

Understanding Chemotherapy

A guide for people with cancer, their families and friends



For information & support, call **13 11 20**

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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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Note to reader

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

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

Cancer Council

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



Cancer Council acknowledges Traditional Custodians of Country throughout Australia and recognises the continuing connection to lands, waters and communities. We pay our respects to Aboriginal and Torres Strait Islander cultures and to Elders past, present and emerging.



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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 (see page 60). 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. Some medical terms that may be unfamiliar are explained in the glossary (see page 61). 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 or concerns, 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).

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Key to icons

Icons are used throughout this booklet to indicate:



More information



Personal story



Tips

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. These abnormal cells may turn into cancer.

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.

How cancer starts

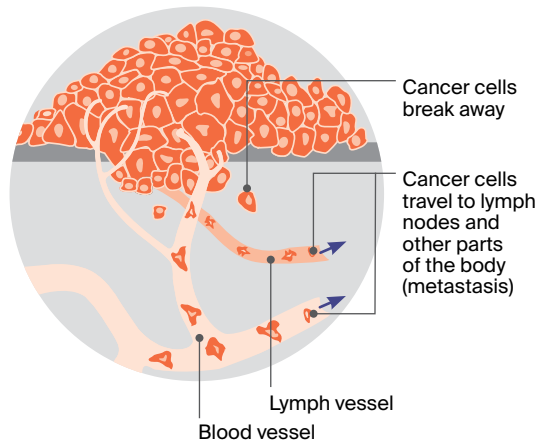
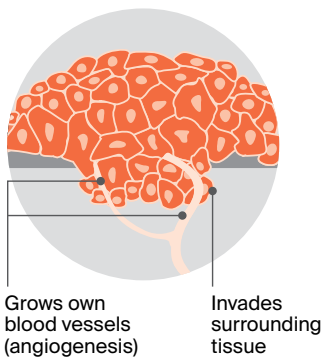


Not all tumours are cancer. Benign tumours tend to grow slowly and usually don't move into other parts of the body or turn into cancer. Cancerous tumours, also known as malignant tumours, have the potential to spread. They may invade nearby tissue, destroying normal cells. The cancer cells can break away and travel through the bloodstream or lymph vessels to other parts of the body.

The cancer that first develops in a tissue or organ 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, bowel cancer that has spread to the liver is called metastatic bowel cancer, even though the main symptoms may be coming from the liver.

How cancer spreads

.....▶ Malignant cancer



How cancer is treated

Cancers are usually treated with surgery, drug therapy and radiation therapy (radiotherapy). The types of drugs (medicines) used for the treatment of cancer include chemotherapy, hormone therapy, targeted therapy and immunotherapy. 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

surgery

An operation to remove cancer or repair a part of the body affected by cancer.

drug therapies

Drugs can travel throughout the body. This is called systemic treatment. Drug therapies include:

- **chemotherapy** – the use of drugs to kill cancer cells or slow their growth (see page 8)
- **hormone therapy** – treatment that blocks the effects of the body's natural hormones on some types of cancer
- **immunotherapy** – treatment that uses the body's own immune system to fight cancer
- **targeted therapy** – the use of drugs to attack specific features of cancer cells to stop the cancer growing or spreading.

radiation therapy

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

Your treatments

Because cancer treatment is becoming more tailored to individuals, the treatment you have may be different to the treatment other people have, even when the 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)
- specific features of the cancer cell
- 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 about chemotherapy for children, and check out:

- **Cancer Australia Children's Cancer** – for information about children's cancers, visit childrenscancer.canceraustralia.gov.au.
 - **Camp Quality** – supports children aged 0–15 and their families. Call 1300 662 267 or visit 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.
 - **Cancer Council** – for a copy of *Talking to Kids About Cancer*, call 13 11 20 or visit your local Cancer Council website.
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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).

Q: How does it work?

A: All cells in the body grow by splitting or dividing into 2 cells. Cancer cells are cells that divide rapidly and grow out of control. 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. Occasionally, 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 used to treat cancer, but you may also have other treatments (see page 25).

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 reducing or ending the signs and symptoms of cancer (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 that the other treatment (usually surgery) is more effective. If given after (adjuvant therapy), the aim is to get rid of any remaining cancer cells to try to cure the cancer. 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. In rare cases, palliative treatment can also achieve remission.

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. Called maintenance chemotherapy, it may be given with other drug therapies to stop or delay the cancer returning.

“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: 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), a cream you apply to the skin, or 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 22–25.

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.

When these normal cells are damaged, side effects may occur. Some people have few or mild side effects, while others may feel more unwell. 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 chapter on managing side effects (pages 32–55) for more information.

Q: Does chemotherapy hurt?

A: Having a needle inserted for intravenous chemotherapy may feel like having blood taken. At first, it may be uncomfortable to have the temporary tube (cannula) put into your hand or arm, but it can then be used for the rest of the chemotherapy session. If you have something more permanent, such as a central venous access device (see page 23), it shouldn't be painful.

Some chemotherapy drugs can cause inflamed veins (phlebitis), which may be sore for a few days. It is important to let your treatment team know if this is a problem because there may be ways to reduce this discomfort or pain.

Q: How much does chemotherapy treatment cost?

A: Chemotherapy drugs can be expensive. However, 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 cost 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.

There may be other out-of-pocket expenses. For example, you will usually have to pay part of the cost for any medicines that you take at home to relieve the side effects of chemotherapy (such as anti-nausea medicine). Remember to keep copies of your receipts if you

are getting your prescriptions filled at different pharmacies, or ask your pharmacy to collate your prescription receipts. Once you have spent a certain amount of money on drugs in a year, you will be eligible for reduced cost or free drugs through the PBS Safety Net.

You have a right to know whether you will have to pay for treatment and drugs and, if so, what the costs will be. This is called informed financial consent. Ask your treatment centre for a written estimate that shows what you will have to pay.

► 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 1 in every 1000 pregnant women are 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 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.

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. Talk to your doctor about your specific situation and what is best for your health and your unborn baby.

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 protecting your developing baby.

You will be advised not to breastfeed during chemotherapy as drugs can pass through breastmilk and may harm the baby.

▶ See cancervic.org.au/living-with-cancer/pregnancy.

Q: How long does chemotherapy 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.

Chemotherapy treatment before or after surgery is often given for up to 6 months. 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 chemotherapy?

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 usually have their treatment at home. Sometimes a visiting nurse can give you chemotherapy intravenously or by injection in your home.

How do I prepare for chemotherapy?

Chemotherapy affects everyone differently, so it can be hard to know how to prepare for treatment. However, there are some things you can think about

Ask about fertility



Some types of chemotherapy can affect male and female fertility. If you think you may want to have children in future, talk to your specialist about your options before chemotherapy begins (see pages 50–52).

Pack a chemo bag



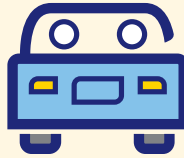
A bag for your chemo sessions could include warm clothing; healthy snacks; lip balm; and something to pass the time, such as books, headphones for listening to music, or a laptop.

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. Regular exercise and good nutrition can help reduce some of the side effects of chemotherapy. If you smoke, try to quit (see page 27).

Organise help



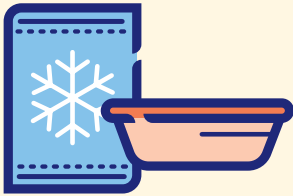
If you have children, you may need to arrange for someone to look after them when you have treatment. While you may be able to drive after treatment, it's recommended that someone drive you on the first day. A friend or family member may coordinate other offers of help (e.g. with housework), or try online tools such as candoapp.com.au or gathemycrew.org.au.

Discuss your concerns

If you are feeling anxious about the diagnosis and having chemotherapy, talk to a family member or friend, your health care team, or call Cancer Council 13 11 20. You could also learn relaxation or meditation strategies to help manage anxiety.

doing in advance to make it easier to cope with chemotherapy treatment and any side effects that you may experience.

Freeze some meals



You may not feel like cooking during your treatment. Consider making some meals ahead of time 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.

Prepare for side effects



Talk to your treatment team about possible 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 hair loss is likely, think about having it cut or choosing a wig before treatment starts.

Check your teeth



It is a good idea to visit your dentist before chemotherapy begins. Infection (see page 35) and bleeding are more likely during chemotherapy, so it is best to have any tooth decay treated before starting treatment. Dental problems that arise during treatment may also interrupt your treatment schedule.

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 other medicines

Tell your doctor and pharmacist about any other medicines you are taking. Some over-the-counter medicines, alternative and home remedies, herbs and vitamins can affect how chemotherapy works (see page 53).

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 tumours) or a haematologist (for blood cancers). You may be referred to a medical oncologist or a haematologist by your general practitioner (GP) or by another specialist such as a surgeon.

Health professionals you may see

GP	assists you with treatment decisions and works in partnership with your specialists in providing ongoing care
medical oncologist* or haematologist*	treats cancer with drug therapies such as chemotherapy, targeted therapy and immunotherapy (systemic treatment)
radiation oncologist*	treats cancer by prescribing and overseeing a course of radiation therapy
surgeon*	surgically removes tumours and performs some biopsies; specialist cancer surgeons are called surgical oncologists
cancer care coordinator	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)
nurse or nurse practitioner	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

Treatment options will often be discussed with other health professionals at what is known as a multidisciplinary team (MDT) meeting. Ask your doctor if your case has been discussed at an MDT meeting.

It is a good idea to build a relationship with a GP because they will be involved in your ongoing care, particularly after your cancer treatment ends.

pharmacist	dispenses medicines and gives advice about dosage and side effects
palliative care specialist* and nurses	work closely with the GP and cancer team to help control symptoms and maintain quality of life
dietitian	helps with nutrition concerns and recommends changes to diet during treatment and recovery
social worker	links you to support services and helps you with emotional, practical and financial issues
occupational therapist, physiotherapist	assist with physical and practical problems, including restoring movement and mobility after treatment, and recommending aids and equipment
psychologist, counsellor	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, as it may not 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 previous page) 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 says you have cancer, you may not remember everything you are told. Taking notes can help. If you would like to record the discussion, ask your doctor first. 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.

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.

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



Chemotherapy 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.org.au. Your specialist may need to tailor the protocols to your individual situation.

You may have treatment with one chemotherapy drug or a combination of 2 or more. The chemotherapy drugs given, the dose and the treatment schedule (how often you have the drugs) will be recorded 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.

The treatment course

How often and for how long you have chemotherapy is known as a treatment course. This will be determined by 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. For example, you may have treatment on days 1, 2 and 3, then a break until day 28. Then a new cycle will begin. The length of the cycle depends on the chemotherapy drugs being given. The break between cycles lets your body recover. If you need more time to regain strength, 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

Before chemotherapy and between cycles, you will have several tests to help plan treatment, including:

- weight and height measured to work out the right dose
- blood tests to check how well your kidneys and liver are working and the number of blood cells (see page 34)
- x-rays and scans to check that you are fit for treatment and see how the tumour is responding to treatment.

For some chemotherapy drugs, you may also have:

- heart monitoring tests to see if the drugs are affecting your heart
- lung function tests to check whether the drugs are affecting your lungs.

Receiving the treatment

While receiving chemotherapy, you will usually be:

- 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
- able to walk around the room (e.g. if you need to go to the toilet)
- given anti-nausea (antiemetic) medicine so you don't feel sick
- given several glasses of water to drink to help flush the chemotherapy drugs through the kidneys and bladder
- monitored throughout the session; nurses will also talk to you about ways to manage side effects
- able to have someone with you to support you during treatment, depending on health guidelines at the time
- able to travel to and from treatment by yourself; it's recommended that someone travels with you the first time in case you feel unwell.

Having intravenous (IV) chemotherapy

Chemotherapy drugs are usually given as a liquid through a drip inserted into a vein (intravenous infusion). To prepare for IV chemotherapy, the treatment team will insert a narrow tube into a vein.

The drugs may be injected through a cannula or a type of central venous access device (see opposite page). 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.

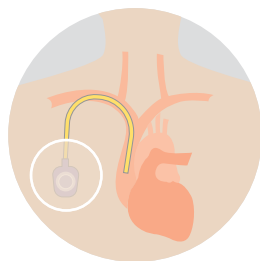
Chemotherapy will usually be given during day visits to your hospital or treatment centre. In most cases, a single session takes from 20 minutes to several hours. For some types of cancer, a treatment session may take several days. A portable pump that you can use at home can provide a continuous dose of chemotherapy for up to a week (see opposite page).

The infusion process may cause reactions (e.g. flushing, skin rashes, or difficulty breathing) during the session or several hours afterwards. You may be given medicines to help prevent these reactions.



“My chemo infusions took about 8 hours because I had 2 drugs and a saline solution in between. It was a long day, sitting in the chair having infusions.” CHERYL

How IV chemotherapy is delivered



Central venous access device (CVAD)

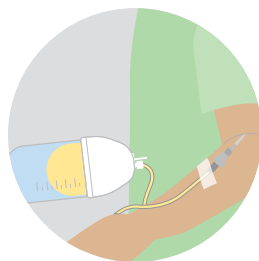
A thin plastic tube that remains in your vein throughout the treatment course, often for several weeks or months. It allows medical staff to give chemotherapy and other drugs, fluid or blood transfusions, and draw blood. A CVAD is inserted under local anaesthetic and it shouldn't cause discomfort or pain. Common types are:

- **Hickman line** – inserted into the chest
- **peripherally inserted central catheter (PICC) line** – inserted into the arm
- **port-a-cath (port)** – a device inserted under the skin of the chest or arm (pictured above).



Cannula

A small plastic tube inserted into a vein in your arm or the back of your hand. Having a cannula put in can be uncomfortable, but it should only take a few minutes. 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.



Portable pump

A device that gives a prescribed amount of chemotherapy continuously for up to a week. It is attached to a CVAD and does not need to be connected to a power point. Different types of pumps are used (pictured above is an elastomeric infusion pump). The pumps are small and can be carried in a bag and tucked under a pillow when sleeping.

Caring for your CVAD

A nurse will show you how to look after your CVAD to prevent infection or blockage. You may visit the clinic, or a nurse may visit you at home to help clean tubes or lines. Contact your health care team immediately if there is pain, redness or swelling around the line or port.

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. You may have oral chemotherapy, injections into various parts of the body or creams you apply to the skin.

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. The chemotherapy will either be mixed with an oily substance or loaded onto tiny plastic beads. The blood vessels feeding the tumour may also be blocked (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.

high-dose chemotherapy	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 1-2 days later.
chemoradiation	Also called chemoradiotherapy, 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.
hormone therapy	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.
targeted therapy	Often combined with chemotherapy, targeted therapy drugs (see page 6) may be given through a drip in a vein (intravenously), injections or tablets.
immunotherapy	May be used in combination with chemotherapy. Immunotherapy (see page 6) is usually given through a drip in a vein (intravenously).
steroids	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, 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, blood tests, test results, and for the necessary safety checks to be undertaken. It also takes time for your drugs to be prepared, and for the drugs to be given.

While you are waiting, you may want to:

- read a book or magazine, or complete a crossword puzzle
- listen to music or a podcast, or write in a journal
- chat with a companion (if health guidelines allow a support person to stay with you during treatment)
- meditate, practise relaxation techniques or just have a rest
- use a laptop, smartphone or ereader – check whether it is okay to use devices and if power points are available
- knit, crochet or embroider.

You will be able to sit in a comfortable chair and wear your own clothes while receiving treatment. 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.

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. The companionship was a great support.” TANIA

Safety precautions

While providing many benefits, chemotherapy is strong, cytotoxic (toxic to cells) medicine, so it is safest for people without cancer to avoid direct contact with the drugs. Cancer (oncology) nurses and doctors often 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 (wee), 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 pages 28–29 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.

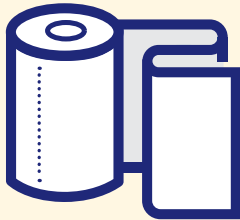


Smoking may affect how well the treatment works and make side effects worse so it's important to try to quit or cut down before starting chemotherapy treatment. Quitting can be difficult, especially if you're feeling anxious about the cancer diagnosis and treatment. For support and advice, talk to your doctor, call the Quitline on 13 QUIT (13 7848) or download the My QuitBuddy app.

Chemotherapy safety at home

There are simple and effective ways to reduce exposure to chemotherapy drugs at home, both for you and your family and friends.

Clean up spills



Keep a supply of cleaning cloths, paper towels and disposable waterproof gloves handy. During the week after a treatment session, clean up any body fluids or chemotherapy drugs that spill onto household surfaces. Put on waterproof gloves, soak up the spill with paper towel, clean around the area with a disposable cloth and soapy water, and rinse the area with water. Put used gloves, cloths and paper towels into a plastic bag, and then into a second plastic bag (this is called double-bagging). This can then be put in the household rubbish bin.

Use a plastic bucket



If you need to vomit, use a plastic bowl or bucket (or a thick plastic bag with no holes). Empty it 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.

Wear disposable gloves



In the week after a chemotherapy treatment session, wear disposable waterproof gloves when handling containers, clothing or bedsheets soiled with vomit or other body fluids. After use, double-bag the gloves and put them in the household rubbish bin.



Take care going to the toilet

For a week after a chemotherapy treatment session, both men and women are encouraged to sit down to use the toilet. Put the lid down before flushing to avoid splashing. Flush the toilet with a full flush, then wash your hands with soap and water.

Safety precautions will vary depending on the drugs you receive, so ask your treatment team what you need to do at home.

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, or can be dissolved.

Handle laundry carefully



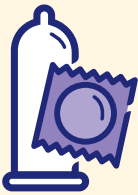
Wash items soiled with body fluids – such as clothing, bedsheets and towels – straightaway. Use the longest washing machine cycle (hot or cold water can be used) and wash separately from other laundry.

Keep medicines in a safe place



Store all tablets, capsules or injections as directed by your oncologist or pharmacist. Medicines 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.

Practise safe sex



Your doctor may advise you to use barrier contraception, such as a condom, during any type of sex for up to a week after treatment. This protects your partner while drugs may be in your body fluids.



Pregnancy and breastfeeding

Avoid getting pregnant, or getting your partner pregnant, while having chemotherapy (see page 51). If you are planning to have a baby, speak to your doctor about the timing for pregnancy. If you already have a baby, you will not be able to breastfeed during treatment (see pages 12–13).

Is the chemotherapy treatment working?

You might wonder whether experiencing side effects is a sign that the chemotherapy is working. However, whether or not you have side effects does not indicate how successful the chemotherapy will be.

Throughout treatment, you will be closely monitored by your specialist. You will have tests to check 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 disease (NED). 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 over the phone or a video link from home. 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 usually given as a liquid 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 or 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 (wee) or vomit.
- Your family and friends should not handle chemotherapy drugs unless it is absolutely necessary to do so.



Managing side effects

Chemotherapy drugs can damage healthy, fast-growing cells, such as the new blood cells in bone marrow or 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 may start during the first few weeks of treatment and occasionally become more intense with each treatment cycle. Before treatment begins, your doctor, pharmacist 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 and any side effects you develop. 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 an app on a smartphone or tablet. Tell your treatment team about all side effects. They will be able to suggest ways to manage the side effects or, if appropriate, they may adjust your treatment.

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 and what you can do to help prevent them.

Long-term and late effects of treatment

Permanent side effects of chemotherapy may include damage to your heart, lungs, kidneys, nerve endings (see page 46) or reproductive organs (see pages 50–52). If damage to your heart muscle or lungs is a possibility, your doctor will monitor your heart and lung function and adjust your chemotherapy if early changes are seen.

Occasionally, many years after having chemotherapy, some people develop a new, unrelated cancer. The risk of this is very low, but factors such as continuing to smoke or 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.



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 you tell the hospital staff that you are having chemotherapy.

Blood-related side effects

Blood cells are made in the bone marrow, which is the spongy part in the centre of the bones. The bone marrow makes 3 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.

New blood cells are constantly being made in the bone marrow. These rapidly dividing cells 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 or bleeding problems, and increase the risk of infections.

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 39 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.

► See our *Fatigue and Cancer* fact sheet.

Infections

Chemotherapy can reduce your white blood cell level, making it harder for your body to fight bacterial infections. Bacterial infections that cause sickness may come from somewhere in your body (e.g. the bowel) and are not necessarily caught from other people. 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. Your doctor may recommend antibiotics as a precaution against infection. See the table on page 36 for other ways to reduce your infection risk.

There are many types of white blood cells. One type, called 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 boost 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. Let your doctor know if you have any of these side effects.

Vaccinations

Some vaccinations are safe to have during chemotherapy treatment and others are not. It is safe to have the flu vaccine and the COVID-19 vaccines available as at July 2022, but speak to your doctor before having these vaccinations.

During chemotherapy and for at least 6 months afterwards, you should not have vaccinations that contain a live vaccine. These include: the varicella (chickenpox), zoster (shingles), and MMR (measles, mumps, rubella) vaccines.

Taking care with infections during chemotherapy

Reduce your risk

To prevent the spread of infection:

- check your temperature daily and any time you feel unwell
- avoid touching your eyes, nose and mouth with your hands
- check with your doctor about having the flu and COVID-19 vaccines
- ask people close to you to consider having the flu and COVID-19 vaccines
- ask family and friends with a cold, flu or other contagious infection (e.g. COVID-19 or a cold sore) not to visit while they have symptoms
- avoid shaking hands, hugging and kissing other people
- try to avoid crowded places, such as shopping centres; if this is not possible, wear a face mask
- wash your hands with soap and water before preparing food and eating, and after using the toilet
- prepare and store food properly to avoid foodborne illness and food poisoning
- eat freshly cooked foods; avoid raw foods (fish, seafood, meat and eggs) and soft cheeses; wash fruits and vegetables well before eating.

When to seek help

Contact your doctor or go to the nearest hospital emergency department immediately if you experience one or more of the following symptoms:

- a temperature of 38°C or higher
- chills or shivering
- sweating, especially at night
- burning or stinging feeling when urinating (weeing)
- a severe cough or sore throat
- shortness of breath
- vomiting that lasts more than a few hours
- severe abdominal (belly) pain, constipation or diarrhoea
- unusual bleeding or bruising, such as heavy nosebleeds, blood in your urine (wee) or black faeces (poo)
- prolonged faintness or dizziness and a rapid heartbeat
- any sudden deterioration in your health.

Bleeding problems

A low level of platelets (thrombocytopenia) can cause problems. You may bleed for longer than normal after minor cuts, 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 Triple Zero (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.
- When brushing your teeth, 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.

Feeling tired and lacking energy

Many people feel very tired, weak, drained and become quickly worn out while they are having chemotherapy. This is called fatigue and it is the most common side effect of chemotherapy.

You may also:

- develop muscle aches and pains
- have difficulty concentrating
- find it difficult to do daily activities.

Fatigue can affect you suddenly and it doesn't always go away with rest or sleep. For some people, it may be hard to do everyday things, creating feelings of frustration and isolation.

Fatigue caused by chemotherapy may last for some weeks or months after a treatment cycle ends. Many people find that their energy levels return to normal within 6–12 months of treatment ending.

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 and talk to your health care team.

- ▶ See our *Fatigue and Cancer* fact sheet and listen to *The Thing About Cancer* podcast episodes on fatigue and sleep.

“I had no idea that I would still be feeling tired 5 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 from treatment 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. Your treatment team may be able to suggest 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 sleeping difficulties as these can increase fatigue. Relaxation or meditation exercises may help improve the quality of your sleep or boost your energy levels. Listen to the relaxation and meditation tracks in Cancer Council's *Finding Calm During Cancer* podcast or call 13 11 20 to request CDs.
- 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 34).
- 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. Try to limit the amount of alcohol you drink.
- ▶ See our *Exercise for People Living with Cancer* and *Cancer, Work & You* booklets for more information.

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; 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, beard 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. Hair 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. It may help to talk to your treatment team about how you feel.

Scalp cooling – Some treatment centres provide cold caps, which may reduce head hair loss. Cold caps can only be used with certain drugs and some types of cancer, and they don't always stop hair loss.

Worn while chemotherapy is being given, the cap is attached to a cooling unit. This reduces blood flow and the amount of chemotherapy drug that reaches the scalp. Some people find the cold cap uncomfortable, and the cold temperature may be painful. If you are interested in trying a cold cap, ask your treatment centre if it is 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 moisturiser on your head, use sorbolene. Check with your nurse before using any other hair or skin care products on the scalp.
 - Comb or brush your hair gently with 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.
 - Consider cutting your hair before it falls out. Some people say this gives them a sense of control.
 - 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. Or consider a new style or colour for a bit of fun.
 - Some treatment centres have wig loan services; call Cancer Council 13 11 20 for information about wig services.
 - You could try a silk or satin pillowcase as these smooth fabrics can decrease hair tangles.
 - Avoid dyeing your hair during chemotherapy or for about 6 months afterwards, or consider using vegetable-based dyes.
 - If your eyelashes fall out, wear sunglasses outside to protect your eyes from dust and sunlight.
 - If your eyebrows fall out, you may wish to wear reusable eyebrow wigs or transfers until your eyebrows grow back.
 - Contact Look Good Feel Better – this program helps people manage the appearance-related effects of cancer treatment. Call 1800 650 960 or visit lgfb.org.au.
- See our *Hair Loss* fact sheet.

Appetite changes, nausea or vomiting

It's 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 make you 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 (when you feel the need to vomit but can't). Sometimes nausea lasts for days after treatment.

Often the best way to manage nausea is to prevent it from starting, so you will usually be given anti-nausea (antiemetic) medicine before, during and after chemotherapy sessions. Anti-nausea 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 make you dehydrated. Signs of dehydration include a dry mouth and skin, dark urine (wee), 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.
- Try eating frequent snacks rather than large meals.
- 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. After treatment finishes, your sense of taste should return to normal.
- If you don't feel like eating solid foods, try enriching your drinks with powdered milk, yoghurt or honey. Or try easy-to-swallow foods such as scrambled eggs.
- Don't use nutritional supplements or medicines without your doctor's advice, as some products could affect how your treatment works.
- Ask a dietitian for advice on the best foods to eat during treatment and recovery.

Nausea

- Have a light, bland meal before your treatment (e.g. soup with dry biscuits).
- Sip water or other fluids throughout the day so that you don't get dehydrated. Sucking on ice cubes or iceblocks, or eating jelly 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 a meal.
- If you can't 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 for People Living with Cancer* booklet and listen to our "Appetite Loss and Nausea" podcast episode for more tips.



Karen's story

I'd been feeling unwell – eating made me feel nauseated 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.

Constipation or diarrhoea

Some chemotherapy drugs, pain medicines and anti-nausea medicines can cause constipation or diarrhoea. Tell your doctor, pharmacist or nurse if your bowel habits have changed.

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. For ways to manage bowel issues at home, see the opposite page.

- ▶ Our *Nutrition for People Living with Cancer* booklet has more information on staying well nourished and includes meal ideas.



How to manage bowel changes

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, bananas and pasta.
- Limit alcohol, fruit juice, soft drinks, strong tea or coffee, and foods containing artificial sweeteners, as these stimulate the bowel.
- Drink plenty of 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 and you may need to go to hospital.

Constipation

- Eat more high-fibre foods, such as wholegrain bread and pasta, fruits and vegetables, bran, nuts and legumes (e.g. baked beans or lentils).
- If you are having treatment for bowel cancer, ask your treatment team if there are any foods you should or shouldn't eat to help 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 using 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.

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 if your feet are numb or your legs are weak.
 - Ask your treatment team about exercising. Moderate exercise has been shown to reduce the symptoms of peripheral neuropathy.
 - Wear gloves and socks to keep hands and feet warm, or soak your hands and feet in warm water to relieve symptoms.
 - Use your elbow to check the water temperature so you don't burn yourself.
 - Talk to an occupational therapist about aids that may help (e.g. posts to raise the sheets off your feet if they're irritated by the weight of the sheets).
 - Wear well-fitting shoes with non-slippery soles.
 - Clear walkways of hazards and remove loose rugs.
 - If your symptoms are severe, talk to your doctor about medicines that may offer relief.
- See our *Understanding Peripheral Neuropathy and Cancer* 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).
 - Talk to your partner, family or workplace about changes to your memory and concentration – they may be able to give you more 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 damage healthy cells in the mouth and cause mouth sores, such as ulcers or infections.

Chemotherapy treatment may also reduce the amount of saliva (spit) in your mouth, make your saliva thick or sticky, or make your mouth dry. This is called xerostomia or dry mouth. If you notice any sores, ulcers or thickened saliva, or if you find it difficult to swallow, tell your doctor.

► See our *Mouth Health and Cancer Treatment* and *Understanding Taste and Smell Changes* fact sheets.



Looking after your mouth

- Discuss any dental issues with your oncologist or haematologist before seeing the dentist. If you need to have any dental work, tell your dentist you're having chemotherapy.
- Use a soft toothbrush to clean your teeth twice a day.
- Rinse your mouth often – when you wake up, after you eat or drink, and at bedtime. Ask your doctor or nurse what type of alcohol-free mouthwash to use. They may give you a recipe for a homemade mouthwash. Talk to your doctor or nurse about medicines to relieve pain and help with healing.
- Sip fluids, especially water, and eat moist foods such as casseroles or soups if you have a dry mouth.
- Soothe tender gums or mouth with plain yoghurt.
- Try sucking on ice during chemotherapy sessions. This 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.

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. It is recommended that you avoid having your nails done at a nail salon, as this can increase the risk of infection during chemotherapy.



Taking care of your skin

- Use a soap-free wash when showering. Gently pat your skin dry with a towel rather than rubbing it.
- Use a good quality moisturising lotion or a cream containing the ingredient urea to help with the dryness.
- Wear loose, non-restricting clothing. Choose clothes made from soft 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.

Sexuality, intimacy 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 to have sex 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 with your partner about how you're feeling, 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.

“All my life I wanted to be a father. I didn’t want cancer to ruin my chances, so I stored my sperm before treatment started. I think of this as a bit of an insurance policy.” ZAC

Using contraception

In most cases, your doctor will advise you to use some form of barrier contraception (condom, female condom or dental dam) after each treatment session. This is to protect your partner from any chemotherapy drugs that may still be in your body fluids.

As chemotherapy drugs can harm an unborn baby (see page 12), your doctor may talk to you about using contraception for some months 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 a reliable form of contraception to avoid pregnancy while having treatment. Talk to your specialist immediately if you or your partner become pregnant.

Changes in fertility

Chemotherapy can affect your ability to have children (fertility), which may be temporary or permanent. If you may 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 for use at a later date, and men may be able to store sperm. This needs to be done before chemotherapy starts and requires careful consideration. In some cases, hormone injections can 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 stopped working, causing early menopause. After menopause, you can't get pregnant naturally. Signs of menopause include hot flushes, night sweats, aching joints and dry or itchy skin. Menopause – particularly when it occurs 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 menopause symptoms.

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, watery eyes and body odours.

Changes in 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.

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 has been shown to reduce chemotherapy-induced nausea. Some studies suggest acupuncture may also reduce fatigue.

It is important to talk to your doctors about any complementary therapies

you are using or thinking about trying, as some can interfere with your treatment or make any 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 for more information.

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.

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 affect the blood, causing anaemia. It can also increase the risk of infections because chemotherapy can reduce your levels of white blood cells, which help fight infections. The level of platelets in the blood may also be affected, causing bleeding problems.
 - Chemotherapy can cause fatigue, hair loss, changes in appetite, nausea and vomiting, and bowel issues such as constipation or diarrhoea.
 - You may have nerve or muscle problems, and have trouble concentrating or remembering things. You may also develop mouth sores and have skin and nail changes.
 - Chemotherapy can affect your sexuality and fertility. If you may want 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, or if you feel concerned, let your treatment team know.
-

Life after treatment

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

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

Cancer Council 13 11 20 can help you connect with other people who have had chemotherapy, 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, because counselling or medication – even for a short time – may help. Some people can

get a Medicare rebate for sessions with a psychologist. 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. For 24-hour crisis support, call Lifeline 13 11 14 or visit 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 often receive continued support from allied health professionals, such as a physiotherapist or dietitian.

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.

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.

► See our *Emotions and Cancer* booklet.

“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 by location.

Cancer Council 13 11 20



Our experienced health professionals will answer any questions you have about your situation and link you to local services (see inside back cover).

Information resources



Cancer Council produces booklets and fact sheets on more than 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.

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.

Practical help



Cancer Council can help you find services or offer guidance to manage the practical impacts of cancer. This may include helping you access accommodation and transport services.

Peer support services



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

Useful websites

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

Australian

Cancer Council Australia	cancer.org.au
Cancer Council Online Community	cancercouncil.com.au/OC
Cancer Council podcasts	cancercouncil.com.au/podcasts
Guides to Best Cancer Care	cancer.org.au/cancercareguides
Australian Cancer Trials	australiancancertrials.gov.au
Cancer Australia	canceraustralia.gov.au
Carer Gateway	carergateway.gov.au
Carers Australia	carersaustralia.com.au
Department of Health and Aged Care	health.gov.au
eviQ Cancer Treatments Online	eviq.org.au
Healthdirect Australia	healthdirect.gov.au
Services Australia (including Centrelink and Medicare)	servicesaustralia.gov.au

International

American Cancer Society	cancer.org
Cancer Research UK	cancerresearchuk.org
Chemocare (US)	chemocare.com
Macmillan Cancer Support (UK)	macmillan.org.uk

Caring for someone with cancer

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

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

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

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

Carers Australia – Carers Australia provides information and advocacy for carers. Visit carersaustralia.com.au.

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

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

Question checklist

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

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 I have other treatments as well as chemotherapy?
 - 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 treatment? Can I have it close to where I live or at home?
 - Do my family and friends need to follow any safety measures?
 - Can I take my usual medicines during chemotherapy?
-

Side effects

- What are the risks and possible side effects of this type of chemotherapy?
 - Will the 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. Also called an anti-nausea drug.

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 peripherally inserted central catheter (PICC) lines, Hickman 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.

cold cap

A cap that is connected to a cooling system and worn on the head during chemotherapy that may 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 the signs and symptoms of cancer to reduce or disappear. Also known as definitive treatment.

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.

hormone therapy

A treatment that blocks the body's natural hormones, which sometimes help cancers to grow. It may be used when the cancer is growing in response to hormones.

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.

immunotherapy

A type of drug treatment that use the body's own immune system to fight cancer,

inpatient

A person who stays in hospital while having treatment.

intravenous chemotherapy

Chemotherapy delivered into a vein through a drip or pump.

lymphatic system

A network of vessels, 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 periods (menstruation) stop.

This can happen naturally, from treatment, or because the ovaries have been removed.

metastasis (plural: metastases)

Cancer that has spread from a primary cancer (original site) to another part of the body.

Also called secondary or advanced cancer.

neutropenia

A low level of neutrophils. Neutropenia 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.

outpatient

A person who visits the hospital for medical care without being admitted into hospital.

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 3 main types of cells

found in the blood. Platelets help the blood to clot and stop bleeding. Also called thrombocytes.

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.

portable 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.

radiation therapy

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

red blood cells

One of the 3 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.

side effect

Unintended effect of a drug or treatment. Most side effects can be managed.

steroid

A class of drugs that may be used 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, immunotherapy and hormone therapy.

targeted therapy

Drugs that target specific features of cancer cells to stop the cancer growing and spreading.

white blood cells

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

Can't find a word here?

For more cancer-related words, visit:

- cancercouncil.com.au/words
 - 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 experienced health professionals 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.



If you need information in a language other than English, an interpreting service is available. Call 131 450.



If you are deaf, or have a hearing or speech impairment, you can contact us through the National Relay Service. communications.gov.au/accesshub/nrs

*Cancer Council services and programs vary in each area.
13 11 20 is charged at a local call rate throughout Australia (except from mobiles).*

For information & support
on cancer-related issues,
call **Cancer Council 13 11 20**

Visit your local Cancer Council website

Cancer Council ACT
actcancer.org

Cancer Council Queensland
cancerqld.org.au

Cancer Council Victoria
cancervic.org.au

Cancer Council NSW
cancercouncil.com.au

Cancer Council SA
cancersa.org.au

Cancer Council WA
cancerwa.asn.au

Cancer Council NT
cancer.org.au/nt

Cancer Council Tasmania
cancer.org.au/tas

Cancer Council Australia
cancer.org.au

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

