



# Understanding Chemotherapy

A guide for people with cancer,  
their families and friends



Treatment

For information & support, call

**13 11 20**

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First published May 2002. This edition August 2020.

© Cancer Council Australia 2020. ISBN 978 1 925651 95 9

*Understanding Chemotherapy* is reviewed approximately every two years.

Check the publication date above to ensure this copy is up to date.

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### Acknowledgements

This edition has been developed by Cancer Council NSW on behalf of all other state and territory Cancer Councils as part of a National Cancer Information Subcommittee initiative.

We thank the reviewers of this booklet: Clinical A/Prof Rosemary Harrup, Director, Cancer and Blood Services, Royal Hobart Hospital, TAS; Katie Benton, Advanced Dietitian, Cancer Care, Sunshine Coast Hospital and Queensland Health, QLD; Gillian Blanchard, Oncology Nurse Practitioner, Calvary Mater Newcastle, NSW; Stacey Burton, Consumer; Dr Fiona Day, Staff Specialist, Medical Oncology, Calvary Mater Newcastle, and Conjoint Senior Lecturer, The University of Newcastle, NSW; Andrew Greig, Consumer; Steve Higgs, 13 11 20 Consultant, Cancer Council Victoria; Prof Desmond Yip, Clinical Director, Department of Medical Oncology, The Canberra Hospital, ACT. We also thank the health professionals, consumers and editorial teams who have worked on previous editions of this title.

This booklet is funded through the generosity of the people of Australia.

### 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](http://cancer.org.au) or call your local Cancer Council.



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# About this booklet

This booklet has been prepared to help you understand more about chemotherapy, one of the main treatments for cancer. Chemotherapy uses a range of drugs to kill cancer cells or slow their growth.

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. It may also be helpful to read the Cancer Council booklet about the type of cancer you have.

Many people feel concerned about the side effects of chemotherapy, but most side effects are temporary. We have included information about ways to manage the most common side effects.

This booklet does not need to be read from cover to cover – just read the parts that are useful to you. You may also like to pass this booklet to your 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 cancer who have had chemotherapy.

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  
Council**  
**13 11 20**

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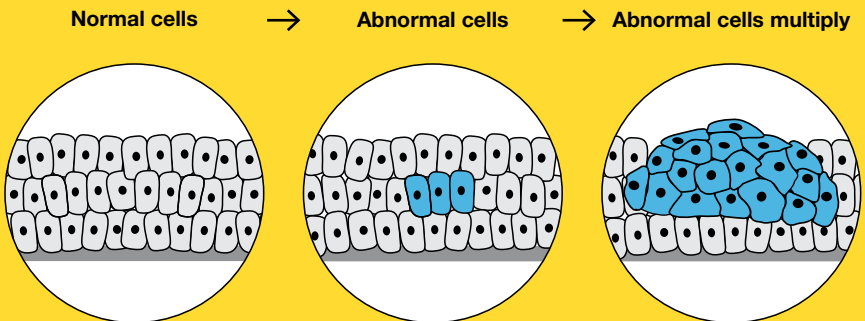
# What is cancer?

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 or prostate 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

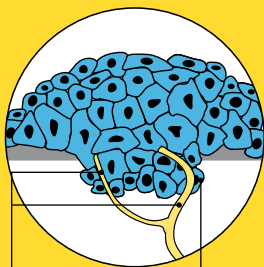
## How cancer starts



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, pancreatic cancer that has spread to the liver is called metastatic pancreatic cancer, even though the main symptoms may be coming from the liver.

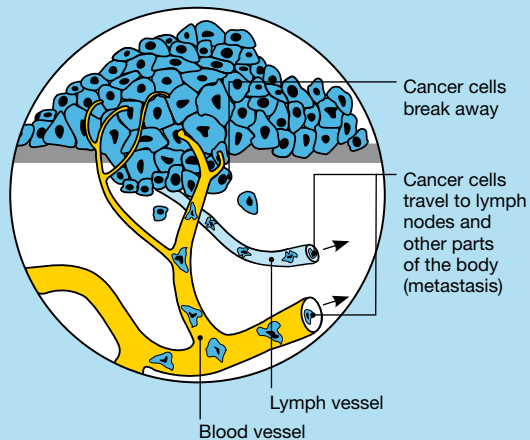
→ **Malignant cancer**



Grows own  
blood vessels  
(angiogenesis)

Invades  
surrounding  
tissue

**How cancer spreads**



Cancer cells  
break away

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

Lymph vessel

Blood vessel



# How cancer is treated

Cancers are usually treated with surgery, chemotherapy and radiation therapy (radiotherapy). Other drug treatments, such as hormone therapy, targeted therapy and immunotherapy, can also be used to treat some types of cancer.

These treatments may be used on their own, in combination (for example, you may have chemotherapy together with radiation therapy) or one after the other (for example, chemotherapy first then surgery).

## Types of cancer treatments

<b>surgery</b>	An operation to remove cancer or repair a part of the body affected by cancer.
<b>drug therapies</b>	Drugs that enter the bloodstream so the treatment can travel throughout the body. This is called systemic treatment, and includes: <ul style="list-style-type: none"><li>• <b>chemotherapy</b> – the use of drugs to kill cancer cells or slow their growth (see page 8)</li><li>• <b>hormone therapy</b> – treatment that blocks the effects of the body's natural hormones on some types of cancer</li><li>• <b>immunotherapy</b> – treatment that uses the body's own immune system to fight cancer</li><li>• <b>targeted therapy</b> – the use of drugs to attack specific features of cancer cells to stop the cancer growing or spreading.</li></ul>
<b>radiation therapy</b>	The use of targeted radiation to kill or damage cancer cells so they cannot grow, multiply or spread. Treatment aims to affect only the part of the body where the radiation is targeted.



## Your treatments

Because cancer treatment is becoming more personalised, you may have different treatments from other people, even if their cancer type is the same. The treatment recommended by your doctor will depend on:

- the type of cancer you have
- where the cancer began (the primary site)
- whether the cancer has spread to other parts of your body (metastatic or secondary cancer)
- your general health, age and treatment preferences
- what treatments are currently available and whether there are any clinical trials suitable for you (see page 19).

Call Cancer Council 13 11 20 for free booklets and information about different cancer types and their treatments.

### Chemotherapy for children

The information in this booklet is for adults having chemotherapy, although much of it will also be relevant for children. Talk to your treatment team for specific information and age-appropriate resources about chemotherapy for children. You can also check out:

- **Cancer Australia Children's Cancer** – for information about children's cancers, visit [canceraustralia.gov.au](http://canceraustralia.gov.au).
- **Camp Quality** – supports children aged 0–13 and their families. Call **1300 662 267** or visit [campquality.org.au](http://campquality.org.au).
- **CanTeen** – supports young people aged 12–25 who have been affected by cancer. Call **1800 226 833** or visit [canteen.org.au](http://canteen.org.au).
- **Cancer Council** – for a copy of *Talking to Kids About Cancer*, call **13 11 20** or visit your local Cancer Council website.



## Key questions

### Q: What is chemotherapy?

**A:** Chemotherapy (sometimes just called “chemo”) is the use of drugs to kill or slow the growth of cancer cells. The drugs are also called cytotoxics, which means toxic to cells (cyto). Some drugs come from natural sources such as plants, while others are completely made in a laboratory.

### Q: How does it work?

**A:** All cells in the body grow by splitting or dividing into two cells. Chemotherapy damages cells that are dividing rapidly. Most chemotherapy drugs enter the bloodstream and travel throughout the body to target rapidly dividing cancer cells in the organs and tissues. This is known as systemic treatment. Sometimes chemotherapy is delivered directly to the cancer. This is known as local chemotherapy.

### Q: How is chemotherapy used?

**A:** There are many different types of chemotherapy drugs, and each type destroys or shrinks cancer cells in a different way. You might have treatment with a single chemotherapy drug or several drugs. When more than one drug is given, this is called combination chemotherapy and it aims to attack cancer cells in several ways.

The chemotherapy drugs you have depend on the type of cancer. This is because different drugs work on different cancer types. Sometimes chemotherapy is the only treatment needed, but you may also have other treatments (see page 25 for more details).

## Q: Why have chemotherapy?

A: Chemotherapy can be used for different reasons:

### **To achieve remission or cure (curative chemotherapy) –**

Chemotherapy may be given as the main treatment with the aim of causing the signs and symptoms of cancer to reduce or disappear (often referred to as remission or complete response).

**To help other treatments –** Chemotherapy can be given before or after other treatments such as surgery or radiation therapy. If used before (neoadjuvant therapy), the aim is to shrink the cancer so the other treatment (usually surgery) is more effective. If given after (adjuvant therapy), the aim is to get rid of any remaining cancer cells. Chemotherapy is often given with radiation therapy to make the radiation therapy more effective (chemoradiation).


**To control the cancer –** Even if chemotherapy cannot achieve remission or complete response (see above), it may be used to control how the cancer is growing and stop it spreading for a period of time. This is known as palliative chemotherapy.

**To relieve symptoms –** By shrinking a cancer that is causing pain and other symptoms, chemotherapy can improve quality of life. This is also called palliative chemotherapy.

**To stop cancer coming back –** Chemotherapy might continue for months or years after remission. This is called maintenance chemotherapy and it may be given with other drug therapies. It aims to prevent or delay the cancer returning.

## Q: How is chemotherapy given?

**A:** Chemotherapy is most often given into a vein (intravenously). It is sometimes given in other ways, such as tablets you swallow (oral chemotherapy), as a cream you apply to the skin or as injections into different parts of the body. The choice depends on the type of cancer being treated and the chemotherapy drugs being used. Your treatment team will decide the most appropriate way to deliver the drugs. For more information, see pages 22–24.

“When you’ve got to have chemo, it’s quite frightening because you’ve only heard bad things about it. But then I spoke to the oncologist and he explained the benefits.”  Phil

## Q: Why does chemotherapy cause side effects?

**A:** Chemotherapy damages cells that divide rapidly, such as cancer cells. However, some normal cells – such as blood cells, hair follicles and cells inside the mouth, bowel and reproductive organs – also divide rapidly.

Side effects happen when chemotherapy damages these normal cells. As the body constantly makes new cells, most side effects are temporary. The drugs used for chemotherapy are constantly being improved to give you the best possible outcomes and to reduce potential side effects. See the *Managing side effects* chapter (pages 32–54) for more information and talk to your treatment team for tips on dealing with side effects.

## Q: Does chemotherapy hurt?

**A:** Having a needle inserted for intravenous chemotherapy may feel like having blood taken. If you have a temporary tube (cannula) in your hand or arm, only the first injection may be uncomfortable. If you have something more permanent, such as a central venous access device (see page 22), it should not be painful. Your oncologist or haematologist will let you know which method is suitable for your situation. Some chemotherapy drugs can cause inflamed veins (phlebitis), which may be sore for a few days.

## Q: How much does treatment cost?

**A:** Chemotherapy drugs are expensive. The Pharmaceutical Benefits Scheme (PBS) subsidises the cost of many chemotherapy drugs for people with a current Medicare card.

You usually have to contribute to the cost of oral chemotherapy drugs you take at home. This is known as a co-payment. Depending on the arrangements in your state or territory, and whether you are treated as an inpatient or an outpatient or in a private or public hospital, you may have to contribute to the cost of some intravenous chemotherapy drugs. Ask your treatment centre for a written estimate that shows what you will have to pay.

There may also be other out-of-pocket expenses. For example, you will usually have to pay for any medicines that you take at home to relieve the side effects of chemotherapy (such as anti-nausea medicine). For more information about paying for treatment, see our *Cancer Care and Your Rights* booklet.

## Q: Can I have chemotherapy if I'm pregnant?

**A:** Being diagnosed with cancer during pregnancy is rare – it is estimated that one in every 1000 pregnant women is affected.

Having chemotherapy in the first trimester (12 weeks) may increase the risk of miscarriage or birth defects, but there seems to be a lower risk in the later stages of pregnancy. Chemotherapy drugs may also cause premature delivery, and preterm babies often have other health issues, such as respiratory problems.

If you are already pregnant, it may still be possible to have some types of chemotherapy. It's best to discuss the potential risks and benefits with your oncologist or haematologist before treatment begins. In some cases, chemotherapy can be delayed until after the baby's birth. The treatment recommended will be based on the type of cancer you have, its stage, other treatment options and how to avoid harming your developing baby.

If you have chemotherapy during pregnancy, you will probably be advised to stop at least 3–4 weeks before your delivery date. This is because the side effects of chemotherapy on your blood cells increase your risk of bleeding or getting an infection during the birth. Stopping chemotherapy allows your body time to recover from the side effects. Talk to your doctor about your specific situation and what is best for your health and your unborn baby.

You will be advised not to breastfeed during chemotherapy as drugs can be passed to the baby through the breastmilk.



As chemotherapy may harm an unborn baby, increase the risk of miscarriage, affect sperm or cause birth defects, you will be advised not to get pregnant or father a child while you are having chemotherapy (see also page 51).

## Q: How long does treatment last?

**A:** How often and for how long you have chemotherapy depends on the type of cancer you have, the reason for having treatment, the drugs that are used and whether you have side effects.

Often people have chemotherapy over 3–6 months, but it's possible to have it for a shorter or longer period.

Maintenance chemotherapy (to prevent the cancer coming back) and palliative treatment (to control the cancer or relieve symptoms) may continue for many months or years. If you feel upset or anxious about how long treatment is taking or the impact of side effects, let your treatment team know.

## Q: Where will I have treatment?

**A:** Most people have chemotherapy as an outpatient during day visits to a hospital or treatment centre. In some cases, an overnight or extended hospital stay may be needed. People who use a portable pump (see page 23) or have oral chemotherapy can have their treatment at home. Sometimes a visiting nurse can give you intravenous chemotherapy in your home. Your treatment team will discuss the available options with you.

## How do I prepare for chemotherapy?

Chemotherapy affects everyone differently, so it can be hard to know exactly how to prepare. However, a number of general issues are worth considering in advance.



### Ask about fertility

Some types of chemotherapy can affect your fertility. Whether you are a man or a woman, if you think you may want to have children in future, talk to your specialist about your options before chemotherapy begins (see pages 51–52).



### Pack a chemo bag

A bag for your chemo sessions could include warm clothing in case you get cold; healthy snacks; lip balm; and something to pass the time, such as books, magazines, crossword puzzles, music with headphones, or a laptop computer or tablet.



### Look after yourself

Try to stay as healthy as you can before and during treatment. Eat nourishing food, drink lots of water, get enough sleep, and balance rest and physical activity. Good nutrition and regular exercise can help reduce some chemotherapy side effects. If you smoke, try to quit (see page 27).

### Organise help at home

If you have young children, you may need to arrange for someone to look after them during the treatment sessions and possibly afterwards if you become unwell from side effects. Older children may need lifts to and from school and activities. Some support with housework and errands can also ease the load. Ask one friend or family member to coordinate offers of help, or use an online tool such as [candoapp.com.au](http://candoapp.com.au) or [gathermycrew.org.au](http://gathermycrew.org.au).



### Discuss your concerns

If you are feeling anxious about the diagnosis and having chemotherapy, talk to a family member or friend, your GP or a member of your health care team, or call Cancer Council **13 11 20** for support. You could also learn relaxation or meditation strategies to manage anxiety as these have been found to benefit cancer patients going through treatment.



### Freeze some meals

You may not feel like cooking during the weeks of your chemotherapy treatment. Consider making some meals ahead and freezing them or have ready-to-eat food available (e.g. tinned fruit, yoghurt, soup). Sometimes, family and friends will arrange a meal roster.



### Talk to your employer

If you are working, talk to your employer about how much time you are likely to need off. It is hard to predict how chemotherapy will affect you, so you could discuss the option of flexible hours or taking some leave.

### Check your teeth

It is often a good idea to visit your dentist for a check-up before chemotherapy begins. The dentist can check for any decayed teeth that may cause issues if they need to be removed while you're having chemotherapy.



### Prepare for side effects

Talk to your treatment team about likely side effects. Ask whether you can take medicine to prevent nausea and vomiting. Buy a thermometer so you can check your temperature during treatment. If you are likely to lose the hair from your head, think about whether you want to cut it or choose a wig before treatment starts.



### Check other medicines

Tell your doctor about any other medicines you are using. Some over-the-counter medicines, alternative and home remedies, herbs and vitamins can affect how chemotherapy works, leading to over or under treatment of the cancer (see also page 36).

## Q: Which health professionals will I see?

**A:** During and after treatment, you will see a range of health professionals who specialise in different aspects of your care. The main specialist doctor you will see when having chemotherapy is a medical oncologist for solid cancers or a haematologist for blood cancers. You may be referred to a medical oncologist or haematologist by your general practitioner (GP) or by another

### Health professionals you may see

<b>GP</b>	assists you with treatment decisions and works in partnership with your specialists in providing ongoing care
<b>medical oncologist* or haematologist*</b>	treats cancer with drug therapies such as chemotherapy, targeted therapy and immunotherapy (systemic treatment)
<b>radiation oncologist*</b>	treats cancer by prescribing and overseeing a course of radiation therapy
<b>surgeon</b>	surgically removes tumours and performs some biopsies; specialist cancer surgeons are called surgical oncologists
<b>cancer care coordinator</b>	coordinates your care, liaises with other members of the MDT, and supports you and your family throughout treatment; may also be a clinical nurse consultant (CNC) or clinical nurse specialist (CNS)
<b>nurse or nurse practitioner</b>	administers drugs, including chemotherapy, and provides care, information and support throughout your treatment; a nurse practitioner works in an advanced nursing role and may prescribe some medicines and tests

specialist such as a surgeon. Treatment options will often be discussed with other health professionals at what is known as a multidisciplinary team (MDT) meeting.

It is important to have a relationship with a GP as they will be involved in your ongoing care, particularly once cancer treatment finishes.

<b>pharmacist</b>	dispenses medicines and gives advice about dosage and side effects
<b>palliative care specialist* and nurses</b>	work closely with the GP and cancer team to help control symptoms and maintain quality of life
<b>dietitian</b>	recommends an eating plan to follow while you are in treatment and recovery
<b>social worker</b>	links you to support services and helps you with emotional, practical and financial issues
<b>occupational therapist, physiotherapist</b>	assist with physical and practical problems, including restoring movement and mobility after treatment, and recommending aids and equipment
<b>psychologist, counsellor</b>	help you manage your emotional response to diagnosis and treatment

\* *Specialist doctor*



# 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 medical oncologist or haematologist 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 pages 16–17) 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 can help or you might like to ask if you can record the discussion. 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 60 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 and listen to our “Making Treatment Decisions” podcast.

### Should I join a clinical trial?

Your doctor or nurse may suggest 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](http://australiancancertrials.gov.au).

- ▶ See our *Understanding Clinical Trials and Research* booklet.



# Treatment

Most cancers have treatment protocols that set out which drugs to have, how much and how often. You can find information about protocols for chemotherapy at [eviQ Cancer Treatments Online](http://eviQ.org.au) – visit [eviQ.org.au](http://eviQ.org.au). Your specialist may need to tailor the protocols to your individual situation.

You might have treatment with a single chemotherapy drug or a combination of two or more drugs. Your specialist will record the choice of chemotherapy drugs, the dose and the treatment schedule in a treatment plan. You will have tests throughout treatment (see table opposite) to monitor your response and your treatment plan may be adjusted based on the results and any side effects you have.

## The treatment course

How often and for how long you have chemotherapy depends on the type of cancer you have, the reason for having treatment, the drugs used and whether you have any side effects.

Chemotherapy is commonly given as a period of treatment followed by a break. This is called a cycle. You will usually have a number of treatment cycles, and these may be daily, weekly or monthly. The length of the cycle depends on the chemotherapy drugs being given.

The break between cycles lets your body recover and regain its strength. If you need more time to recover, the specialist may decide to delay your next cycle. If you have any concerns about changes to your treatment or any delays, talk to your specialist.

## What to expect when having chemotherapy

This information will apply in most cases, but you may find that things are done slightly differently depending on how you have chemotherapy and where you have treatment.

Tests you may have	Receiving the treatment
<p>To prepare for chemotherapy and between cycles, you will have a number of tests to help plan treatment:</p> <ul style="list-style-type: none"><li>• weight and height measured to work out the right dose</li><li>• blood tests to check how well your kidneys and liver are working and the number of blood cells (see page 45)</li><li>• x-rays and scans to check that you are fit for treatment and see how the tumour is responding to treatment.</li></ul> <p>For some chemotherapy drugs you may also have:</p> <ul style="list-style-type: none"><li>• heart monitoring tests to see if the drugs are affecting your heart</li><li>• lung function tests to check whether the drugs are affecting your lungs.</li></ul>	<p>While receiving chemotherapy you will usually be:</p> <ul style="list-style-type: none"><li>• seated in a reclining chair in a room with other patients; during treatment it's a good idea to shift your weight in the chair</li><li>• able to bring someone with you and to walk around the room (e.g. if you need to go to the toilet)</li><li>• given anti-nausea (antiemetic) medicine so you don't feel sick</li><li>• given several glasses of water to drink to help flush the chemotherapy drugs through the kidneys and bladder</li><li>• monitored throughout the session – nurses will talk to you about ways to manage side effects</li><li>• able to travel to and from chemo by yourself; it's recommended that someone is with you the first time in case you feel unwell and to write down any instructions or advice.</li></ul>

## Intravenous (IV) chemotherapy

Chemotherapy drugs are most commonly given as a liquid through a drip inserted into a vein (intravenous infusion). A single session could take from 20 minutes to several hours. Chemotherapy will usually be given during day visits to your hospital or treatment centre. Sometimes it is given through a portable pump that you can use at home.

Some people can react to the infusion process (e.g. flushing, skin rashes, difficulty breathing, anxiety). You will be monitored and may be given medicine to help prevent this. Reactions can occur during or several hours after the infusion. They are more common with the first infusion, so it may be given more slowly than later treatments.

### Ways of injecting drugs

To prepare for IV chemotherapy, the treatment team will insert a narrow tube into a vein. The type of device used will depend on how often you need chemotherapy, how long it will take to give each dose and how long the device will need to stay in place.

**Cannula** – A small plastic tube inserted into a vein in your arm or the back of your hand and taped securely into place. Having a cannula put in can be uncomfortable, but it shouldn't take too long. The cannula can be kept in place if you need to stay in hospital for a few days. If you have day treatment every few weeks, the cannula is usually put in and taken out each time you visit.

**Central venous access device (CVAD)** – A thin plastic tube that remains in your vein throughout the course of treatment, often for several weeks or months. It allows medical staff to give chemotherapy



and other drugs, fluid or blood transfusions, and draw blood. Inserting a CVAD takes only a few minutes under local anaesthetic, and it shouldn't cause discomfort or pain. Common types are:

- **Hickman line** – inserted into the chest
- **PICC (peripherally inserted central catheter) line** – inserted into the arm
- **port-a-cath (port)** – a small device inserted under the skin of the chest or arm. You may have a port for months to years.

**Portable pump** – This device is programmed to give a prescribed amount of chemotherapy continuously for up to a week. The pump does not need to be connected to a power point and is usually attached to a central line. It is quite small and can be carried in a bag or belt holster and tucked under a pillow when sleeping.

**Caring for your line or port** – Before you go home, a nurse will show you how to look after your line or port to prevent infection or blockage. You may visit the clinic or a nurse may regularly visit you at home to help clean all tubes or lines. For some lines, it's important to keep the area dry when showering or bathing. Contact your doctor or nurse immediately if you have pain, discomfort, redness or swelling around the line or port. If there are signs of an infection, you will be given medicine and the device may need to be replaced.

“ I wasn't too keen when they recommended a port, but it's been terrific. The chemo sessions are much easier and I can go swimming again a day or two after treatment. ” *Andrew*

## Other ways of having chemotherapy

There are other ways of having chemotherapy, depending on the drugs being used and the type of cancer you have.

**Oral chemotherapy** – Some people are able to take chemotherapy as tablets or capsules at home. Your doctor, nurse or pharmacist will tell you how and when to take them, and how to handle the drugs safely.

**Injections** – Less commonly, chemotherapy can be injected using a needle into different parts of the body:

- into a muscle, usually in your buttock or thigh (intramuscular)
- just under the skin (subcutaneous)
- into the fluid around the spine (intrathecal, also known as a lumbar puncture)
- into an artery (intra-arterial)
- into your abdominal area (intraperitoneal)
- into the outer lining of the lungs (intrapleural)
- into the bladder (intravesical)
- into the tumour (intralesional; this method is rare).

**Cream** – Some skin cancers are treated using a chemotherapy cream applied directly to the skin. This is called topical chemotherapy.

**Transarterial chemoembolisation (TACE)** – Used for primary liver cancer or some types of cancer that have spread to the liver, TACE involves injecting high doses of chemotherapy directly into the liver tumours. At the same time, tiny plastic beads or soft, gelatine sponges are injected to block the blood supply to the tumour (embolisation).

## Chemotherapy with other treatments

For some types of cancer, you may be given chemotherapy as part of another treatment, such as a stem cell transplant or radiation therapy, or in combination with other drug therapies.

<b>high-dose chemotherapy</b>	Usually given as part of a stem cell transplant for blood cancers, such as leukaemia or lymphoma. It kills off all the cancer cells before the new, healthy blood cells are given. The transplant usually occurs a day or two later.
<b>chemoradiation (chemo-radiotherapy)</b>	This is when chemotherapy is combined with radiation therapy. The chemotherapy drugs make the cancer cells more sensitive to radiation therapy. Chemoradiation is commonly used for brain, bowel, cervical and oesophageal cancers.
<b>hormone therapy</b>	May be used after chemotherapy. Some cancers, such as breast and prostate cancer, can grow in response to hormones. Drugs that block these hormones may be given as tablets or injections.
<b>targeted therapy</b>	Often used in combination with chemotherapy, targeted therapy drugs may be given through a drip in a vein, as injections or as tablets.
<b>immunotherapy</b>	May be used in combination with chemotherapy. Usually given through a drip in a vein.
<b>steroids</b>	Often given with chemotherapy to ease or prevent nausea, manage allergic reactions, make chemotherapy more effective or directly treat the cancer. Steroids are usually given as tablets. Side effects include indigestion, an increased appetite, mood swings, difficulty sleeping, increased blood glucose levels and muscle weakness.

## Waiting for chemotherapy

When you have chemotherapy, you may spend a lot of time waiting for health professionals, for blood tests, for test results, for your drugs to be prepared and for the drugs to be given. There may also be delays because of necessary safety checks, emergencies or the workload of the treatment centre. Many treatment centres will provide biscuits and water, tea and coffee, but it's a good idea to bring your own water bottle and snacks in case of long delays.

While you are waiting, you may want to:

- read a book or magazine, or listen to music or a podcast
- complete a crossword or other puzzle, knit, crochet or embroider
- chat with a companion
- write or draw in a journal
- meditate or practise relaxation techniques or just have a rest
- use a laptop, smartphone, tablet or ereader – check with the nurses whether this is okay and if power points are available.

At first, you may feel uncomfortable being around people who are sick because of cancer or their treatment. You may not identify with them. However, many people gain support from others who are receiving chemotherapy at the same time. You may find it helpful to join a support group to meet other people going through a similar experience.

“ I became good friends with a lady who began chemotherapy on the same day as me. We ended up going walking several times a week for 18 months. The companionship was a great support. ” *Tania*



If you smoke, try to quit or cut down before chemotherapy starts as smoking may affect how well the treatment works and make side effects worse. Quitting can be difficult, especially if you're feeling anxious about the cancer diagnosis and treatment. For support and advice, talk to your doctor, call the Quitline on **13 7848** or download the My QuitBuddy app.

## Safety precautions

Chemotherapy is strong medicine, so it is safest for people without cancer to avoid direct contact with the drugs. Oncology nurses and doctors may wear gloves, goggles, gowns or masks because they are exposed to chemotherapy drugs every day. When the treatment session is over, these items are disposed of in special bags or bins.

After each chemotherapy session, the drugs may remain in your body for up to a week. During this time, very small amounts of the drugs may be released from the body in your vomit, urine, faeces (poo), blood, saliva, sweat, semen or vaginal discharge, and breastmilk.

You may worry about the safety of family and friends while you are having chemotherapy. There is little risk to visitors, including children, babies and pregnant women, because they aren't likely to come into contact with any chemotherapy drugs or body fluids.

The safety measures listed on the next two pages are recommended for people who are providing care or have other close contact with you during the recovery period at home. If you have questions, talk to your treatment team or call Cancer Council 13 11 20.

## Chemotherapy safety in the home

Follow these safety measures to reduce exposure to chemotherapy drugs at home, both for you and your family and friends. Safety precautions can vary depending on the drugs you receive, so ask your treatment team about your individual situation.



### Clean up spills

Keep a supply of cleaning cloths, paper towels and disposable waterproof gloves handy. If any body fluids (during the week after a treatment session) or chemotherapy drugs spill onto household surfaces, put on a pair of waterproof gloves, soak up the spill with paper towels, clean around the area with a disposable cloth and soapy water, and rinse the area with water. Put used gloves, cloths and paper towels in a plastic bag, then put the bag in the bin.

### Use a plastic bucket

If you need to vomit, use a plastic bowl or bucket (or a plastic bag with no holes). Empty into the toilet and flush the toilet twice. Don't use the bowl or bucket for anything else and throw it out after your final chemotherapy session.



### Take care going to the toilet

For a week after a treatment session, sit down to use the toilet. Put the lid down before flushing to avoid splashing. Flush the toilet with a full flush twice. If you have a septic or composting system, check with the manufacturer about whether this is safe.

### Wear disposable gloves

During the week after a treatment session, wear disposable waterproof gloves when handling containers, clothing or bedsheets soiled with vomit or other body fluids. Put the gloves in a plastic bag and throw out after use.



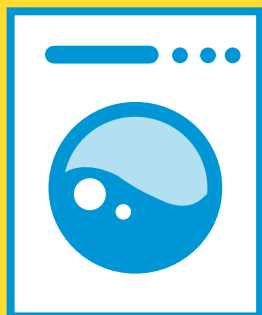
### Keep tablets whole

Don't crush, chew or cut chemotherapy tablets. If you can't swallow a tablet whole, ask your oncologist or pharmacist whether the drug comes in other forms, such as a liquid.



### Put medicines in a safe place

Store all tablets, capsules or injections as directed by your oncologist or pharmacist – they often need special storage to keep them effective and safe. Keep them out of reach of children and do not store them in a pill organiser with other medicines.



### Handle laundry carefully

Wash items soiled with body fluids, such as clothing, bedsheets and towels, separately from other laundry. Use the longest washing machine cycle (hot or cold water can be used), and wash twice.



### Practise safe sex

If having any type of sex, use barrier contraception, such as a condom, female condom or dental dam, to protect your partner from any chemotherapy drugs that may be present in your body fluids.



### Pregnancy and breastfeeding

Avoid conceiving while having chemotherapy (see page 51). If you already have a baby, you will not be able to breastfeed during your course of chemotherapy.

## Is the treatment working?

You might wonder whether experiencing side effects is a sign that the chemotherapy is working. However, having side effects usually does not indicate how successful the chemotherapy is going to be.

Throughout treatment, you will be closely monitored by your specialist. You will have tests to see how well the chemotherapy drugs are working and whether the cancer has shrunk or disappeared after chemotherapy. This is called the treatment response and it helps your doctor decide whether to continue or change the chemotherapy plan.

If tests show that the cancer has shrunk and is unable to be detected, this may be called remission or complete response, which means there is no evidence of active cancer. Depending on the guidelines for the type of cancer you have, this may mean chemotherapy can stop or it may continue for a period of time. Once you've completed the course of chemotherapy, your doctor will monitor you for several months or years (see page 56). This is because cancer can sometimes come back in the same place or grow in another part of the body.

### Telehealth appointments

You may be able to have some appointments with your health professionals from home over the phone or a video link. This is known as telehealth and it can reduce the number of times you need to attend hospital.

Although telehealth can't replace all face-to-face appointments, you can use it to talk about a range of issues including test results, prescriptions and side effects. For more information talk to your treatment team or call **13 11 20**.





## Key points about chemotherapy

### What it is

- Chemotherapy is the use of drugs to kill or slow the growth of cancer cells.
- You may have one drug or a combination of drugs depending on the cancer type.
- You may have chemotherapy on its own or with other treatments.

### How chemotherapy is given

- A medical oncologist or haematologist prescribes the course of chemotherapy.
- Chemotherapy is most commonly given through a thin tube into a vein (intravenously).
- Chemotherapy is sometimes given by mouth as tablets or capsules (orally).
- For some types of cancer, chemotherapy is given in other ways, e.g. a cream for skin cancer, injections for liver cancer.

### Safety of chemotherapy

- It is safest for people without cancer to avoid direct contact with chemotherapy drugs, so nurses and doctors wear protective clothing when giving chemotherapy.
- There is little risk to visitors during and after your chemotherapy treatment.
- Your treatment team will advise you about taking precautions at home so your family members don't come into contact with chemotherapy drugs or your body fluids, such as urine or vomit.
- Your family and friends should not handle chemotherapy drugs unless absolutely necessary.



# Managing side effects

Chemotherapy drugs can damage healthy, fast-growing cells, such as the new blood cells in the bone marrow or the cells in the mouth, stomach, skin, hair and reproductive organs. When healthy cells are damaged, it causes side effects. This chapter provides information and tips to help you manage some common side effects of chemotherapy.

## Preparing for side effects

Everyone reacts to chemotherapy differently. Some people have no side effects, others have many. Whether you experience side effects and how severe they are depends on the type and dose of drugs you are given and your reaction from one treatment cycle to the next.

If you have side effects, they will usually start during the first few weeks of treatment and occasionally become more intense with each treatment cycle. Before treatment begins, your doctor or nurse will discuss the side effects to watch out for or report, how to help prevent or manage them, and who to contact after hours if you need help.

## Recording side effects

It can be useful to keep a record of your chemotherapy treatment in one place. This will help you recall details about when you had side effects, how long they lasted and what helped to make them better. Some people use a notebook or a diary, while others prefer to use a smartphone or tablet.

Share the information you record with your treatment team. They will be able to suggest ways to manage the side effects or, if appropriate, they may adjust your treatment.



Keep a list of the doses and names of your chemotherapy drugs, along with the names of your specialists. This will save time if you become ill and need to visit the emergency department. Make sure to tell the hospital staff that you are having chemotherapy.

## How long side effects may last

Most side effects are short term, but some may be permanent. Side effects tend to gradually improve once treatment stops and the normal, healthy cells recover. Most side effects can be managed.

Some side effects from chemotherapy may not show up for many months or years. These are called late effects. Before treatment starts, talk to your doctor about whether you are at risk of developing late effects from your treatment and what you can do to help prevent them. After treatment, make sure to see your GP for regular health checks.

## Long term and late effects of treatment

Permanent side effects of chemotherapy may include damage to your heart, lungs, kidneys, nerve endings (see page 49) or reproductive organs (see pages 51–52).

If damage to your heart muscle or lungs is a possibility, your doctor will monitor your heart and lung function throughout treatment to limit your risk of damage. They will adjust your chemotherapy if early changes are seen.

Occasionally, many years after having some types of chemotherapy, some people develop a new, unrelated cancer. The risk of this is

very low, but other factors, such as continuing to smoke or very rare genetic conditions, can increase this risk. If any symptoms appear, even many years after treatment, ask your GP whether they could be related to the cancer treatment you received. Ask whether your hospital has a late effects clinic to help you manage any side effects you may experience after treatment.

➤ See our *Living Well After Cancer* booklet.

## Feeling tired and lacking energy

Feeling very tired and lacking energy (fatigue) is the most common side effect of chemotherapy. You may have muscle aches and pains, get worn out quickly, have difficulty concentrating or find it difficult to do daily activities. Fatigue can appear suddenly and it doesn't always go away with rest or sleep.

Fatigue may last for some weeks or months after a treatment cycle ends. Energy levels usually improve over time. While fatigue is a common side effect of chemotherapy, it can also be a symptom of depression (see page 55). For more information on depression, visit [beyondblue.org.au](http://beyondblue.org.au) and talk to your health care team.

➤ See our *Fatigue and Cancer* fact sheet.

“ I had no idea that I would still be feeling tired five months after finishing treatment. I didn't know how to make it better and I was scared that's how it would be: that I wouldn't go back to normal, that I would never go back to having energy again. ” Judy



## How to manage fatigue

- Allow your body to recover by taking regular breaks, resting or having a short sleep.
  - Plan activities for the time of day when you tend to feel most energetic.
  - Do some regular exercise, such as walking. Moderate intensity exercise can boost energy levels and make you feel less tired. Talk to your treatment team about suitable activities for you.
  - Ask for, and accept, offers of support from family, friends and neighbours. They can help with shopping, driving, housework or gardening.
  - If you have children, ask trusted family and friends to look after them during your chemotherapy sessions and to be on call in case you become unwell afterwards.
  - Find ways to manage anxiety or trouble sleeping as these can increase fatigue. Relaxation or meditation exercises may help improve your sleep or give you more energy. Listen to Cancer Council's online relaxation and meditation recordings or call **13 11 20** to request copies.
  - Talk to your doctor about trying acupuncture – some studies suggest this may help reduce physical tiredness after chemotherapy.
  - Check with your doctor whether your fatigue is related to low levels of red blood cells (anaemia). Anaemia can be treated (see page 45).
  - Discuss the impact of the treatment with your employer. You may be able to take a few weeks off, reduce your hours or work from home.
  - Eat a healthy, well-balanced diet and don't skip meals. Limit your alcohol intake.
- See our *Exercise for People Living with Cancer* and *Cancer, Work & You* booklets and listen to *The Thing About Cancer* podcast episodes on fatigue and sleep.

## Complementary therapies and chemotherapy

Complementary therapies are sometimes used with conventional medical treatments. They may offer physical, emotional and spiritual support, help manage side effects, and improve quality of life.

Some therapies have been proven to be safe and effective in scientific studies. For example, meditation, relaxation, massage and counselling can reduce anxiety, and acupuncture can reduce chemotherapy-induced nausea and fatigue.

It is important to talk to your doctors about any complementary

therapies you are using or thinking about trying, as some could interfere with your treatment or make side effects worse.

Complementary therapies are different to alternative therapies, which are used instead of conventional medical treatments.

Alternative therapies are unlikely to be scientifically tested and may prevent successful treatment of the cancer. Cancer Council does not recommend the use of alternative therapies.

› See our *Understanding Complementary Therapies* booklet.

## Constipation or diarrhoea

Some chemotherapy drugs, pain medicines and anti-nausea drugs can cause constipation or diarrhoea. Tell your doctor or nurse if your bowel habits have changed. See table on opposite page for some ways to manage bowel issues at home.

Some people experience ongoing bowel problems after cancer treatment. If you find that dietary fibre makes any bowel problems worse, you may need to eat low-fibre foods.



## How to manage bowel changes

### Constipation

- Eat more high-fibre foods, such as wholegrain bread and pasta, bran, fruits and vegetables, nuts and legumes (e.g. baked beans or lentils).
- If you are having treatment for bowel cancer, ask your treatment team if there is any specific dietary advice about fibre you can follow to avoid constipation.
- Drink plenty of fluids, both warm and cold. Prune, apple or pear juice can work well.
- Do some light exercise, such as walking.
- Ask your doctor about using a laxative, stool softener or fibre supplement.
- Avoid enemas or suppositories as they may cause infection.
- Let your treatment team know if you have constipation for more than a couple of days. They will be able to help.

### Diarrhoea

- Choose bland foods such as clear broth, boiled rice or dry toast. Avoid spicy foods, wholegrain products, fatty or fried foods, rich sauces, and raw fruits or vegetables with skins or seeds.
- It may help to eat foods that are high in soluble fibre such as oats, white bread, white rice, pasta and bananas.
- Limit alcohol, fruit juice, soft drinks, strong tea or coffee, and foods containing artificial sweeteners as these stimulate the bowel.
- Drink water to help replace fluids lost through diarrhoea.
- Talk to your treatment team – they may change the drugs or doses or suggest other solutions, such as using over-the-counter medicines.
- If diarrhoea is severe or ongoing, let your treatment team know. It can cause dehydration (see next page) and you may need to go to hospital.

## Appetite changes, nausea or vomiting

It is common for your appetite to change during chemotherapy. Sometimes you may not feel hungry or you may prefer different types of food. The drugs may also temporarily change how food tastes.

Chemotherapy can make you feel sick (nauseated) or cause you to vomit. Not everyone feels sick during or after chemotherapy, but if nausea affects you, it often starts a few days after your first treatment. Nausea may last a short time or for many hours and it may be accompanied by vomiting or retching. Sometimes nausea lasts for days after treatment.

Often the best way to manage nausea is to prevent it from starting. Anti-nausea (antiemetic) medicine helps most people, but finding the right one can take time. If nausea or vomiting continues after using the prescribed medicine, let your nurse or doctor know early so that another medicine can be tried. Steroids may also be used to manage nausea (see page 25).

Being unable to keep liquids down because of vomiting can cause you to become dehydrated. Signs of dehydration include a dry mouth and skin, dark urine, dizziness and confusion. It is not safe to be left alone if you are vomiting a lot, as the confusion may make it difficult to realise you have become seriously dehydrated.

👤👤 Once I started chemotherapy, I went off my food. My mouth felt very dry, which made food taste unappetising. Adding extra sauce helped. 👤👤 *Helen*





## How to manage appetite changes

### Appetite loss

- Eat what you feel like, when you feel like it. Have frequent snacks instead of large meals.
- Try to eat extra on days when you have an appetite.
- Avoid strong odours and cooking smells that may put you off eating. It might help to prepare meals ahead and freeze them for days you don't feel like cooking.
- If the taste of certain foods has changed, don't force yourself to eat them. Your sense of taste should return to normal after treatment ends.
- If you don't feel like eating solid foods, try enriching your drinks with powdered milk, yoghurt or honey. Or try easy-to-swallow food such as scrambled eggs.
- Don't use nutritional supplements or medicines without your doctor's advice, as some could affect how your treatment works.
- Ask a dietitian for advice on the best eating plan during treatment and recovery.

### Nausea

- Have a light, bland meal before your treatment (e.g. soup with dry biscuits, crackers or toast).
  - Sip water or other fluids throughout the day so that you don't get dehydrated. Sucking on ice cubes or iceblocks or eating jellies can also increase your fluid intake. If water tastes unpleasant, flavour it with ginger cordial or syrup.
  - If your stomach is upset, try drinking fizzy drinks such as soda water or dry ginger ale.
  - If you wake up feeling sick, eat a dry biscuit or slice of toast rather than skipping food.
  - If you aren't able to keep fluids down, contact your doctor or hospital immediately. They may be able to treat the vomiting, or you may need to have fluids through an intravenous drip in hospital.
- See our *Nutrition and Cancer* booklet and listen to our "Appetite Loss and Nausea" podcast episode.

## Hair loss

Many people having chemotherapy worry about hair loss (alopecia). Whether you lose your hair will depend on the drugs prescribed. Some people lose all their hair quickly, while others may lose only a little hair or none at all. Although losing hair from the head is most common, you may find your eyebrows and eyelashes fall out, and you may lose hair from your underarms, legs, chest and pubic area.

When hair loss does occur, it usually starts 2–3 weeks after the first treatment. Before and while your hair is falling out, your scalp may feel hot, itchy, tender or tingly. Some people find that the skin on their head is extra sensitive, and they may develop pimples on their scalp. After chemotherapy ends, it takes 4–12 months to grow back a full head of hair. When your hair first grows back, it may be a different colour or curly (even if you have always had straight hair). In time, your hair usually returns to its original condition.

**Coping with hair loss** – Many people find losing their hair difficult. Its loss can affect your self-confidence and make you feel sad or vulnerable. For many people, it’s a public sign of the cancer diagnosis. Talking to your treatment team about how you feel may help.

**Scalp cooling** – Some people may be able to reduce scalp hair loss by wearing a “cold cap” on their head while chemotherapy is delivered. The cap is attached via a hose to a cooling unit, which fills the cap with cold liquid. This reduces the blood flow and the amount of chemotherapy drug that reaches the scalp. The cold cap can only be used with certain drugs and types of cancer, and doesn’t always prevent hair loss. Ask your treatment centre if they offer cold caps and if they are an option for you.



## Ways to manage hair loss

- Keep your hair and scalp very clean. Use a mild shampoo like baby shampoo. If you want to use lotion on your head, use sorbolene. Check with your nurse before using any other hair or skin care products.
  - Comb or brush your hair gently using a wide tooth comb or a hairbrush with soft bristles.
  - Explain to family and friends, especially children, that the chemotherapy may make your hair fall out.
  - Cut your hair, especially if it is long, before it falls out. Some people say this gives them a sense of control.
  - Talk to your hairdresser about making your hair look as good as possible even if it is thin or patchy.
  - Wear a wig, hat, turban or scarf, or go bare-headed – whatever feels best to you. If you prefer to leave your head bare, protect it against sunburn and the cold.
  - If you plan to wear a wig, choose it before treatment starts so you can match your own hair colour and style. Call Cancer Council **13 11 20** for information about wig services.
  - Use a cotton, polyester or satin pillowcase, as nylon can irritate your scalp. Wear a light cotton turban or beanie to bed if you are cold.
  - Avoid dyeing your hair during or for about six months after chemotherapy or consider using vegetable-based dyes.
  - If your eyelashes fall out, wear sunglasses outside to protect your eyes from dust and sun.
  - If your eyebrows fall out, you can buy reusable eyebrow wigs to wear until your eyebrows grow back.
  - Contact Look Good Feel Better – this national program helps people manage the appearance-related effects of cancer treatment. Workshops are run for men, women and teenagers. Call **1800 650 960** or visit [lgfb.org.au](http://lgfb.org.au).
- See our *Hair Loss* fact sheet.

## Thinking and memory changes

Some people say they have difficulty concentrating, focusing and remembering things after they have had chemotherapy. This is called cancer-related cognitive impairment. Other terms used to describe this include “chemo brain”, “cancer fog” and “brain fog”.

Thinking and memory changes may be caused by treatment or medicines, fatigue and sleep problems, or emotional concerns, such as stress or depression. These problems usually improve with time, although some people experience issues for years. Tell your doctor about any thinking and memory changes you are having and if they are affecting your day-to-day life or your work.



### Ways to improve concentration

- Use a calendar or set a timer on your phone to keep track of tasks, medical appointments, when to take medicines, social commitments, birthdays, etc.
  - Write down anything you need to remember, e.g. to-do items, where you parked the car.
  - Get plenty of sleep. Deep sleep is important for memory and concentration.
  - Do light exercise every day to help you be more alert and sleep better.
  - Learn something new, e.g. take up a new hobby or do crosswords or puzzles.
  - Discuss changes to your ability to concentrate and remember things with your partner, family or workplace, and ask for their support or assistance.
- See our *Understanding Changes in Thinking and Memory* fact sheet and listen to our “Brain Fog and Cancer” podcast episode.

## Mouth sores

Some chemotherapy drugs can cause mouth sores, such as ulcers, or infections. This is more likely if you have had or are having radiation therapy to the head, neck or chest area, high-dose chemotherapy or a stem cell transplant, or if you have dental or gum problems or need a course of antibiotics.

If you notice any sores, ulcers or thickened saliva, or if you find it difficult to swallow, tell your doctor.



### Looking after your mouth

- Discuss any dental issues with your oncologist or haematologist before seeing the dentist. If you need any dental work, tell your dentist you're having chemotherapy.
  - Use a soft toothbrush to clean your teeth twice a day.
  - Rinse your mouth four times a day with  $\frac{1}{4}$  tsp bicarbonate of soda and  $\frac{1}{4}$  tsp salt dissolved in a cup of warm water. Avoid mouthwashes with alcohol.
  - Sip fluids, especially water, and eat moist foods such as casseroles or soups if you have a dry mouth. Moisten foods with gravy or sauce.
  - Soothe tender gums or mouth with plain yoghurt.
  - Sucking on ice during chemotherapy sessions may help to prevent mouth ulcers.
  - Blend foods to make them easier to eat. Try smoothies made of fruit and yoghurt.
  - Avoid smoking and alcoholic drinks, as well as very hot foods and spicy, acidic or coarse foods (e.g. nuts or grains). These can all make mouth sores worse.
- See our *Mouth Health and Cancer Treatment* fact sheet.

## Skin and nail changes

Some chemotherapy drugs may cause your skin to peel, darken or become dry and itchy. During treatment and for several months afterwards, your skin is likely to be more sensitive to the sun.

You may find your nails also change and become darker than usual, or develop ridges or white lines across them. Your nails may also become brittle and dry or lift off the nail bed. These changes usually grow out.



### Taking care of your skin

- Use an oatmeal body wash or sorbolene cream instead of soap. Gently pat your skin dry with a towel rather than rubbing it.
- Use a moisturising lotion or cream containing the ingredient urea to help with the dryness.
- Wear loose, non-restricting clothing. Choose cotton fabric instead of rough wool or synthetic fibres.
- Use mild detergent to wash your clothing if you have sensitive skin.
- Don't shave or wax until your skin is healed.
- Protect your skin from the sun when UV levels are 3 or above. Wear high-protection sunscreen (SPF 50+), a broad-brimmed hat, protective clothing and sunglasses, and try to stay in the shade. This advice applies to everyone, but is especially important for people having chemotherapy.
- Avoid chlorinated swimming pools as the water can make skin changes worse.
- If your skin becomes red or sore in the area where the intravenous device went in, let your doctor or nurse know immediately.

## How chemotherapy affects the blood

Blood cells are made in the bone marrow, which is the spongy part in the centre of the bones. The bone marrow makes three main types of blood cells, which have specific functions:

- **red blood cells** – carry oxygen around the body
- **white blood cells** – fight infection
- **platelets** – help blood to clot and prevent bruising.

Because the new blood cells are rapidly dividing, they can be damaged by chemotherapy, and the number of blood cells (your blood count) will be reduced. Low numbers of blood cells may cause anaemia, infections or bleeding problems.

You will have blood tests at the beginning of treatment and before each chemotherapy cycle to check that your blood count is adequate before you have chemotherapy. If your blood count has not recovered, your doctor may delay treatment.

### Anaemia

If your red blood cell count drops below normal this is called anaemia. A reduced amount of oxygen circulates through your body, which can make you feel tired, lethargic, dizzy or breathless. The tips for coping with fatigue on page 35 may be helpful. To minimise dizziness, take your time when you get up from sitting or lying down.


Your treatment team will monitor your red blood cell levels. Let them know if you have any symptoms of anaemia during your course of chemotherapy. If the levels of red blood cells drop too low, you may need a blood transfusion to build them up again.

## Infections

Chemotherapy can reduce your white blood cell level, making it harder for your body to fight infections. Viruses such as colds, flu and COVID-19 may be easier to catch and harder to shake off, and scratches or cuts may get infected more easily. You may also be more likely to develop a serious infection without an obvious cause and need to be admitted to hospital. Your doctor may recommend antibiotics as a precaution against infection. See the table on the opposite page for some other ways to reduce your risk of getting an infection.

Many types of white blood cells make up the total white cell count. A type of white blood cell known as a neutrophil protects you against infection by destroying harmful bacteria and yeasts that enter the body. During chemotherapy, some people have low levels of neutrophils. This is known as neutropenia.

To speed up the production of new white blood cells and protect you from infection, your doctor may give you injections of a growth factor drug called granulocyte-colony stimulating factor (G-CSF). Your doctor or nurse will speak to you about possible side effects. Some people may experience bone pain or tenderness at the injection site or show signs of an allergic reaction. Let your doctor know if you have any of these side effects.

“After chemotherapy I became very susceptible to infections. A small scrape can quickly become serious. But when I feel like an infection is coming on, I’ve learnt to see my doctor straightaway.”  *Brigita*



## Taking care with infections during chemotherapy

Reduce your risk	When to seek help
<p>To prevent the spread of infection:</p> <ul style="list-style-type: none"><li>• check your temperature daily and any time you feel unwell</li><li>• avoid touching your eyes, nose and mouth with your hands</li><li>• check with your doctor about having the flu vaccine</li><li>• ask people close to you to consider having a flu vaccine</li><li>• ask family and friends with a cold, flu or other contagious infection (e.g. COVID-19 or a cold sore) not to visit until the symptoms have gone away; keep in contact through phone and video calls instead</li><li>• avoid shaking hands, hugging and kissing other people</li><li>• try to avoid crowded places, such as shopping centres or public transport in peak hour</li><li>• wash your hands with soap and water before preparing food and eating, and after using the toilet</li><li>• prepare and store food properly to avoid foodborne illness and food poisoning</li><li>• eat freshly cooked foods; avoid raw foods (fish, seafood, meat and eggs) and soft cheeses; wash fruits and vegetables well before eating.</li></ul>	<p>Contact your doctor or go to the nearest hospital emergency department immediately if you experience one or more of the following symptoms:</p> <ul style="list-style-type: none"><li>• a temperature of 38°C or higher</li><li>• chills or shivering</li><li>• sweating, especially at night</li><li>• burning or stinging feeling when urinating</li><li>• a severe cough or sore throat</li><li>• shortness of breath</li><li>• vomiting that lasts more than a few hours</li><li>• severe abdominal pain, constipation or diarrhoea</li><li>• unusual bleeding or bruising, such as heavy nosebleeds, blood in your urine or black faeces (poo)</li><li>• prolonged faintness or dizziness and a rapid heartbeat</li><li>• any sudden deterioration in your health.</li></ul>

## Bleeding problems

A low level of platelets (thrombocytopenia) can cause problems. You may bleed for longer than normal after minor cuts or scrapes, have nosebleeds or bleeding gums, or bruise easily. Periods may be longer or heavier.

Your treatment team will monitor your platelet levels. If chemotherapy causes severe thrombocytopenia, you may need a platelet transfusion. Ask your specialist to explain the risks and benefits of this procedure.

Contact your treatment team or call 000 if you have any persistent bleeding, such as a nosebleed that doesn't stop within 30 minutes.



### How to manage a low platelet count

- Be careful when using knives, scissors or needles, as you may bleed easily from small cuts or nicks.
- Use an electric razor when shaving your face or body to reduce the chance of nicking yourself.
- Wear thick gloves when gardening to avoid injury. (This will also prevent infection from soil, which contains bacteria.)
- Avoid contact sports and high-impact activities, as these could cause bruising or bleeding if you get knocked or fall over.
- Use a soft-bristled toothbrush to avoid irritating your gums.
- Wear comfortable, well-fitting shoes indoors and outdoors to avoid cuts on your feet.
- Blow your nose with care.
- If you bleed, apply pressure to the area for about 10 minutes and bandage as needed.
- If you have problems with bleeding, talk to your doctor.

## Nerve and muscle effects

Some chemotherapy drugs can damage the nerves that send signals between the central nervous system and the arms and legs. This is called peripheral neuropathy. Symptoms include tingling (“pins and needles”), numbness or pain in your hands and feet, and muscle weakness in your legs.

For many people, peripheral neuropathy is a short-term issue, but for others, it can last a long time or even be permanent. If you experience numbness and tingling, tell your doctor or nurse before your next treatment. Your treatment may need to be changed or the problem carefully monitored.



### Ways to manage numb hands or feet

- Take care when moving around – you may be more likely to trip and fall if your feet are numb or your legs are weak.
  - e.g. posts to raise the sheets off your feet if they’re irritated by the weight of the sheets.
- Wear gloves and socks to keep hands and feet warm, or soak your hands and feet in warm water to relieve symptoms.
- Wear well-fitting shoes with non-slippery soles.
- Use your elbow to check the water temperature so you don’t scald yourself.
- Clear walkways of hazards and remove loose rugs.
- Talk to an occupational therapist from your treatment team about aids that may help,
  - If your symptoms are severe, talk to your doctor about medicines that may offer relief.
  - ▶ See our *Understanding Peripheral Neuropathy and Cancer* fact sheet.

## Sexuality and fertility issues

Chemotherapy can affect your sexuality and fertility in emotional and physical ways. These changes are common. Some changes may be only temporary while others can be permanent.

### Changes in sexuality

You may notice a lack of interest in sex or a loss of desire (libido), or you may feel too tired or unwell to want to be intimate. You may also feel less confident about who you are and what you can do. There may be a physical reason for not being able or interested in having sex, e.g. vaginal dryness or erection difficulties. Changes in appearance can also affect feelings of self-esteem and, in turn, sexuality.

If you have a partner, it may be helpful for them to understand the reasons why your libido has changed and to know that people can have a fulfilling sex life after cancer, but it often takes time. Some partners may feel concerned about having sex – they might fear injuring the person with cancer, feel uncomfortable with the changes in their partner or worry about being exposed to chemotherapy drugs (see opposite page).

Sexual intercourse may not always be possible, but closeness and sharing can still be a part of your relationship. Talk about how you're feeling with your partner and take time to adapt to any changes. Try to see yourself as a whole person (body, mind and personality) instead of focusing only on what has changed. If you're worried about changes to how you feel about yourself, your relationships or sexual functioning, you may find talking to a psychologist or counsellor helpful.

- See our *Sexuality, Intimacy and Cancer* booklet and listen to our “Sex and Cancer” podcast episode.

## Using contraception

As chemotherapy drugs can harm an unborn baby (see page 12), your doctor may talk to you about using contraception during and after chemotherapy. Although chemotherapy often affects fertility, it doesn't always. If you are in a heterosexual relationship and sexually active, you will need to use some form of contraception to avoid pregnancy while having treatment. If you or your partner become pregnant, talk to your specialist immediately.

You will also need to use some form of barrier contraception (condom, female condom or dental dam) to protect your partner from any chemotherapy drugs that may be present in your body fluids.

## Changes in fertility

Chemotherapy can affect your ability to have children (fertility), which may be temporary or permanent. If you want to have children in the future, talk to your doctor about how chemotherapy might affect you and what options are available. Women may be able to store eggs (ova), embryos or ovarian tissue, and men may be able to store sperm for use at a later date. This needs to be done before chemotherapy starts and requires careful consideration. Some women are able to have hormone injections to reduce activity in the ovaries and protect eggs from being damaged by chemotherapy.

➤ See our *Fertility and Cancer* booklet.

**Effects of chemotherapy on ovaries** – Chemotherapy can reduce the levels of hormones produced by the ovaries. This can cause your periods to become irregular or even stop for a while, but they often return to normal within a year of finishing treatment. If your periods

do not return, the ovaries may have completely stopped working, causing early menopause.

After menopause, women can't conceive children naturally. Signs of menopause include hot flushes, night sweats, aching joints, dry or itchy skin, and trouble sleeping. Menopause – particularly when it occurs in women under 40 – may, in the long term, cause bones to become weaker and break more easily. This is called osteoporosis. Talk to your doctor about ways to manage menopausal symptoms or ask for a referral to a specialist menopause clinic.

**Effects of chemotherapy on sperm** – Chemotherapy drugs may lower the number of sperm produced and reduce their ability to move. This can sometimes cause infertility, which may be temporary or permanent. The ability to have and keep an erection (erectile dysfunction or impotence) may also be affected, but this is usually temporary. If impotence is ongoing, talk to your doctor.

## Other side effects

Some other common side effects of chemotherapy may include hearing problems and watery eyes.

**Changes in hearing** – Some chemotherapy drugs can affect your hearing. Your doctor may recommend that you have a hearing test before you start treatment, and this may be repeated before each treatment cycle. You may be at risk of losing the ability to hear high-pitched sounds. Sometimes, chemotherapy also causes a continuous ringing noise in the ears known as tinnitus. These

changes can happen alone or together, and are usually temporary. Let your doctor know if you notice any change in your hearing.

**Watery eyes** – This can be a symptom of a blocked tear duct, which can be caused by some chemotherapy drugs. Regularly massaging the area and using eye drops can help clear blockages. Let your cancer care team know if this issue is ongoing.

**Body odours** – Chemotherapy can affect your sense of smell and you may notice unpleasant smells more. Talk to your cancer care team if you are concerned about a change in body odour.



### **Karen's story**

I'd been feeling unwell – eating made me feel nauseous and I couldn't stand to have anything tight around my stomach. My GP booked me in for some scans and then I was referred to an oncologist and I had a biopsy.

After that, the diagnosis of non-Hodgkin lymphoma was confirmed. I received the standard chemotherapy drugs for the first few months of treatment, and then I took part in a clinical trial.

During the week I had treatment, I would feel okay as the nurses would give me medicine. The next week, I would get side effects like diarrhoea, vomiting and constipation. I took ginger to help with the nausea, and I tried to live my normal life whenever I felt well enough.

I had good support from work, my family and friends, and the hospital staff were brilliant. I still have regular check-ups and I'm back to living my usual active life.



## Key points about side effects

### Why side effects occur

Many people have side effects from chemotherapy. Side effects are caused when the chemotherapy drugs damage healthy, fast-growing cells. Most side effects are temporary and gradually improve after you have finished treatment.

### Common side effects

- Chemotherapy can cause fatigue, bowel issues such as constipation or diarrhoea, loss of appetite, nausea, hair loss, mouth sores, and skin and nail problems.
- You may have trouble concentrating or remembering things. There can also be nerve and muscle effects, and hearing changes.
- Chemotherapy can affect the blood, causing anaemia or bleeding problems.
- You will be at increased risk of infections. This is because chemotherapy can reduce your levels of white blood cells, which are necessary for fighting infections.
- Chemotherapy can affect your sexuality and fertility. If you would like to have children in the future, talk to your doctor before treatment starts.

### Managing side effects

- Your doctor or nurse will talk to you about how to manage any side effects. You may be prescribed medicine or given suggestions for eating, drinking and looking after yourself.
- If you have any side effects that weren't discussed with you before treatment, let your treatment team know.





# Life after treatment

For most people, the cancer experience doesn't end on the last day of chemotherapy. 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 our *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 Beyond Blue on **1300 22 4636** or visit [beyondblue.org.au](http://beyondblue.org.au). For 24-hour crisis support, call Lifeline **13 11 14** or visit [lifeline.org.au](http://lifeline.org.au).


## Follow-up appointments

After chemotherapy ends, you will have regular appointments with your oncologist or haematologist to monitor your health, 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 and you may have blood tests, x-rays or scans. You will also be able to discuss how you're feeling and mention any concerns you may have.

You may also have regular check-ups with other specialists who have been involved in your treatment. If you need it, you will receive continued support from allied health professionals, such as a physiotherapist or dietitian.

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.

Check-ups will become less frequent if you have no further problems. Between follow-up appointments, let your doctor know immediately of any symptoms or health problems.

“Once treatment was finished, it was quite daunting and I was fearful that the cancer would come back somewhere. Eight years later, it hasn't come back, which is fantastic.”  Pete

## 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](http://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	<a href="http://cancer.org.au">cancer.org.au</a>
Cancer Council Online Community	<a href="http://cancercouncil.com.au/OC">cancercouncil.com.au/OC</a>
Cancer Council podcasts	<a href="http://cancercouncil.com.au/podcasts">cancercouncil.com.au/podcasts</a>
Australian Cancer Trials	<a href="http://australiancancertrials.gov.au">australiancancertrials.gov.au</a>
Cancer Australia	<a href="http://canceraustralia.gov.au">canceraustralia.gov.au</a>
Carer Gateway	<a href="http://carergateway.gov.au">carergateway.gov.au</a>
Carers Australia	<a href="http://carersaustralia.com.au">carersaustralia.com.au</a>
Department of Health	<a href="http://health.gov.au">health.gov.au</a>
eviQ Cancer Treatments Online	<a href="http://eviq.org.au">eviq.org.au</a>
Healthdirect Australia	<a href="http://healthdirect.gov.au">healthdirect.gov.au</a>
Optimal Care Pathways	<a href="http://cancerpathways.org.au">cancerpathways.org.au</a>
Services Australia (including Centrelink and Medicare)	<a href="http://servicesaustralia.gov.au">servicesaustralia.gov.au</a>

### International

American Cancer Society	<a href="http://cancer.org">cancer.org</a>
Cancer Research UK	<a href="http://cancerresearchuk.org">cancerresearchuk.org</a>
Chemocare (US)	<a href="http://chemocare.com">chemocare.com</a>
Macmillan Cancer Support (UK)	<a href="http://macmillan.org.uk">macmillan.org.uk</a>



# 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 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](http://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 provides information and advocacy for carers, and is the national peak body representing them to the Australian Government. Visit [carersaustralia.com.au](http://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 or listen to our “Cancer Affects the Carer Too” podcast episode.



# 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.

## Treatment

- Why do I need chemotherapy?
- What are the advantages and disadvantages of chemotherapy for me?
- How successful is chemotherapy for the type of cancer I have?
- What is the goal of this chemotherapy?
- Are there any other treatments I can have instead?
- Will chemotherapy be my only treatment or will I have other treatments?
- How much does treatment cost?
- What drugs will I be receiving? How will they be given?
- How often will I receive chemotherapy and for how long?
- How will you decide the dosage?
- Are there clinical guidelines you are following?
- How will I know if the treatment is working?
- Where will I have chemotherapy? Can I have it close to where I live?
- Do my family and friends need to follow any safety measures?
- Can I take my usual medications during chemotherapy?

## Side effects

- What are the risks and possible side effects of this type of chemotherapy?
- Will any side effects be long term or short term?
- What can I do to help manage any side effects?
- Will chemotherapy affect my sex life and fertility?
- Are there any complementary therapies that might help me?
- Should I change my diet or physical activity during or after treatment?
- Who should I contact for information or if I have a problem during treatment? Who is my after-hours contact?

## After treatment

- How often will I need check-ups after treatment?
- Am I at risk of developing late effects from chemotherapy? What might these be? What can I do to prevent this?



# Glossary

## **advanced cancer**

Cancer that is unlikely to be cured. In most cases, the cancer has spread to other parts of the body (secondary or metastatic cancer). Treatment can often still control the cancer and manage symptoms.

## **anaemia**

A reduction in the number or quality of red blood cells in the body.

## **antiemetic**

A drug that helps to control nausea and vomiting.

## **blood count**

See full blood count.

## **bone marrow**

The soft, spongy material inside bones. Bone marrow produces stem cells that become red blood cells, white blood cells and platelets.

## **cannula**

A small plastic tube inserted into a vein or narrow opening in the body so that fluids can be introduced or removed.

## **cells**

The basic building blocks of the body. A human is made of billions of cells that perform different functions.

## **central line**

A type of central venous access device used to give direct access to a vein in the chest or neck.

## **central venous access device (CVAD)**

A type of thin plastic tube inserted into a vein. The CVAD gives access to a vein so fluid or chemotherapy can be given, and blood can be taken.

Types of CVADs include central lines, Hickman lines, peripherally inserted central catheter (PICC) lines, and port-a-caths (ports).

## **chemoradiation**

Treatment that combines chemotherapy with radiation therapy. Also called chemoradiotherapy.

## **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.

## **chemotherapy pump**

A portable device that delivers a controlled amount of chemotherapy. It is usually attached to a central line. It allows a person to have chemotherapy at home.

## **cold cap**

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

## **complete response**

The disappearance of all signs of cancer in response to treatment.

## **curative treatment**

Treatment given with the aim of causing signs and symptoms of cancer to reduce or disappear permanently.

## **cycle**

A period of chemotherapy treatment that is repeated on a regular schedule with periods of rest in between.

## **cytotoxic**

A substance (e.g. chemotherapy) that is toxic to cells, so it can kill or slow the growth of cancer cells.

### **fertility**

The ability to conceive a child.

### **full blood count (FBC)**

A test that measures the number, size and maturity of each type of cell in the blood. Sometimes called a complete blood count.

### **granulocyte-colony stimulating factor (G-CSF)**

A protein that helps the bone marrow produce more neutrophils to reduce the risk of infection.

### **haematologist**

A doctor who specialises in studying and treating diseases of the blood, bone marrow and lymphatic system.

### **Hickman line**

A type of central venous access device inserted into a vein in the chest.

### **immune system**

A network of cells and organs that defends the body against attacks by foreign invaders, such as bacteria and viruses. Includes the lymphatic system.

### **intravenous chemotherapy**

Chemotherapy delivered into a vein through a drip or pump.

### **lymphatic system**

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

### **maintenance chemotherapy**

Chemotherapy given for months or years after the initial treatment to prevent the cancer coming back.

### **menopause**

When a woman stops having periods (menstruating). This can happen naturally, from treatment, or because the ovaries have been removed.

### **metastasis (plural: metastases)**

Cancer that has spread from a primary cancer to another part of the body. Also called secondary cancer.

### **neutropenia**

A low level of neutrophils. It can make you more prone to infections.

### **neutrophil**

A type of white blood cell that defends the body against bacteria and yeast.

### **oncologist**

A doctor who specialises in the study and treatment of cancer.

### **oral chemotherapy**

Chemotherapy given by mouth as tablets or capsules.

### **palliative treatment**

Medical treatment for people with advanced cancer to help them manage pain and other physical and emotional symptoms. Treatment may include chemotherapy, radiation therapy or other therapies.

### **peripherally inserted central catheter (PICC)**

A type of central venous access device that is inserted into a vein in the arm.



### **peripheral neuropathy**

Weakness, numbness, tingling or pain, usually in the hands and feet, caused by damage to the nerves that are located away from the brain and spinal cord (peripheral nerves).

### **platelets**

One of the three main types of cells found in the blood. Platelets help the blood to clot and stop bleeding.

### **port-a-cath (port)**

A type of central venous access device surgically inserted under the skin of the chest or arm. A tube called a catheter connects the port to a vein so fluids can be passed into the body.

### **radiation therapy (radiotherapy)**

The use of targeted radiation to kill or damage cancer cells so they cannot grow, multiply or spread.

### **red blood cells**

One of the three main types of cells found in the blood. They carry oxygen around the body. Also called erythrocytes.

### **remission**

When the signs and symptoms of the cancer reduce or disappear.

### **steroid**

A class of drugs used during cancer treatment to reduce inflammation; treat the cancer; relieve nausea, pain and fatigue; and boost the appetite. Also called corticosteroids.

### **systemic treatment**

Cancer drugs that spread throughout the whole body. Includes chemotherapy, targeted therapy and immunotherapy.

### **thrombocytopenia**

A low level of platelets. It can be a side effect of chemotherapy and makes you more prone to bleeding and bruising.

### **tissue**

A collection of cells of similar type that make up an organ or structure in the body.

### **topical chemotherapy**

Chemotherapy that is applied to an area of the skin as a cream or lotion.

### **transarterial chemoembolisation (TACE)**

A treatment that injects chemotherapy directly into a tumour. This closes off the blood vessels so the cancer is starved of oxygen and nutrients.

### **treatment protocol**

A detailed plan of a treatment. It outlines the drugs to be used, their dosage, the frequency, duration and side effects.

### **tumour**

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

### **white blood cells**

One of the three main types of cells found in the blood. They help fight infection. Types of white blood cells include neutrophils, lymphocytes and monocytes. Also called leucocytes.

#### **Can't find a word here?**

*For more cancer-related words, visit:*

- [cancercouncil.com.au/words](http://cancercouncil.com.au/words)
- [cancervic.org.au/glossary](http://cancervic.org.au/glossary)



## 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.

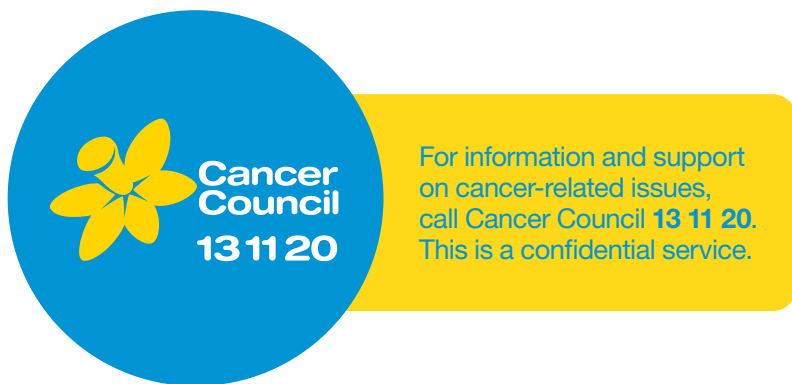
If you are finding it hard to navigate through the health care system, or just need someone to listen to your immediate concerns, call 13 11 20 and find out how we can support you, your family and friends.

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](http://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

*This booklet is funded through the generosity of the people of Australia.  
To support Cancer Council, call your local Cancer Council or visit your local website.*