Cancer
Council

TREATMENT

Understanding

Chemotherapy

A guide for people with cancer, their families and friends

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

Understanding Chemotherapy

A guide for people with cancer, their families and friends

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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 booklet 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 8 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. This booklet also includes some information about other drug therapies such as targeted therapy, immunotherapy and hormone therapy.

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. This booklet also includes information about possible side effects of chemotherapy and ways to manage the most common of these. It may also be helpful to read the Cancer Council booklet about the type of cancer you have.

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 pages 65–67). 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).

Contents

Key to icons

Icons are used throughout this booklet to indicate:

🔍 More information

! Alert

💬 Personal story

💡 Tips

Is this Cancer Council booklet helpful?
Please follow this QR code for a quick 3-minute survey, or call 13 11 20 to provide your feedback.

SCAN ME

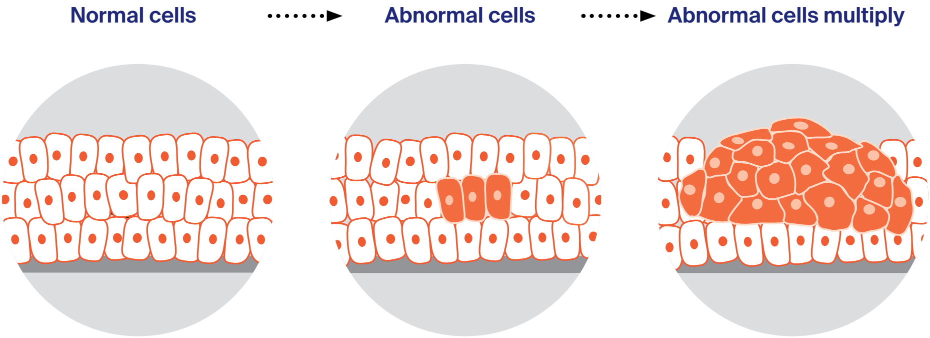
What is cancer?

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

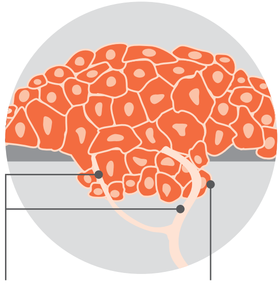


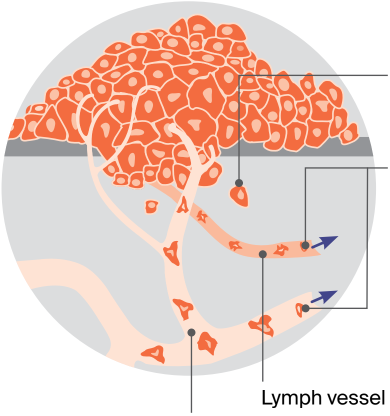
Not all tumours are cancer. Benign tumours tend to grow slowly and usually don’t move into other parts of the body or turn into cancer. Cancerous tumours, also known as malignant tumours, have the potential to spread. They may invade nearby tissue, destroying normal cells. The cancer cells can break 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, radiation therapy (radiotherapy), and drug therapies such as 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).

Your treatment plan

Because each cancer is unique, your treatment plan may be different from other people's, even when the cancer type is the same. You may need only one treatment or a combination of treatments. What treatment your doctor recommends will depend on:

- the type of cancer you have
- where the cancer began (the primary site)
- the size of the cancer and how far it has grown (the stage)
- 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).

Cancer treatment is constantly changing and improving. New treatments may become available in the near future. Call Cancer Council 13 11 20 or visit your local Cancer Council website (see back cover) for our free booklets and information about different cancer types and their treatments.

Types of cancer treatments

surgery	An operation to remove cancer and/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 –** drugs that kill cancer cells or slow their growth • **hormone therapy –** drugs that block the effect of the body's natural hormones on some types of cancer • **immunotherapy –** drugs that use the body's immune system to fight cancer • **targeted therapy –** drugs that target specific features of cancer cells to stop the cancer from 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. Treatment aims to affect only the part of the body where radiation is targeted.
other treatments	These are treatments that may be used for some types of cancers: • **chemoradiation –** also called chemoradiotherapy, is when chemotherapy is combined with radiation therapy to make the cancer cells more sensitive to radiation therapy; used for some types of cancers, including brain, bowel, cervical and oesophageal cancers • **stem cell transplant –** blood cells that have been destroyed by high-dose chemotherapy are replaced by healthy stem cells; used to treat some types of blood cancers including leukaemia, lymphoma and myeloma.

Key questions

Q: What is chemotherapy?

A: Chemotherapy (also 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). Chemotherapy is one anticancer drug treatment. See page 54 for others.

Q: How does it work?

A: All cells in the body grow by dividing into 2 cells. Cancer cells are cells that divide rapidly and grow out of control. Chemotherapy damages the cells that are dividing rapidly.

Most chemotherapy drugs are delivered into the bloodstream and they can travel to all parts of the body to reach 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: Why have chemotherapy?

A: Chemotherapy can be used for different reasons:

As the main treatment – The aim is to reduce or stop the signs and symptoms of cancer. This is called curative chemotherapy.

Before other treatments – The aim of chemotherapy given before surgery or radiation therapy is to shrink the cancer so that the other treatment works better. This is called neoadjuvant therapy.

After other treatments – The aim of chemotherapy given after surgery or radiation therapy is to get rid of any remaining cancer cells and try to cure the cancer. This is called adjuvant therapy.

With other treatments – Chemotherapy may be given with radiation therapy (called chemoradiation or chemoradiotherapy) or with immunotherapy or targeted therapy (see the chapter on other drug therapies, pages 54–57).

For cancer that has spread – Chemotherapy may be used to slow the growth and stop it from spreading for a period of time. This is called palliative chemotherapy. In rare cases, palliative treatment can also achieve remission, when the signs and symptoms of cancer reduce or are no longer detected during routine tests.

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.

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

Q: How is chemotherapy used?

A: There are many different types of chemotherapy drugs, and each type damages cancer cells in a different way. You might have treatment with one chemotherapy drug or several drugs. If a combination of drugs is used, each drug is chosen to attack cancer cells in a particular way.

The chemotherapy drugs you have will 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.

Q: How is chemotherapy given?

A: Chemotherapy is usually given into a vein. This is called intravenous or IV chemotherapy. 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 give you the drugs (see pages 22–24).

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 information in this booklet is for adults having chemotherapy. For specific information about chemotherapy for children, talk to your treatment team and visit childrenscancer.canceraustralia.gov.au. Visit your local Cancer Council website for a copy of *Talking to Kids About Cancer.*

The drugs used for chemotherapy are constantly being improved to give you the best possible results and cause fewer side effects.

Many people worry about the side effects of chemotherapy but these can usually be prevented or controlled. See the chapter on managing side effects (pages 31–53) 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 or CVAD (see page 23), it shouldn't be painful.

You may have a cool feeling as the chemotherapy drug goes into the vein, through either a cannula or a CVAD. 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 happens to you because there may be ways to reduce this discomfort or pain.

Q: How much does chemotherapy cost?

A: Chemotherapy drugs can be expensive. The Pharmaceutical Benefits Scheme (PBS) covers all or part of the cost of many chemotherapy drugs for people with a current Medicare card.

You usually have to pay some of the cost of oral chemotherapy drugs you take at home. This cost is known as a co-payment.

You may have to contribute to the cost of some intravenous chemotherapy drugs. This depends on which state or territory you live in, whether you have treatment in hospital (inpatient) or visit the hospital or treatment centre for treatment and then go home (outpatient), or are treated in a private or public hospital.

You may have to cover the cost of some medicines yourself. Remember to keep copies of your receipts if you are getting prescriptions filled at different pharmacies, or ask your pharmacy to collate your prescription receipts. Once you have spent a certain amount on medicines in a year, you can get a PBS Safety Net card, making prescription medicines cheaper for the rest of the year.

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. You can ask for a written estimate that shows what you will have to pay, if you don't receive one.
▸ 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. 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 second and third trimesters (13 to 40 weeks). Chemotherapy drugs may also cause premature delivery, and preterm babies can have other health issues, such as respiratory problems.

If you are already pregnant, it may be possible to have some types of chemotherapy. Talk to your oncologist or haematologist about the potential risks and benefits.

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 you 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 ways to treat the cancer, and protecting your developing baby.

You will be advised not to breastfeed while having chemotherapy. This is because the drugs can pass through breastmilk and may harm the baby. See cancervic.org.au/living-with-cancer/pregnancy for more information.

Q: How long will chemotherapy treatment take?

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 any side effects.

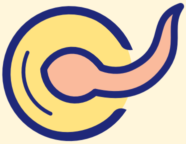
Chemotherapy before or after surgery is often given for 6 months, but sometimes longer. Maintenance chemotherapy (to prevent the cancer coming back) and palliative treatment (to control the cancer or relieve symptoms) may continue for many months or years.

If you feel upset or anxious about how long chemotherapy is taking or any of the side effects, let your treatment team know.

How do I prepare for chemotherapy?

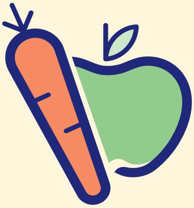
Chemotherapy affects everyone differently, so it can be hard to know how to prepare for treatment. However, there are some things you can do before you

Ask about fertility



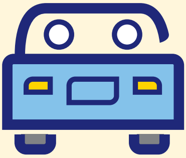
Some types of chemotherapy can affect fertility. If you think you may want to have a child in the future, talk to your specialist about your options before chemotherapy begins (see pages 49–51).

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 or vape, try to quit (see page 28).

Organise help



If you have children, arrange for someone to look after them during chemotherapy sessions. While you may be able to drive after treatment, it's recommended that someone drive you on the first day. Ask a friend or family member to coordinate offers of help (e.g. with cooking, gardening), or use online tools such as gathermycrew.org.au.

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 podcasts, or a laptop.

Check other medicines

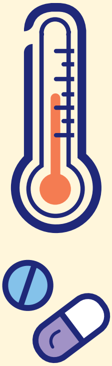
Let your doctor and pharmacist know about any over-the-counter medicines, alternative and home remedies, herbs and vitamins you are taking (see page 52). Some can affect how chemotherapy works or make side effects worse.

start your chemotherapy treatment that can make coping with the treatment and any side effects easier.

See your dentist

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

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. If hair loss is likely, think about having it cut or choosing a wig before treatment starts. See our chapter on managing side effects, pages 31–53.

Freeze some meals

You may not feel like cooking when having chemotherapy. Consider making some meals ahead of time and freezing them or have ready-to-eat food available (e.g. tinned fruit, yoghurt, soup).

Discuss your concerns

If you feel anxious about having chemotherapy and the side effects, talk to a family member or friend, your health care team, or call Cancer Council 13 11 20. You could also try relaxation exercises or meditation to help manage anxiety.
▶ Listen to our *Finding Calm During Cancer* podcast.

Talk to your employer

If you are working, talk to your employer about how you can manage work and chemotherapy. It is hard to predict how you will feel, so ask about flexible hours or time off when needed.

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 longer 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.

If you need to travel a long way for chemotherapy, you may be eligible for financial assistance to help cover the cost of travel or accommodation. Your local Cancer Council may also provide transport and accommodation services. Call Cancer Council 13 11 20 to find out if there is a transport to treatment service or accommodation service in your area and how to access a patient travel assistance scheme (PATS).

Q: Which health professionals will I see?

A: Before, 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, also called solid cancers) 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.

Treatment options will often be discussed with other health professionals at what is known as a multidisciplinary team (MDT) meeting. It is also a good idea to build a relationship with a GP because they will be part of your care, particularly after your cancer treatment ends.

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 medicines and drug therapies, including chemotherapy, targeted therapy and immunotherapy, 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
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

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 if you wait and take some time to make a decision. Ask them to explain the options available to you.

Know your options – Understanding the disease, the available treatments, possible side effects and any extra costs can help you weigh up the options and make a well-informed decision. Check if the specialist is part of a multidisciplinary team (see page 16) 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. If possible, 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 64 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 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 online at eviQ (eviq.org.au). Your specialist may need to adjust the protocols to suit your individual situation.

You may have treatment with one chemotherapy drug or a combination of several drugs. 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 chemotherapy (see table opposite) to monitor your response, and your treatment plan may be adjusted based on the results and any side effects.

Chemotherapy can be given on its own or as part of a treatment plan that could include surgery, radiation therapy or other drug therapies.

The treatment course

How often and for how long you have chemotherapy is known as a treatment course. This will vary depending on the type of cancer you have, the reason for having treatment, the drugs used and how you respond to chemotherapy.

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 for your blood count to recover and any side effects to improve, 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 things may be done slightly differently depending on how and where you have treatment.

Tests you may have

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

- 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 33)
- 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 how your heart works
- lung function tests to check whether the drugs are affecting how your lungs work.

Receiving the treatment

While having 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 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
- 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 put straight into your blood 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.

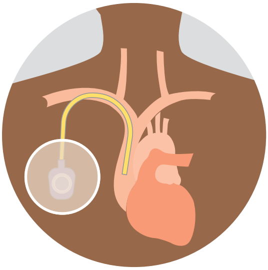
Chemotherapy will usually be given during day visits to your hospital or treatment centre. In most cases, a single session takes between 20 minutes and several hours. This depends on what kind of treatment you are having. For some types of cancer, a treatment session may take several days. This can be given with a portable pump that you can use at home to provide a continuous dose of chemotherapy (see opposite page).

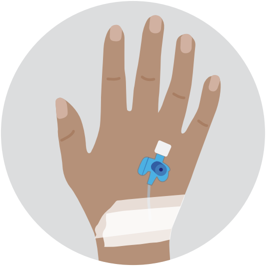
The infusion process may cause reactions (e.g. feeling hot or flushed, skin rashes, or difficulty breathing). While some drugs are more likely to cause a reaction in the first and second infusions, others may cause reactions later in the course. Your doctor can provide you with information.

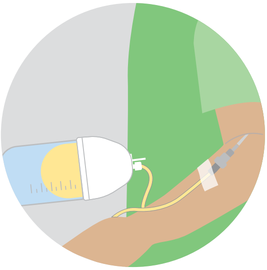
A nurse will check for signs of a reaction and may give you medicines to help prevent them. Sometimes a reaction happens several hours after the infusion. If you develop any signs or feel unwell after you get home, contact the hospital straightaway.

> *"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)

This is a thin plastic tube that remains in your vein throughout the treatment course (for several weeks or months). It allows the treatment team to give chemotherapy, 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 include:

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

Cannula

This is 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

This is 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 infections or blockages. 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 or be given creams that you apply to the skin.

Oral chemotherapy – Some types of chemotherapy can be taken 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 (local chemotherapy) – Less commonly, chemotherapy can be injected using a needle into different parts of the body, including:
- into a muscle, usually in your buttock or thigh (intramuscular)
- under the skin (subcutaneous)
- into the fluid around the spine (intrathecal – this is also known as a lumbar puncture)
- into an artery (intra-arterial)
- into the abdomen (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 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).

Safety precautions

While chemotherapy is used to treat cancer, it is a 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 stay 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, mucus (phlegm), sweat, and semen or vaginal discharge.

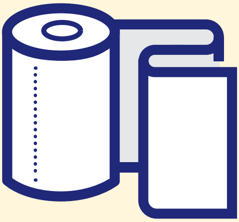
You may worry about the safety of family and friends while you are having chemotherapy. There is little risk to others (including children, babies and pregnant women) because they aren't likely to come into direct contact with any chemotherapy drugs or body fluids. The safety measures on pages 26–27 are recommended for people who are providing care or who have 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 treatment and make side effects worse. Try to quit or cut down before starting chemotherapy. Quitting can be hard, especially if you're feeling anxious about the diagnosis and treatment. For support, talk to your doctor, call the Quitline on 13 QUIT (13 7848) or download the My Quit Buddy app. If you vape or are considering using e-cigarettes to help you cut back on smoking, speak to your doctor first.

Chemotherapy safety at home

There are simple ways to reduce the chance of coming into contact with 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 disposable 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. This can then be put in the household rubbish bin.

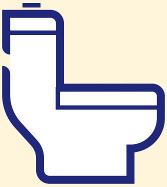
Use a plastic bucket

If you need to vomit, use a plastic bowl or bucket (or a thick plastic bag with no holes). Empty it into the toilet, put the lid down and flush the toilet twice. Do not use the bowl or bucket for anything else and throw it out after your last chemotherapy session.

Wear disposable gloves

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

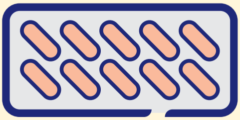
Take care going to the toilet



For a week after a chemotherapy treatment session, always sit down to use the toilet. Also, put the lid down before flushing to avoid splashing, and flush the toilet using a full flush. Make sure you wash your hands thoroughly with soap and water.

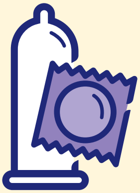
How you store and handle chemotherapy will vary depending on the drugs you receive, so ask your treatment team what you need to do at home.

Keep tablets whole



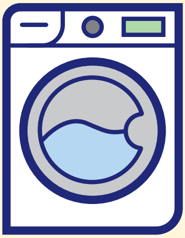
Don’t crush, chew or cut chemotherapy tablets. If you can’t swallow a tablet whole, ask your oncologist or pharmacist whether the drug comes in other forms, such as a liquid, or if it can be dissolved.

Practise safe sex



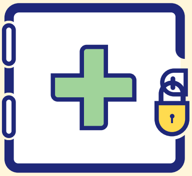
Your doctor may advise you to use barrier contraception, such as a condom or dental dam, during sexual activity while having treatment. This protects your partner while chemotherapy drugs may be in your body fluids.

Handle laundry carefully



Wash items soiled with body fluids – such as clothing, bedsheets and towels – straightaway. Use the longest washing machine cycle with hot or cold water, and run the cycle twice. Wash these items separately from other laundry.

Keep medicines in a safe place



Store all tablets, capsules or injections as directed by your oncologist or pharmacist, and follow the directions for storage on the label. Wash hands after handling drugs. Do not store them in a pill organiser with other medicines. Keep them out of reach of children.

Pregnancy and breastfeeding

Avoid getting pregnant, or getting your partner pregnant, while having chemotherapy (see page 50). 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 page 12).

Waiting for chemotherapy

Having chemotherapy may mean you spend a lot of time waiting for health professionals, blood tests, test results, and for the necessary safety checks to be done. It also takes time for your drugs to be prepared, and then, for the drugs to be given.

While you are waiting, you may want to:

- read a book or magazine
- listen to music or a podcast, or write in a journal
- do a crossword puzzle or play a game on your phone
- chat with a companion (if health guidelines allow a support person to stay with you during treatment)
- meditate, practise relaxation techniques or rest
- use a laptop, smartphone or ereader – check whether it is okay to use devices and if power points are available. Ask if there is wi-fi.

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 or anxious being around other people with cancer. However, many people find support from others who are having chemotherapy treatment at the same time. Joining a support group may be a good way 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

Telehealth appointments

You may be able to have some appointments from home over the phone or a video link. Called telehealth, it can reduce how often you need to go to the hospital, which can be useful if you live a long way from treatment. 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 Cancer Council 13 11 20.

How will I know chemotherapy is working?

You might wonder whether experiencing side effects is a sign that the chemotherapy is working. However, whether or not you have side effects is not a sign of how well chemotherapy is working.

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 60). This is because cancer can sometimes come back in the same place or grow in another part of the body.

Key points about chemotherapy

What chemotherapy 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 surgery, radiation therapy or other drug therapies. This may be before (neoadjuvant therapy) or after (adjuvant therapy) 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 family and friends during and after your chemotherapy treatment. • Your treatment team will give you advice on what precautions to take at home so your family members don't come into contact with chemotherapy drugs or your body fluids, such as vomit, urine (wee) or saliva.

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.

Understanding side effects

Everyone reacts to chemotherapy treatment differently. You may have many side effects or a few. Whether you experience side effects and whether they are mild or severe can depend on the type and dose of drugs you are given. Your reaction can also change 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.

Keep a record of side effects

It can be useful to keep a record of your chemotherapy treatment and any side effects you develop. This will help you remember when you had side effects, how long they lasted and what helped to make them better. You can use a notebook, diary or 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 change the treatment schedule or arrange a break.

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 ways to 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 37) or reproductive organs (see pages 49–51). If damage to your heart muscle or lungs is a possibility, your doctor will monitor how your heart and lungs are working 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 can increase with factors such as continuing to smoke or rare genetic conditions. If you notice symptoms, 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.

List the doses and names of your chemotherapy drugs, and the names of your specialists. This will save time if you become ill and need to visit a hospital emergency department. Make sure you tell the hospital staff that you are having chemotherapy, or other therapies such as targeted therapy and immunotherapy.

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 when you start 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 *Understanding Fatigue and Cancer* fact sheet.

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 doctor or call Triple Zero (000) if you have 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.

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. Chemotherapy can reduce the 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). Some people may experience bone pain or tenderness at the injection site. Let your doctor know if you have any of these side effects.

Having vaccinations

Some vaccinations are safe to have during chemotherapy treatment and others are not. It is generally safe to have the flu vaccine and the COVID-19 vaccines available as at June 2024, but speak to your doctor before having these vaccinations.

During chemotherapy and for about 6 months after, it is often advised that you don't have vaccinations that contain a live vaccine, such as varicella (chickenpox), zoster (shingles), and MMR (measles, mumps, rubella) vaccines. Your doctor can provide more information.

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 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.

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 chemotherapy-induced peripheral neuropathy (CIPN). Most often, the nerve damage causes 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 sometimes, it can last a longer time or be permanent. If you experience numbness and tingling, tell your doctor or nurse straightaway. Your treatment may need to be changed or the problem carefully monitored.
▸ See our *Understanding Peripheral Neuropathy and Cancer* fact sheet.

How 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. Balance exercises have been shown to help manage some of the symptoms of peripheral neuropathy.
- Wear gloves and socks to keep hands and feet warm, or soak them in warm water to relieve your 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 shoes that fit well and have 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 you some relief. You can also discuss having a break from treatment.

Fatigue

Feeling tired and lacking energy is the most common side effect of chemotherapy. It is known as cancer-related fatigue.

You may also:

- develop muscle aches and pains
- have trouble thinking clearly or concentrating
- find it difficult to do daily tasks such as getting dressed, showering and cooking.

Fatigue can affect you suddenly and it doesn't always get better with rest or sleep. If you find it hard to do everyday things, you might feel frustrated and isolated. Fatigue caused by chemotherapy may last for months or years after a treatment, however, many people find that their energy levels return to normal 6–12 months after treatment ends.

While fatigue is a common side effect of chemotherapy, it can also be a symptom of depression (see page 59). If you have continued feelings of sadness, you may have depression, and treatment may help. For more information on depression, visit beyondblue.org.au and talk to your health care team.

▸ See our *Understanding 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

- Get extra rest the day of and day after chemotherapy to allow your body to recover.
- Plan activities for the time of day when you tend to feel most energetic.
- Try to be physically active with moderate exercise (e.g. walking, swimming) and some strength training (e.g. weights or resistance bands). See an accredited exercise physiologist (essa.org.au/find-aep) or physiotherapist (choose.physio/find-a-physio). They can develop a suitable program.
- Accept offers of help or ask family, friends and neighbours to 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.

  Try relaxation or meditation techniques to help reduce stress, improve your sleep and boost your energy levels. Listen to Cancer Council’s *Finding Calm During Cancer* podcast.
- Talk to your GP about trying acupuncture – some studies suggest this may help with reducing fatigue 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 33).
- Speak to your employer about how they can support you (e.g. 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 how much you drink, smoke and vape.

Hair loss

Whether you lose your hair will depend on the drugs prescribed. Some people lose all their hair (alopecia); others find it becomes thinner or they may lose only a little hair. Some people lose none at all. Although losing hair from the head is most common, eyebrows, eyelashes, hair from your underarms, legs, chest, beard and pubic area can also fall out.

When hair loss does occur, it usually starts during cycle 2 or 3 – or sometimes after the first cycle. It may be sudden or happen gradually. 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.

It's not unusual to feel sad or less confident. It may take time to adjust to how you look, then more time to feel good about yourself again.

Hair growing back – After treatment ends, it can take 4–12 months to grow back a full head of hair. When your hair first grows back, it may be a different colour, softer or curly (even if you have always had straight hair). In time, your hair usually returns to its original condition.

Scalp cooling – Some treatment centres provide cold caps, which may reduce hair loss from the head. 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.

How 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 from the sun 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 more information.
- Try using a pillowcase made from silk, satin or bamboo as these smooth fabrics can decrease hair tangles.
- Avoid dyeing your hair during chemotherapy and for about 6 months afterwards to allow the hair to become stronger. Vegetable-based hair dyes may be gentler on the hair and scalp.
- 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 they 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 usually starts a few days after your first treatment. Nausea may last a short time or for many hours and you may also vomit or retch (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 your chemotherapy sessions. Anti-nausea medicine helps for most people, but finding the right one can take time. If nausea or vomiting continues after using the prescribed medicine, let your nurse, doctor or pharmacist know early so that another medicine can be tried. Steroids may also be used to manage nausea.

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. If you think you may be dehydrated, contact your doctor.

> *"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, but avoid going for long periods without eating.
- 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.
- If you don't feel like eating solid foods, have drinks enriched with powdered milk, yoghurt or honey. Or try easy-to-swallow foods such as scrambled eggs.
- Don't use nutritional supplements, vitamins or medicines without your doctor's advice, as some products could affect how chemotherapy works.
- Ask a dietitian for advice on the best foods or nutritional supplements to have 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 something small 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 *The Thing About Cancer* podcast ("Appetite Loss and Nausea" episode).

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. If your bowel habits have changed during your treatment, talk to your doctor, pharmacist or nurse.

For some people, there will be ongoing bowel problems after cancer treatment has finished. 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

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 medicines delivered through the rectum (e.g. enemas or suppositories) as they may cause infection.
- Let your treatment team know if you have constipation for more than a couple of days. They will be able to help.

Diarrhoea

- Choose bland foods such as clear broth, boiled rice or dry toast. Avoid spicy foods, wholegrain products, fatty or fried foods, rich sauces, and raw fruits or vegetables with skins or seeds.
- It may help to eat foods that are high in soluble fibre such as oats, white bread, white rice, bananas, nuts 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 having diarrhoea.
- Talk to your treatment team. They may change the drugs or doses you are on or suggest other solutions.
- If diarrhoea is severe or ongoing, let your treatment team know. It can cause dehydration and you may need to go to hospital.

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 how you feel, such as stressed or depressed. These problems usually improve with time, although some people can 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.

How to improve concentration

- Use a calendar or smartphone features, such as reminders, alarms or lists 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).
- Focus on one thing at a time (try not to multitask).
- Aim to get 7–8 hours of sleep each night. Deep sleep is important for memory and concentration.
- Do light exercise every day to help you stay alert and sleep better.
- Learn a new skill (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. This can prevent misunderstandings and they may be able to support you.

▶ See our *Understanding Changes in Thinking and Memory* fact sheet and listen to our “Brain Fog and Cancer” podcast episode.

Mouth problems

Some chemotherapy drugs can damage healthy cells in the mouth and cause mouth sores, ulcers (oral mucositis) 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.

How to look 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, nurse or pharmacist 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.
- 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, vaping and alcoholic drinks, as well as very hot foods and spicy, acidic or coarse foods (e.g. nuts). 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.

Ways to take 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 ease 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 has 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 physical reasons for not being able to have sex or being interested in having sex (e.g. vaginal dryness or erection difficulties). Changes in how you look can also affect feelings of self-esteem and, in turn, your interest in sex.

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 usually have a fulfilling sex life after cancer, but it may take time. Some partners may feel concerned about having sex. They might be worried about injuring or hurting the person with cancer, or being exposed to chemotherapy drugs during sex (see next page).

Even if some sexual activities are not always possible, there are many ways to express closeness. Talking openly with your partner about how you're feeling can be difficult but it is often very helpful. It's important to take time to adapt to any changes. If you're worried about changes to how you feel about yourself, your relationships or sexual functioning, you may find talking to a psychologist or counsellor helpful.

▸ See our *Sexuality, Intimacy and Cancer* booklet and listen to our "Sex and Cancer" podcast episode.

Using contraception

In most cases, your doctor will advise you to use some form of barrier contraception (condom, female condom or dental dam) during treatment and for a period after. 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 a child in the future, talk to your doctor before starting chemotherapy about how the treatment might affect you and what options are available. Eggs (ova), embryos, ovarian tissue or sperm may be able to be stored for use at a later date. This needs to be done before chemotherapy starts. 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 – Some 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 – Some chemotherapy drugs can 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 may also be affected (erectile dysfunction or impotence), but this is usually temporary. If impotence is ongoing, talk to your doctor.

> *“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

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. Some types of chemotherapy drugs may also cause a continuous ringing noise in the ears known as tinnitus. These changes can happen alone or together, and are usually temporary. Let your doctor know if you notice any change in your hearing.

Watery eyes – This can be a symptom of a blocked tear duct, which can be caused by some chemotherapy drugs. Massaging the area regularly with a small towel soaked in warm water (compress) and using eye drops can help clear blockages. Let your cancer care team know if this issue is ongoing.

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

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.

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.
How long side effects last	• Most side effects are temporary and gradually improve after you have finished treatment. At times, changes may not appear for months or years after 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 nerve and muscle problems, fatigue, hair loss, nausea and vomiting, and bowel issues such as constipation or diarrhoea. • You may have trouble concentrating or remembering things. You may also develop mouth sores and have skin and nail changes. • Chemotherapy can affect how you feel about yourself, your interest in sex (libido) and your fertility. If you may want to have children in the future, talk to your doctor before treatment starts.
Managing side effects	• Your treatment team will suggest ways 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.

Other drug therapies

Many types of drug therapies are used to treat cancer. As well as chemotherapy, these include targeted therapy, immunotherapy and hormone therapy. Together they are known as anticancer drug treatments or systemic anticancer therapy. The different drug therapies work in different ways to destroy cancer cells.

These other drug therapies may be used before or after chemotherapy, surgery or radiation therapy. You may have one drug or a combination of drugs. This approach often makes treatment more effective and reduces the chance of cancer cells becoming resistant to a particular drug.

Which drug therapy is right for me?

To work out if particular drug therapies are an option for you, your cancer specialist will suggest you have tests to look for gene changes or other features in the cells. The results will help your doctor decide which drug therapy is more likely to work for you. They will also consider the type and stage of cancer, your response to previous treatments, your future treatment options and your overall health.

Drug therapies such as targeted therapy and immunotherapy work for some people, but they don't work for everyone. Sometimes cancer cells can stop responding to a drug therapy even if it worked at first. In this case, your doctor may prescribe different drugs. To help more people access other drug therapies, researchers are trying to understand why some people's cancers respond better than others.

Some of these drug therapies are part of standard treatment, while others are being tested in clinical trials. In most cases, drug therapies such as targeted therapy and immunotherapy are used to treat advanced cancer. This is cancer that has spread or come back after the initial treatment.

Like chemotherapy, targeted therapy and immunotherapy have treatment protocols. You can find these at eviQ Cancer Treatments Online (visit eviq.org.au).

Targeted therapy

This drug therapy targets specific features of cancer cells, known as the molecular target, to stop the cancer cell from growing and spreading. The drug will only be given if the cancer cells have the target.

There are many different types of targeted therapy drugs. They are grouped together depending on how they work. These groups include monoclonal antibodies and small-molecule inhibitors.

- Monoclonal antibodies are a manufactured version of natural antibodies made by the body to fight infections. Examples include angiogenesis inhibitors such as bevacizumab.

- Small molecule inhibitors block certain proteins that tell cancer cells to grow. Examples include tyrosine kinase inhibitors (TKIs) such as imatinib and dasatinib, and PARP inhibitors such as olaparib.

Targeted therapy drugs can interact with many common medicines and cause potentially harmful side effects. Tell your doctor if you are taking any other medicines – including vitamin and herbal supplements – so they can check for any known problems.

In Australia, targeted therapy drugs are now available for a range of cancers, including blood cancers such as leukaemia and lymphoma; common cancers such as bowel, breast, lung and melanoma; and other cancers such as cervical, head and neck, kidney, liver, ovarian, pancreatic, sarcoma, stomach and thyroid. For many of these cancers, targeted therapy is available only when the cancer is advanced. For some types, it is also available for early-stage cancer.

Targeted therapy may be given as tablets or capsules that you swallow, intravenously into a vein or as an injection under the skin.

Targeted therapy drugs circulate through the body. This therapy targets cancer cells, but can also affect normal cells. Skin problems are a common side effect. Other side effects can include fever, fatigue, joint aches, nausea, headaches, itchy eyes, diarrhoea, bleeding and bruising, and high blood pressure.
▶ See our *Understanding Targeted Therapy* fact sheet.

Immunotherapy

This drug therapy uses the body's own immune system to attack cancer cells. There are several different types of immunotherapy, and each works differently.

- Checkpoint inhibitors are the most common. Checkpoint inhibitors remove barriers that stop the immune system from finding and attacking cancer. Examples include pembrolizumab, nivolumab, ipilimumab and atezolizumab.

- Other types stimulate the immune system to help it work better against cancer. Examples include imiquimod.

Antibody drug conjugate therapy

Antibody drug conjugate (ADC) therapy is being more widely used in Australia to treat some cancers. ADC therapy is when an antibody is joined to chemotherapy medicine. This therapy is targeted at the cancer cells, but can affect other cells. The drug combination attaches to the cancer cells, and destroys them. Ask your oncologist if this treatment is suitable for you.

Immunotherapy using checkpoint inhibitors is available for some types of cancer, including bladder cancer, head and neck cancer, Hodgkin and non-Hodgkin lymphoma, kidney cancer, liver cancer, lung cancer, melanoma and Merkel cell carcinoma.

It is most often given when cancer has come back after the initial treatment (advanced cancer). For some cancer types, it may be available as part of the first treatment plan.

Checkpoint inhibitors trigger an immune response that can cause side effects such as redness, swelling or pain (inflammation) anywhere in the body. Side effects will depend on which part of the body becomes inflamed. Common side effects include skin rash and itching; diarrhoea, abdominal pain and bloating; pain in the joints; fatigue; and dry eyes. Talk to your medical team if you have any side effects.
▸ See our *Understanding Immunotherapy* fact sheet.

Hormone therapy

Hormones are substances that are produced naturally in the body and affect how the body works. Some cancers use hormones to grow. This means the cancer is hormone dependent.

Hormone therapy may also be called hormone-blocking therapy, endocrine therapy or androgen deprivation therapy.

The aim of hormone therapy is to lower the amount of hormones the tumour receives. This can help reduce the size and slow down the spread of the cancer. It can also reduce the risk of the cancer returning after treatment.

Common cancers that can be treated with hormone therapy include:

- **breast cancer –** often depends on the hormone oestrogen to grow; drugs include tamoxifen and aromatase inhibitors such as anastrozole, exemestane, letrozole
- **prostate cancer –** depends on the hormone testosterone to grow; the most common drug used is goserelin
- **uterine cancer –** depends on progesterone to grow; drugs include medroxyprogesterone.

Hormone therapy can be given as tablets, injections or through a device placed in the uterus. It can be used for a short time or long term. How long you have hormone therapy depends on the aim of the treatment, how the cancer responds and any side effects you have.

Hormone therapy drugs affect hormone levels throughout your whole body and cause side effects. Possible side effects include tiredness, hot flushes, mood changes, weight gain and sweating.

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 to 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).

Legal and financial support

If you need advice on legal or financial issues, we may be able to refer you to qualified professionals. These services are free for people who can't afford to pay. Financial assistance may also be available. To find out more, call Cancer Council 13 11 20.

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.

Information resources

Cancer Council produces booklets and fact sheets on more than 40 types of cancer, as well as treatments, emotional and practical issues, and recovery. Call 13 11 20 or visit your local Cancer Council website.

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.

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?
- Are there any other treatments options for me? If not, why not?
- Will I have other treatments or drug therapies as well as chemotherapy?
- How much does chemotherapy 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 treatment protocols 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?
- Should I change my diet or physical activity during or after treatment?
- Are there any complementary therapies that might help me?
- 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 could they be? How can I prevent them?

Glossary

adjuvant therapy
A treatment given after the main treatment to lower the risk that the cancer will come back.

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.

centrally inserted catheter
A central venous access device (CVAD) used to give direct access to a vein in the chest.

central venous access device (CVAD)
A type of thin plastic tube inserted into a vein so fluid or chemotherapy drugs can be given, and blood can be taken. Types of CVADs include peripherally inserted central catheter (PICC), centrally inserted catheter 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 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 growth factor drug that helps the body make more stem cells so they can be

collected for a transplant or to increase the number of white blood cells if they are low. It is given as an injection or through a drip.

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. 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 for treatment.

intravenous (IV) 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.

neoadjuvant therapy
A treatment given before another treatment to make that treatment more successful.

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.

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 or prevent bleeding. They are 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.

stage
The extent of a cancer and whether the disease has spread from an original site to other parts of the body.

stem cell transplant
A treatment in which diseased blood cells are destroyed by high-dose chemotherapy or radiation therapy, then replaced by healthy stem cells. The healthy stem cells may come from the bone marrow (bone marrow transplant), from the bloodstream (peripheral blood stem cell transplant) or from umbilical cord blood (cord blood transplant).

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 through the whole body, such as chemotherapy, immunotherapy, targeted therapy and hormone therapy.

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

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

white blood cells
One of 3 types of cells found in the blood. They help to fight infection.

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.

TIS TRANSLATING AND INTERPRETING SERVICE

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

National Relay Service

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

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

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

Cancer Council

UNDERSTANDING CHEMOTHERAPY
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