. This often improves within a few weeks, but it may take longer. For some people, it may not go away completely. A physiotherapist or occupational therapist can suggest exercises that may help.

Seroma – Fluid may collect in or around the surgical scar. A breast care nurse, your specialist or GP, or a radiologist can drain the fluid using a fine needle and a syringe. This procedure isn't painful, but it may need to be repeated over a few appointments.

Change in breast, nipple or arm sensation – This is usually temporary, but it may be permanent for some people.

Lymphoedema – Fluid build-up may cause swelling in the arm or breast after lymph node surgery or radiation therapy. See pages 51–52 for ways to manage lymphoedema.

Chemotherapy

Chemotherapy uses drugs to kill cancer cells or slow their growth. It is usually given before radiation therapy and may be used if:

- the cancer needs to be shrunk or controlled before surgery (neoadjuvant chemotherapy)
- the cancer is not sensitive to hormone therapy and/or is HER2 positive (see page 22)
- the risk of the cancer returning is high
- the cancer returns after surgery or radiation therapy (to gain control of the cancer and relieve symptoms).

Many different types of chemotherapy drugs are used to treat early and locally advanced breast cancer. The drug combination you are given will depend on the type of cancer, how far it has spread and what other treatments you are having. Common drugs include doxorubicin, cyclophosphamide, fluorouracil, docetaxel and paclitaxel. Your health professionals may also refer to the drugs by their brand names.

Chemotherapy is given through a vein (intravenously). You will usually be treated as an outpatient, but occasionally you may have to stay in hospital overnight.

Most people will have chemotherapy for 3–6 months. Some drugs are given once every three weeks, others are given on a faster schedule (e.g. once every two weeks or once a week). Not every person with breast cancer will have the same chemotherapy treatment on the same schedule.

Side effects of chemotherapy

Chemotherapy damages cells as they divide. This makes the drugs effective against cancer cells, which divide rapidly. However, some normal cells – such as hair follicles, blood cells and cells inside the mouth or bowel – also divide rapidly. Side effects happen when chemotherapy damages these normal cells. Unlike cancer cells, normal cells can recover, so most side effects are temporary. Side effects can often be prevented or managed by your treatment team.

Hair loss – Most people who have chemotherapy for breast cancer lose their head and facial hair. Some treatment centres provide cold caps, which may prevent total head hair loss, but this depends on the drugs used. For information about cold caps, speak to your treatment team. See page 55 for information about wigs.

Infertility – Some women find that their periods become irregular or stop during chemotherapy. Periods may return to normal after treatment, or they may stop permanently (menopause, see page 53), causing infertility. For men, chemotherapy can lower the number of sperm produced, which can cause temporary or permanent infertility. If you may want to consider having children in the future, talk to your cancer specialists about the options and ask for a referral to a fertility specialist before your treatment starts.

Other side effects – Common side effects include tiredness, mouth ulcers, nausea and vomiting, and constipation. Chemotherapy can also lower your immune system, increasing the risk of infection. Some people experience pins and needles (peripheral neuropathy).

➤ See our *Understanding Chemotherapy* booklet.

Radiation therapy

Also known as radiotherapy, radiation therapy is the use of targeted radiation to kill or damage cancer cells so they cannot grow, multiply or spread. The radiation is usually in the form of x-ray beams.

Radiation therapy is recommended:

- after breast-conserving surgery to help destroy any undetected cancer cells that may be in the breast and to reduce the risk of the cancer coming back
- sometimes after a mastectomy, depending on the risk of the cancer coming back in the chest area
- if lymph nodes from under the arm were removed and the risk of the cancer coming back in this area is considered to be high.

You will usually start radiation therapy about four weeks after surgery. If you're having chemotherapy after surgery, radiation therapy will begin about four weeks after chemotherapy has finished.

Planning radiation therapy

Treatment is carefully planned to have the greatest effect on the cancer cells and to limit damage to the surrounding healthy tissues. Planning involves several steps, which may occur over a few visits.

You will have a planning session at the radiation therapy centre. During this appointment, you will have a CT scan to pinpoint the area to be treated, and marks will be put on your skin so the radiation therapists treat the same area each time. These marks are small dots (tattoos), and they may be temporary or permanent. Talk to your radiation therapists if you are worried about these tattoos.

Having radiation therapy

You will probably have radiation therapy daily from Monday to Friday for 3–6 weeks. In some cases, you may have a larger dose each day for about three weeks. Usually you can have radiation therapy as an outpatient and go to the treatment centre each day.

Each radiation therapy session will be in a treatment room. Although you will get radiation for only 1–5 minutes, setting up the machine can take 10–30 minutes. You will lie on a table under the machine. The radiation therapists will leave the room and then switch on the machine, but you can talk to them through an intercom. Radiation therapy is not painful, but you will need to lie still while the treatment is given.

Side effects of radiation therapy

Radiation therapy may cause the following side effects:

Tiredness – You may feel tired or fatigued (lacking energy for day-to-day activities) 1–2 weeks after radiation therapy starts, and during treatment. This usually eases a few weeks after treatment finishes.

Red and dry skin – The skin at the treatment site may become red and dry after a few weeks of treatment. It usually returns to normal

4–6 weeks after treatment ends. The nurses will show you how to care for your skin. Sorbolene cream applied twice a day can be helpful.

Inflammation and blistering – Less commonly, your skin may become itchy and/or very irritated. This will be closely monitored by the treatment team, who will recommend creams to apply to the area.

Aches – You may feel minor aches or shooting pains that last for a few moments during treatment.

Swelling – Some people develop fluid in the breast (breast oedema) that can last for up to 12 months or, in some cases, up to five years. Radiation therapy to the armpit may increase the chance of developing lymphoedema in the arm (see pages 51–52). Talk to your radiation oncologist or radiation oncology nurse about any changes you experience.

Radiation therapy to the breast does not cause you to lose hair from your head, although you may lose hair from the treated armpit. The radiation does not stay in your body during or after treatment, so it is safe for you to spend time with family and friends.

➤ See our *Understanding Radiation Therapy* booklet.



If you live in a regional or rural area, you may need to travel for radiation therapy. Patient assisted travel schemes (PATS) may help with the cost of travel and accommodation. For details, talk to the hospital social worker or call Cancer Council **13 11 20**.

Hormone therapy

Hormone therapy, also called endocrine therapy or hormone-blocking therapy, is used to treat hormone receptor positive cancers (ER+ and/or PR+, see page 22). The aim of hormone therapy is to slow or stop the growth of hormone receptor positive cancer cells.

There are different ways to reduce the level of female hormones in the body. The choice will depend on your age, the type of breast cancer and – for women – whether you have reached menopause.

Tamoxifen

Tamoxifen is known as an anti-oestrogen drug. It works by stopping cancer cells from responding to oestrogen. Treatment with tamoxifen is usually started after surgery, radiation therapy or chemotherapy. It is commonly taken as a daily tablet for 5–10 years. It can be given to women of any age, regardless of whether they have reached menopause, and to men.

Your doctor will probably recommend using contraception while taking tamoxifen, as the drug may be harmful to a developing baby. In women, tamoxifen can cause menopausal symptoms (see page 53), although it does not cause menopause. In men, the side effects can include low sex drive (libido) and erection problems.

You may also be at an increased risk of blood clots – see your doctor immediately if you have any swelling, soreness or warmth in an arm or leg. If you are having further surgery or travelling long distances, you may need to stop taking tamoxifen beforehand to lower the risk of blood clots. You can start taking it again when surgery or travel is completed.

A rare side effect is a higher risk of uterine cancer in postmenopausal women, so see your doctor if you notice any unusual vaginal bleeding.

You will probably not experience all of these side effects. Side effects usually improve as treatment continues and after it has finished. Your doctor and breast care nurse can give you information about ways to manage the side effects of tamoxifen.

Aromatase inhibitors

Aromatase inhibitors help prevent the growth of hormone sensitive cancer cells by reducing the amount of oestrogen the body produces. They are recommended only for postmenopausal women, who are already producing smaller amounts of oestrogen. Before starting treatment with an aromatase inhibitor, you will have a bone density scan to check your bone health. Examples of aromatase inhibitors include anastrozole, exemestane and letrozole. They are taken daily as a tablet, usually for 5–10 years.

Side effects of aromatase inhibitors may include joint and muscle pain, bone thinning and weakening (osteoporosis), vaginal dryness, low mood, hot flushes and weight gain. For women with arthritis, aromatase inhibitors may worsen joint stiffness and pain. Exercise or medicines from your doctor may help with this.

Ovarian treatments

For women who have not reached menopause, there are treatments that can stop the ovaries from producing oestrogen, either temporarily or permanently. These are sometimes recommended as an additional treatment for women taking tamoxifen.

Temporary ovarian treatment – Also known as ovarian suppression, this treatment includes the drug goserelin (brand name Zoladex), which stops oestrogen production. The drug is given as an injection by a nurse or your GP once a month for 2–5 years to bring on a temporary menopause. Side effects are similar to those of permanent menopause (see page 53).

Permanent ovarian treatment – Ovarian ablation is treatment that permanently stops the ovaries from producing oestrogen. It usually involves surgery to remove the ovaries (oophorectomy). Ovarian ablation will bring on permanent menopause. This means you will no longer be able to become pregnant. If you may want to become pregnant in the future, ask your doctor for a referral to a fertility specialist before treatment starts.

› See our *Fertility and Cancer* booklet for more about menopause.

Targeted therapy

Targeted therapy uses drugs that work in a different way to chemotherapy drugs. While chemotherapy affects all rapidly dividing cells, targeted therapy attacks specific targets inside cancer cells.

The targeted therapy drugs that are currently available do not work for all types of breast cancer. They are useful only for breast cancers that are growing in response to the HER2 protein (see page 22). These HER2 positive breast cancers make up about 15–20% of all breast cancers. For early or locally advanced breast cancer in both women and men, the main targeted therapy drug is trastuzumab (brand name Herceptin). Other drugs are available for advanced breast cancer.

Herceptin

Trastuzumab is usually referred to by the brand name Herceptin. This targeted therapy works by attaching itself to HER2 positive breast cancer cells, destroying the cells or reducing their ability to divide and grow. Herceptin also encourages the body's own immune cells to help destroy the cancer cells.

Herceptin is used together with chemotherapy. It has been shown to increase the effect of chemotherapy drugs on early breast cancer. Some people receive Herceptin as an injection, but others are given it via a drip into a vein (infusion). You will usually have a dose every three weeks, although some people may have weekly doses.

The first infusion will take up to 90 minutes. This is called the loading dose. The following infusions take 30–60 minutes each, and they will continue for up to 12 months. The first four doses are given while you are having chemotherapy treatment.

Your medical team will monitor you for side effects. Often these will be caused by the chemotherapy. This means that once chemotherapy finishes and you are continuing with Herceptin for another nine months, most side effects ease. For example, hair grows back, there is no nausea or vomiting, and you no longer need regular blood tests.

Although side effects from the Herceptin itself are uncommon, they can include fever, diarrhoea, headache and a rash. In some people, Herceptin can affect how the heart works, so you will have tests to check your heart function before and during treatment. Ask your doctor for more information about these tests.



Key points about treatment for early or locally advanced breast cancer

Choice of treatment

The treatments you are offered will depend on many factors, such as your test results, whether the cancer is hormone receptor positive and/or HER2 positive or triple negative, and your age.

Surgery

Surgery is the main treatment for most early or locally advanced breast cancers. You may be offered:

- breast-conserving surgery – removes only the cancerous part of the breast
- mastectomy – removes the whole breast
- breast reconstruction – re-creates the shape of your breast during or after a mastectomy; some women choose not to have this surgery or to delay it
- axillary surgery – removes some or all of the lymph nodes from the armpit to check if they are cancerous; can be done through a sentinel node biopsy or axillary dissection.

Other treatments

You may also have other types of treatments, such as:

- chemotherapy – use of drugs to damage cancer cells
- radiation therapy – use of targeted radiation to damage cancer cells
- hormone therapy – use of tamoxifen, aromatase inhibitors or ovarian treatments to block oestrogen, used for ER+ and/or PR+ breast cancer
- targeted therapy – use of the drug trastuzumab (Herceptin) for HER2+ breast cancer.



Living with breast cancer

Side effects of treatment for breast cancer can vary. Some people will experience just a few side effects, while others will have more.

Lymphoedema

Lymphoedema is a swelling (oedema) of part of the body, such as an arm or breast. When lymph nodes have been damaged or removed, lymph fluid may not be able to drain properly. The fluid builds up, causing swelling.

Some breast cancer treatments, such as radiation therapy to the armpit or axillary surgery, can cause lymphoedema. People who have had surgery followed by radiation therapy to the armpit are more at risk of experiencing this side effect.

Symptoms of lymphoedema are easier to manage if the condition is diagnosed and treated early. Signs of lymphoedema include swelling, heaviness or fullness in the arm, and an aching or tingling feeling. These signs may begin gradually, and they may come and go. Some people experience pain or fever, which can be caused by an infection called cellulitis in the area with lymphoedema. If you have swelling, see your doctor as soon as possible.

Preventing and managing lymphoedema

Lymphoedema can develop months or years after treatment, although some people who are at risk never develop it. In many hospitals, a lymphoedema practitioner will assess you before you have surgery and can teach you simple exercises to reduce your risk of lymphoedema.

If you develop lymphoedema, the swelling can be reduced by wearing a professionally fitted compression sleeve or by massage from a lymphoedema practitioner, physiotherapist, nurse or occupational therapist. You may also benefit from low-level laser treatment by a lymphoedema practitioner.

Long periods of physical inactivity, such as when travelling, may worsen lymphoedema symptoms. Talk to your doctor or lymphoedema practitioner about wearing a compression sleeve during air, rail or car travel.

The Australasian Lymphology Association website includes a directory of lymphoedema practitioners. Visit lymphoedema.org.au.

► See our *Understanding Lymphoedema* fact sheet.

Cording

Cording, also known as axillary web syndrome, can happen weeks or months after breast-conserving surgery, mastectomy or axillary surgery. It feels like a tight cord running from your armpit down the inner arm, sometimes to the palm of your hand, and is caused by hardened lymph vessels. Some people can see and feel raised cord-like structures across their arm, and these “cords” may limit movement.

This condition usually improves over a few months. Gentle stretching exercises during the first weeks after surgery can help. If there is no improvement or it is getting worse, try physiotherapy, massage, or low-level laser treatment by a lymphoedema practitioner.

Nerve pain

Mastectomy and axillary dissection can cause nerve pain in the arm. This may feel like pins and needles. It usually settles within a few weeks. If pain is ongoing, ask your doctor about ways to manage it.

Some chemotherapy drugs can damage nerves in the hands and feet. This is called peripheral neuropathy and it can cause numbness, pins and needles and, occasionally, pain. These symptoms are usually temporary, but can be permanent. Your doctor will help you manage pain from any permanent nerve damage. A psychologist or counsellor can also teach you coping strategies to manage any ongoing pain.

Menopause and fertility

Chemotherapy can cause your periods to stop for a time and affect your ability to become pregnant. If your periods stop permanently (early menopause), you won't be able to have children naturally.

Symptoms of menopause can range from mild to severe and may include hot flushes and sweats, trouble sleeping, vaginal dryness, reduced sex drive (libido), tiredness, dry skin, aches and pains, mood swings, poor concentration, weight gain and osteoporosis. Talk to your doctor or breast care nurse about ways to manage symptoms.

If you learn you may be permanently infertile, you may feel a great sense of loss. Talking to a counsellor or someone in a similar situation may help – call Cancer Council 13 11 20 for information about counselling services and support groups in your area.

➤ See our *Fertility and Cancer* booklet.



Cancer can affect your sexuality in physical and emotional ways. You might find it helpful to read our *Sexuality, Intimacy and Cancer* booklet and listen to our podcast on sex and cancer at cancercouncil.com.au/podcasts.

Body image

For women, any change in appearance after breast surgery may affect self-esteem and feelings of femininity. It is normal to experience sadness and grief after losing a breast or breasts, or losing your hair.

Try to focus on yourself as a whole person and not just on the part of you that has changed. It may take some time to get used to seeing and feeling the differences in your body. Some women find that having a breast reconstruction or wearing a breast prosthesis improves their self-confidence. Other women prefer to concentrate on accepting the changes in their body without having breast reconstruction or wearing a prosthesis.

Look Good Feel Better is a free program that teaches techniques to help you feel more confident in your appearance and improve self-confidence. Visit lgfb.org.au or call 1800 650 960 for more information.

Breast prostheses

Breast prostheses are synthetic breasts or parts of a breast worn inside a bra or attached to the body with adhesive. They help give the appearance of a real breast and can be used after breast surgery.

Temporary prosthesis – In the first month or two after surgery, you may choose to wear a temporary light breast prosthesis called a soft form. This will be more comfortable next to your scar. A free bra and soft forms are available through Breast Cancer Network Australia as part of the My Care Kit. Ask your breast care nurse to order you a kit.

Permanent prosthesis – Your breast surgeon or breast care nurse will discuss the best time for you to be fitted for a permanent breast prosthesis. This is usually once your scar has healed. A permanent breast prosthesis is usually made from silicone and has the shape, feel and weight of a natural breast. It can help you to maintain good posture and prevent neck and back problems. It is recommended that you see a trained fitter who can help you choose the right prosthesis. To find out where you can get fitted for a prosthesis, call Cancer Council 13 11 20 or ask your breast care nurse.

▶ See our *Breast Prostheses and Reconstruction* booklet.

Wigs

If you lose your hair during chemotherapy treatment, you may want to wear a wig, scarf, turban or hat while it's growing back. Another option is to leave your head bare.

You can borrow a wig – some hospitals and cancer care units provide wigs for free or a small fee. Your local Cancer Council may also provide a wig service. You can also buy a wig, although some types can be expensive. Call Cancer Council 13 11 20 or ask your treatment team for more details about borrowing or buying wigs. Some private health funds cover part of the cost of wigs – check with your health fund.

Thinking and memory changes

Some people diagnosed with breast cancer experience changes in the way that they think, process and remember information. This may be called cancer-related cognitive impairment, “cancer fog” or “chemo brain”. The exact cause is unknown, but studies show that it may be caused by the cancer itself, by treatments such as chemotherapy, radiation therapy and anaesthesia, and by treatment side effects, such as fatigue, sleeping problems, pain and hormonal changes.

For most people, thinking and memory problems get better within the first year of finishing treatment. Others may experience longer-term changes. To manage any cognitive problems, you can:

- make changes to your daily routine, e.g. write lists, use smartphone reminders, avoid distractions, pace yourself
- maintain a healthy lifestyle, e.g. exercise, relaxation, nutritious diet
- improve your thinking and memory, e.g. crosswords, brain training
- tell your family and friends, and ask your health care team for help.

You can also see a clinical psychologist or neuropsychologist for cognitive rehabilitation. This therapy helps you to restore your thinking and memory skills, and develop strategies to manage any changes.

- See our *Understanding Changes in Thinking and Memory* fact sheet and listen to our *Brain Fog and Cancer* podcast.



Once cancer treatment finishes, many people worry about the cancer coming back. See page 62 for more information about recurrence or call Cancer Council **13 11 20** to talk through your concerns.



Key points about living with breast cancer

Common side effects

Side effects after treatment for early or locally advanced breast cancer can include:

- lymphoedema – swelling of part of the body, such as the arm, after lymph nodes are damaged or removed; can occur years later
- cording – also called axillary web syndrome, feels like a tight cord running down your inner arm
- nerve pain – feels like pins and needles; occurs after surgery or chemotherapy.

Menopause and fertility

Some treatments can cause a woman's periods to stop and lead to symptoms of menopause such as hot flushes, vaginal dryness and tiredness. If your periods stop permanently you will no longer be able to have children naturally.

Body image

The loss of a breast or breasts or losing your hair may affect how you feel about your body. After a mastectomy, you can have a breast reconstruction, wear a temporary soft breast form, or be fitted for a permanent breast prosthesis. If you lose your hair during chemotherapy, you could wear a wig. Free or low-cost wigs may be available to borrow from treatment centres or Cancer Council, or you can buy a wig.



Looking after yourself

Cancer can cause physical and emotional strain, so it's important to look after your wellbeing. Cancer Council has free booklets and programs to help you during and after treatment. Call 13 11 20 to find out more, or visit your local Cancer Council website (see back cover).

Eating well – Healthy food can help you cope with treatment and side effects. A dietitian can explain how to manage any special dietary needs or eating problems, and choose the best foods for your situation.

▶ See our *Nutrition and Cancer* booklet.

Staying active – Physical activity can reduce tiredness, improve circulation and lift mood. The right exercise for you depends on what you are used to, how you feel, and your doctor's advice.

▶ See our *Exercise for People Living with Cancer* booklet.

Complementary therapies – Complementary therapies are designed to be used alongside conventional medical treatments. Therapies such as massage, relaxation and acupuncture can increase your sense of control, decrease stress and anxiety, and improve your mood. Let your doctor know about any therapies you are using or thinking about trying, as some may not be safe or evidence-based.

▶ See our *Understanding Complementary Therapies* booklet.



Alternative therapies are therapies used instead of conventional medical treatments. These are unlikely to be scientifically tested and may prevent successful treatment of the cancer. Cancer Council does not recommend the use of alternative therapies as a cancer treatment.

Work and money – Cancer can change your financial situation, especially if you have extra medical expenses or need to stop working. Getting professional financial advice and talking to your employer can give you peace of mind. You can also check with a social worker or Cancer Council whether any financial assistance is available to you.

➤ See our *Cancer and Your Finances* and *Cancer, Work & You* booklets.

Relationships – Having cancer can affect your relationships with family, friends and colleagues in different ways. Cancer is stressful, tiring and upsetting, and this may strain relationships. It may also result in positive changes to your values, priorities or outlook on life. Give yourself time to adjust to what's happening, and do the same for those around you. It may help to discuss your feelings with each other.

➤ See our *Emotions and Cancer* booklet.

Sexuality – Cancer can affect your sexuality in physical and emotional ways. The impact of these changes depends on many factors, such as treatment and side effects, your self-confidence, and if you have a partner. Although sexual intercourse may not always be possible, closeness and sharing can still be part of your relationship.

➤ See our *Sexuality, Intimacy and Cancer* booklet.

Contraception and fertility – If you can have sex, you may need to use certain types of contraception to protect your partner or avoid pregnancy for a time. Your doctor will explain what precautions to take. They will also tell you if treatment will affect your fertility permanently or temporarily. If having children is important to you, discuss the options with your doctor before starting treatment.

➤ See our *Fertility and Cancer* booklet.



Life after treatment

For most people, the cancer experience doesn't end on the last day of treatment. Life after cancer treatment can present its own challenges. You may have mixed feelings when treatment ends, and worry that every ache and pain means the cancer is coming back.

Some people say that they feel pressure to return to “normal life”. It is important to allow yourself time to adjust to the physical and emotional changes, and establish a new daily routine at your own pace. Your family and friends may also need time to adjust.

Cancer Council 13 11 20 can help you connect with other people who have had cancer, and provide you with information about the emotional and practical aspects of living well after cancer.

► See Cancer Council's *Living Well After Cancer* booklet.

Dealing with feelings of sadness

If you have continued feelings of sadness, have trouble getting up in the morning or have lost motivation to do things that previously gave you pleasure, you may be experiencing depression.

This is quite common among people who have had cancer.

Talk to your GP, as counselling or medication – even for a short time – may help. Some people

can get a Medicare rebate for sessions with a psychologist. Ask your doctor if you are eligible. Cancer Council may also run a counselling program in your area.

For information about coping with depression and anxiety, call beyondblue on **1300 22 4636** or visit beyondblue.org.au. For 24-hour crisis support, call Lifeline **13 11 14** or visit lifeline.org.au.

Follow-up appointments

After your treatment, you will have regular appointments with your cancer specialist to monitor your health, see how you are going on hormone therapy if this is part of your treatment, manage any long-term side effects, and check that the cancer hasn't come back or spread. During these check-ups, you will usually have a physical examination.

Check-ups after breast cancer treatment are likely to happen every 3–6 months for the first year or two, and will become less frequent after that if you have no further problems.

Most women will have a mammogram every year. It is best to arrange this through your cancer specialist, who can also organise ultrasounds and other scans if needed. If your specialist is concerned the cancer may have come back, you may have a CT scan, chest x-ray or bone scan. Otherwise, you won't need any regular scans apart from the yearly mammogram and ultrasound tests.

When a follow-up appointment or test is approaching, many people find that they think more about the cancer and may feel anxious. Talk to your treatment team or call Cancer Council 13 11 20 if you are finding it hard to manage this anxiety. You may also be interested in listening to our podcasts on cancer tests and managing fear – visit cancercouncil.com.au/podcasts.

Between follow-up appointments, let your specialist know immediately of any symptoms or health problems. You can also see your GP if you have any questions and for ongoing support.

What if the cancer returns?

In the vast majority of cases, early breast cancer will not come back (recur) after treatment. Although the risk is higher with locally advanced breast cancer, most people will not experience a recurrence.

However, it is possible for breast cancer to come back in the treated breast or in other parts of the body after treatment for early or locally advanced breast cancer. This is why it is important to have regular check-ups.

Factors that may make the cancer more likely to recur include:

- the cancer was large at the first diagnosis
- the cancer was found in the lymph nodes
- the cancer was hormone receptor negative
- the grade of the cancer was high
- the surgical margin was not clear
- not having or not completing the adjuvant therapy (e.g. radiation therapy, chemotherapy, hormone therapy) that was recommended after surgery
- young age.

Having one or more of these factors doesn't necessarily mean the cancer will come back or spread.

It is important to be "breast aware", which means you regularly look at your breasts and feel them to know what is normal for you. This can help detect cancer in the other breast. Being breast aware and having regular check-ups can also help find a recurrence early so it can be treated.



Seeking support

A cancer diagnosis can affect every aspect of your life. You will probably experience a range of emotions – fear, sadness, anxiety, anger and frustration are all common reactions. Cancer also often creates practical and financial issues.

There are many sources of support and information to help you, your family and carers navigate all stages of the cancer experience, including:

- information about cancer and its treatment
- access to benefits and programs to ease the financial impact of cancer treatment
- home care services, such as Meals on Wheels, visiting nurses and home help
- aids and appliances
- support groups and programs
- counselling services.

The availability of services may vary depending on where you live, and some services will be free but others might have a cost.

To find good sources of support and information, you can talk to the social worker or nurse at your hospital or treatment centre, or get in touch with Cancer Council 13 11 20.



Breast Cancer Network Australia's *My Journey Kit* contains information, resources and tips for women newly diagnosed with breast cancer. Visit bcna.org.au or call **1800 500 258** to find out more.

Support from Cancer Council

Cancer Council offers a range of services to support people affected by cancer, their families and friends. Services may vary depending on where you live.

Cancer Council 13 11 20

Trained professionals will answer any questions you have about your situation and link you to services in your area (see inside back cover).



Information resources

Cancer Council produces booklets and fact sheets on over 25 types of cancer, as well as treatments, emotional and practical issues, and recovery. Call **13 11 20** or visit your local Cancer Council website (see back cover).

Practical help

Your local Cancer Council can help you find services or offer guidance to manage the practical impact of a cancer diagnosis. This may include access to transport and accommodation services.



Legal and financial support

If you need advice on legal or financial issues, we can refer you to qualified professionals. These services are free for people who can't afford to pay. Financial assistance may also be available. Call Cancer Council **13 11 20** to ask if you are eligible.

Peer support services

You might find it helpful to share your thoughts and experiences with other people affected by cancer. Cancer Council can link you with individuals or support groups by phone, in person, or online. Call **13 11 20** or visit cancercouncil.com.au/OC.



Useful websites

You can find many useful resources online, but not all websites are reliable. These websites are good sources of support and information.

Australian	
Cancer Council Australia	cancer.org.au
Cancer Australia	canceraustralia.gov.au
Cancer Council Online Community	cancercouncil.com.au/OC
Carer Gateway	carergateway.gov.au
Carers Australia	carersaustralia.com.au
Department of Health	health.gov.au
Healthdirect Australia	healthdirect.gov.au
beyondblue	beyondblue.org.au
Australasian Lymphology Association	lymphoedema.org.au
Australian Breast Device Registry	abdr.org.au
Breast Cancer Network Australia	bcna.org.au
Breast Surgeons of Australia & NZ	breastsurganz.org
Breconda (breast reconstruction)	breconda.bcna.org.au
McGrath Foundation	mcgrathfoundation.com.au
National Breast Cancer Foundation	nbcf.org.au
Reclaim Your Curves	reclaimyourcurves.org.au
International	
American Cancer Society	cancer.org
Cancer Research UK	cancerresearchuk.org
Macmillan Cancer Support (UK)	macmillan.org.uk



Caring for someone with cancer

You may be reading this booklet because you are caring for someone with cancer. What this means for you will vary depending on the situation. Being a carer can bring a sense of satisfaction, but it can also be challenging and stressful.

It is important to look after your own physical and emotional wellbeing. Give yourself some time out and share your concerns with somebody neutral such as a counsellor or your doctor, or try calling Cancer Council 13 11 20. There is a wide range of support available to help you with both the practical and emotional aspects of your caring role.

Support services – Support services such as Meals on Wheels, home help or visiting nurses can help you in your caring role. You can find local services, as well as information and resources, through the Carer Gateway. Call 1800 422 737 or visit carergateway.gov.au.

Support groups and programs – Many cancer support groups and cancer education programs are open to carers as well as to people with cancer. Support groups and programs offer the chance to share experiences and ways of coping.

Carers Associations – Carers Australia works with the Carers Associations in each state and territory to provide information and services to carers. Call 1800 242 636 or visit carersaustralia.com.au.

Cancer Council – You can call Cancer Council 13 11 20 or visit your local Cancer Council website to find out more about carers' services.

➤ See our *Caring for Someone with Cancer* booklet.



Question checklist

Asking your doctor questions will help you make an informed choice. You may want to include some of the questions below in your own list.

Diagnosis

- What type of breast cancer do I have?
- Has the cancer spread? If so, where has it spread? How fast is it growing?
- Are the latest tests and treatments for this cancer available in this hospital?
- Will a multidisciplinary team be involved in my care?
- Are there clinical guidelines for this type of cancer?

Treatment

- What treatment do you recommend? What is the aim of the treatment?
- Are there other treatment choices for me? If not, why not?
- If I don't have the treatment, what should I expect?
- If I need a mastectomy, what type of reconstruction could I have?
- How long do I have to make a decision?
- I'm thinking of getting a second opinion. Can you recommend anyone?
- How long will treatment take? Will I have to stay in hospital?
- Are there any out-of-pocket expenses not covered by Medicare or my private health cover? Can the cost be reduced if I can't afford it?
- How will we know if the treatment is working?
- Are there any clinical trials or research studies I could join?

Side effects

- What are the risks and possible side effects? How will they be managed?
- Can I work, drive and do my normal activities while having treatment?
- Will the treatment affect my sex life and fertility?
- Should I change my diet or physical activity during or after treatment?
- Are there any complementary therapies that might help me?

After treatment

- How often will I need check-ups after treatment?
- If the cancer returns, how will I know? What treatments could I have?



Glossary

ablation

See ovarian ablation.

adjuvant treatment

A treatment given with or shortly after the main treatment to enhance the main treatment's effectiveness.

advanced cancer

Cancer that is unlikely to be cured. It may be limited to its original site (primary cancer) or may have spread to other parts of the body (secondary or metastatic cancer).

anti-oestrogens

Drugs used to treat cancers that depend on the hormone oestrogen to grow.

areola

The brown or pink rim of tissue around the nipple of the breast.

aromatase inhibitors

Drugs that help prevent the growth of hormone sensitive cancer cells by reducing the amount of oestrogen in a postmenopausal woman's body.

atypical ductal hyperplasia

An abnormal but non-cancerous condition of the cells in the lining of the milk ducts in the breast.

axilla

The armpit.

axillary lymph nodes

Lymph nodes in and around the armpit.

axillary surgery

The removal of some lymph nodes in the armpit to check if the cancer has spread.

axillary tail

Breast tissue that extends into the armpit.

axillary web syndrome

See cording.

benign

Not cancerous or malignant.

biopsy

The removal of a sample of tissue from the body for examination under a microscope to help diagnose a disease.

BRCA1 or BRCA2 mutation

A gene change that increases the risk of getting breast, ovarian or prostate cancer.

breast-conserving surgery

Surgery that removes a lump without removing the entire breast. Also called a lumpectomy or wide local excision.

breast form

See breast prosthesis.

breast oedema

Swelling caused by too much fluid in the breast tissue.

breast prosthesis (plural: prostheses)

An artificial breast worn inside a bra or attached to the body with adhesive to re-create the shape of a natural breast. Also called a breast form.

breast reconstruction

Surgery to rebuild the breast shape after the removal of all or part of the breast.

cellulitis

An infection of the skin that can occur after lymph glands have been removed.

chemotherapy

A cancer treatment that uses drugs to kill cancer cells or slow their growth. May be given alone or in combination with other treatments.

cold cap

A cap that is connected to a cooling system and worn on the head during chemotherapy to help prevent hair loss.

cording

Tight cords of tissue running down the inner arm. Cording can occur weeks or months after breast or axillary surgery. Also known as axillary web syndrome.

ductal carcinoma in situ (DCIS)

Abnormal cells in the breast ducts that may increase the risk of developing invasive breast cancer.

ducts

The canals within the breast that pass milk from the lobules to the nipple.

genes

The microscopic units that determine how the body's cells grow and behave. Genes are found in every cell of the body and are inherited from both parents.

genomic assay

A test that provides information about the risk of the cancer coming back and whether chemotherapy will be of benefit. Also called a molecular assay.

grade

A score that describes how quickly a tumour is likely to grow.

HER2

Human epidermal growth factor receptor 2. A type of protein found on many cells in the human body.

hormone receptors

Proteins in a cell that bind to specific hormones.

hormones

Chemicals in the body that send information between cells to bring about changes in the body.

hormone therapy

A treatment that blocks the body's natural hormones, which sometimes help cancer cells grow. Also called endocrine therapy or hormone-blocking therapy.

inflammatory breast cancer

Cancer that develops in the lymphatic vessels in the skin of the breast. Rather than forming a lump, it causes the breast to become red and swollen.

invasive breast cancer

Cancer that has spread from the lining of the breast ducts or lobules into the surrounding breast tissue.

invasive ductal carcinoma

Cancer that started in breast ducts but has spread into the tissue around them.

invasive lobular carcinoma

Cancer that began in breast lobules but has spread into the tissue around them.

Klinefelter syndrome

A genetic disorder where a man has three sex chromosomes (XXY) instead of the normal two (XY).

lobe

A section of the female breast that contains lobules.

lobular carcinoma in situ (LCIS)

Abnormal cells in the breast lobules that increase the risk of getting breast cancer.

lobules

The milk-producing glands in the breast.

locally advanced breast cancer

Cancer that has spread outside the breast, e.g. to the chest or lymph nodes in the armpit.

lumpectomy

See breast-conserving surgery.

lymphatic system

A network of tissues, capillaries, vessels, ducts and nodes that removes excess fluid from tissues, absorbs fatty acids, transports fat, and produces immune cells. Includes the bone marrow, spleen, thymus and lymph nodes.

lymph nodes

Small, bean-shaped structures that collect and destroy bacteria and viruses. Also called lymph glands.

lymphoedema

Swelling caused by a build-up of lymph fluid.

lymph vessels

Thin tubes that carry the body's tissue fluid (lymph) all over the body.

malignant

Cancerous.

mammogram

A low-dose x-ray of the breast.

margin/surgical margin

A rim of tissue around the cancer that is removed with the cancer during surgery. A clear margin is when no cancer cells can be detected in this tissue. A positive margin is when cancer cells are found and usually requires further surgery.

mastectomy

Surgery to remove the whole breast.

menopause

When a woman stops having periods (menstruating).

metastasis (plural: metastases)

A cancer that has spread from a primary cancer in another part of the body.

nipple-sparing mastectomy

A type of mastectomy where the breast skin, nipple and areola are not removed.

non-invasive breast cancer

Cancer that has not spread beyond the ducts or lobules of the breast.

oestrogen

A female sex hormone produced mainly by the ovaries. It is also present in men.

oncoplastic breast-conserving surgery

An operation in which the cancer is removed, and plastic surgery techniques are used to preserve the appearance of the breast as much as possible.

osteoporosis

Thinning and weakening of the bones that can lead to bone pain and fractures.

ovarian ablation

Stopping the ovaries from producing oestrogen by surgically removing the ovaries (oophorectomy) or giving a dose of radiation therapy to the ovaries.

Paget's disease of the nipple

Cancer that develops in the breast ducts and spreads to the skin of the nipple and the areola.

pathologist

A specialist doctor who interprets the results of tests.

primary cancer

The original cancer. Cells from the primary cancer may break away and form secondary cancers in other parts of the body.

progesterone

A female sex hormone made mostly

by the ovaries that prepares the uterus for pregnancy. It is also present in men.

radiation therapy

The use of targeted radiation (usually x-ray beams) to kill or damage cancer cells. Also called radiotherapy.

reconstructive surgeon

A doctor who has had advanced surgical training in the restoration of skin and tissue to near-normal appearance and function. Also called a plastic surgeon.

recurrence

The return of a disease after a period of improvement (remission).

sentinel node

The first lymph node that breast cancer cells may spread to outside the breast.

sentinel node biopsy

Removal of the sentinel node.

seroma

A collection of fluid under a wound after surgery.

skin-sparing mastectomy

A type of mastectomy in which the whole of the skin of the breast, except the nipple and the areola, is kept.

staging

Performing tests to work out how far a cancer has spread.

targeted therapy

Drugs that attack specific targets within cells that allow cancer to grow and spread.

tissue expander

An inflatable implant inserted under the skin where the breast was, which is slowly stretched with regular injections of saline. The expander is later removed and replaced with a permanent implant.

triple negative breast cancer

A breast cancer that does not have receptors for the hormones oestrogen or progesterone or for the growth factor HER2, which are all known to fuel breast cancer growth.

tumour

A new or abnormal growth of tissue on or in the body. A tumour may be benign (not cancer) or malignant (cancer).

ultrasound

A scan that uses soundwaves to create a picture of part of the body.

Can't find a word here?

For more cancer-related words, visit:

- cancercouncil.com.au/words
- cancervic.org.au/glossary
- cancersa.org.au/glossary

References

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2. Australian Institute of Health and Welfare (AIHW), *Australian Cancer Incidence and Mortality (ACIM) books: Breast cancer*, AIHW, Canberra, December 2017.



How you can help

At Cancer Council, we're dedicated to improving cancer control. As well as funding millions of dollars in cancer research every year, we advocate for the highest quality care for cancer patients and their families. We create cancer-smart communities by educating people about cancer, its prevention and early detection. We offer a range of practical and support services for people and families affected by cancer. All these programs would not be possible without community support, great and small.

Join a Cancer Council event: Join one of our community fundraising events such as Daffodil Day, Australia's Biggest Morning Tea, Relay For Life, Girls' Night In and other Pink events, or hold your own fundraiser or become a volunteer.

Make a donation: Any gift, large or small, makes a meaningful contribution to our work in supporting people with cancer and their families now and in the future.

Buy Cancer Council sun protection products: Every purchase helps you prevent cancer and contribute financially to our goals.

Help us speak out for a cancer-smart community: We are a leading advocate for cancer prevention and improved patient services. You can help us speak out on important cancer issues and help us improve cancer awareness by living and promoting a cancer-smart lifestyle.

Join a research study: Cancer Council funds and carries out research investigating the causes, management, outcomes and impacts of different cancers. You may be able to join a study.

To find out more about how you, your family and friends can help, please call your local Cancer Council.



Cancer Council 13 11 20

Being diagnosed with cancer can be overwhelming. At Cancer Council, we understand it isn't just about the treatment or prognosis. Having cancer affects the way you live, work and think. It can also affect our most important relationships.

When disruption and change happen in our lives, talking to someone who understands can make a big difference. Cancer Council has been providing information and support to people affected by cancer for over 50 years.

Calling 13 11 20 gives you access to trustworthy information that is relevant to you. Our cancer nurses are available to answer your questions and link you to services in your area, such as transport, accommodation and home help. We can also help with other matters, such as legal and financial advice.

If you are finding it hard to navigate through the health care system, or just need someone to listen to your immediate concerns, call 13 11 20 and find out how we can support you, your family and friends.

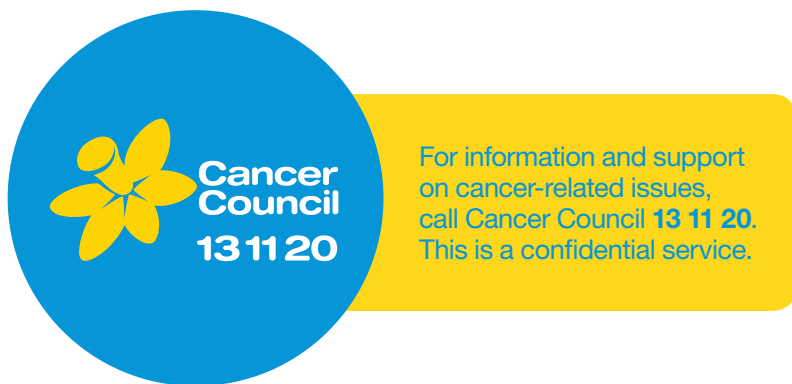
Cancer Council services and programs vary in each area.

13 11 20 is charged at a local call rate throughout Australia (except from mobiles).



If you need information in a language other than English, an interpreting service is available. Call 13 14 50.

If you are deaf, or have a hearing or speech impairment, you can contact us through the National Relay Service. www.relayservice.gov.au



Visit your local Cancer Council website

Cancer Council ACT
actcancer.org

Cancer Council NSW
cancercouncil.com.au

Cancer Council NT
nt.cancer.org.au

Cancer Council Queensland
cancerqld.org.au

Cancer Council SA
cancersa.org.au

Cancer Council Tasmania
cancertas.org.au

Cancer Council Victoria
cancervic.org.au

Cancer Council WA
cancerwa.asn.au

Cancer Council Australia
cancer.org.au

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To support Cancer Council, call your local Cancer Council or visit your local website.*