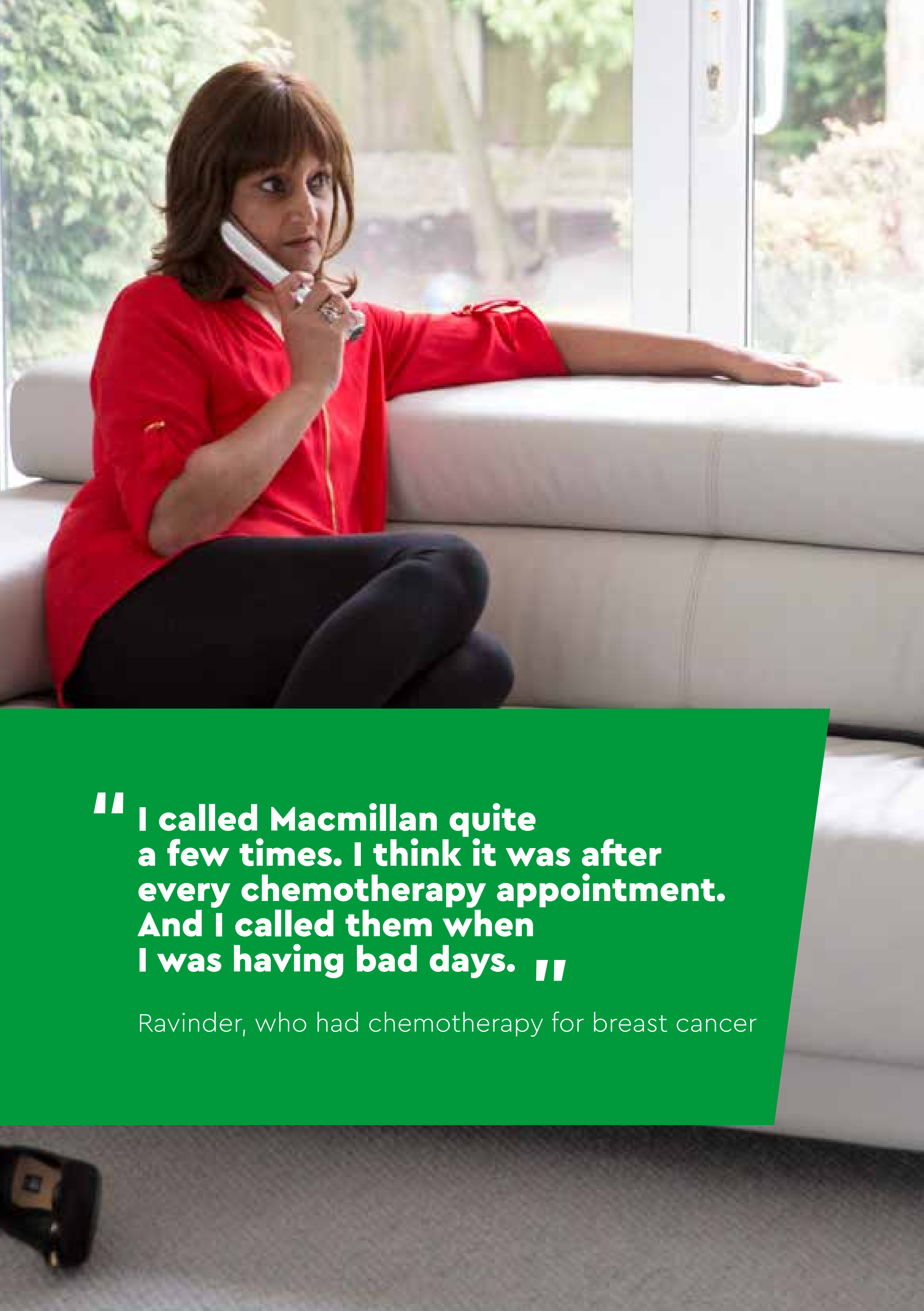
MACMILLAN CANCER SUPPORT

Understanding chemotherapy



> “I called Macmillan quite a few times. I think it was after every chemotherapy appointment. And I called them when I was having bad days.”

Ravinder, who had chemotherapy for breast cancer

About this booklet

This booklet is about chemotherapy. It is for anyone who is having chemotherapy treatment for cancer. There is also information for carers, family members and friends.

The booklet explains how chemotherapy works and how it is given. There is also information about common side effects, how they can be treated and what you can do to manage them.

We hope it helps you deal with some of the questions or feelings you may have.

We cannot give advice about the best treatment for you. You should talk to your doctor, who knows your medical history.

How to use this booklet

This booklet is split into sections to help you find what you need. You do not have to read it from start to finish. You can use the contents list on page 3 to help you.

It is fine to skip parts of the booklet. You can always come back to them when you feel ready.

On pages 114 to 119, there are details of other organisations that can help.

There is a chemotherapy record on pages 120 to 121. Here, you can write down the details of the chemotherapy treatment that you are having.

There are some questions you could ask about chemotherapy on pages 122 to 123. There is also space to write down questions and notes for your doctor or nurse on page 124.

Quotes

In this booklet, we have included quotes from people who have had chemotherapy, which you may find helpful. These are from people who have chosen to share their story with us. This includes Ravinder, who is on the cover of this booklet. To share your experience, visit **macmillan.org.uk/shareyourstory**

For more information

If you have more questions or would like to talk to someone, call the Macmillan Support Line free on **0808 808 00 00**, 7 days a week, 8am to 8pm, or visit **macmillan.org.uk**

If you would prefer to speak to us in another language, interpreters are available. Please tell us, in English, the language you want to use.

If you are deaf or hard of hearing, call us using Relay UK on **18001 0808 808 00 00**, or use the Relay UK app.

We have some information in different languages and formats, including audio, eBooks, easy read, Braille, large print and translations. To order these, visit **macmillan.org.uk/otherformats** or call **0808 808 00 00**.

Contents

What is chemotherapy?

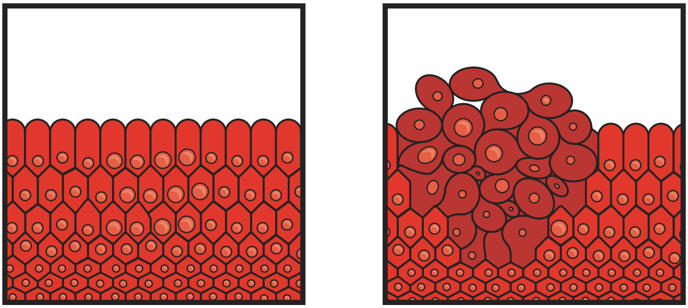
What is cancer?

To understand how chemotherapy treats cancer, it helps to know what cancer is. Cancer starts in cells in our body.

Cells are tiny building blocks that make up the body's organs and tissues. Cells receive signals from the body, telling them when to grow and when to divide to make new cells. This is how our bodies grow and heal. These cells can become old, damaged or no longer needed. When this happens, the cell gets a signal from the body to stop working and die.

Sometimes these signals can go wrong, and the cell becomes abnormal. The abnormal cell may keep dividing to make more and more abnormal cells. These can form a lump, called a tumour.

Abnormal cells forming a tumour



Normal cells

Cells forming a tumour

Not all tumours are cancer. Doctors can tell if a tumour is cancer by taking a small sample of cells from it. This is called a biopsy. The doctors examine the sample under a microscope to look for cancer cells.

A tumour that is not cancer (a benign tumour) may grow, but it cannot spread to anywhere else in the body. It usually only causes problems if it grows and presses on nearby organs.

A tumour that is cancer (a malignant tumour) can grow into nearby tissue.

Sometimes cancer cells spread from where the cancer started (the primary site) to other parts of the body. They can travel around the body in the blood or through lymph fluid which is part of the lymphatic system. When these cancer cells reach another part of the body, they may grow and form another tumour. This is called a secondary cancer or a metastasis.

Some types of cancer start from blood cells. Abnormal cells can build up in the blood, and sometimes the bone marrow. This is where blood cells are made. These types of cancer are sometimes called blood cancers.

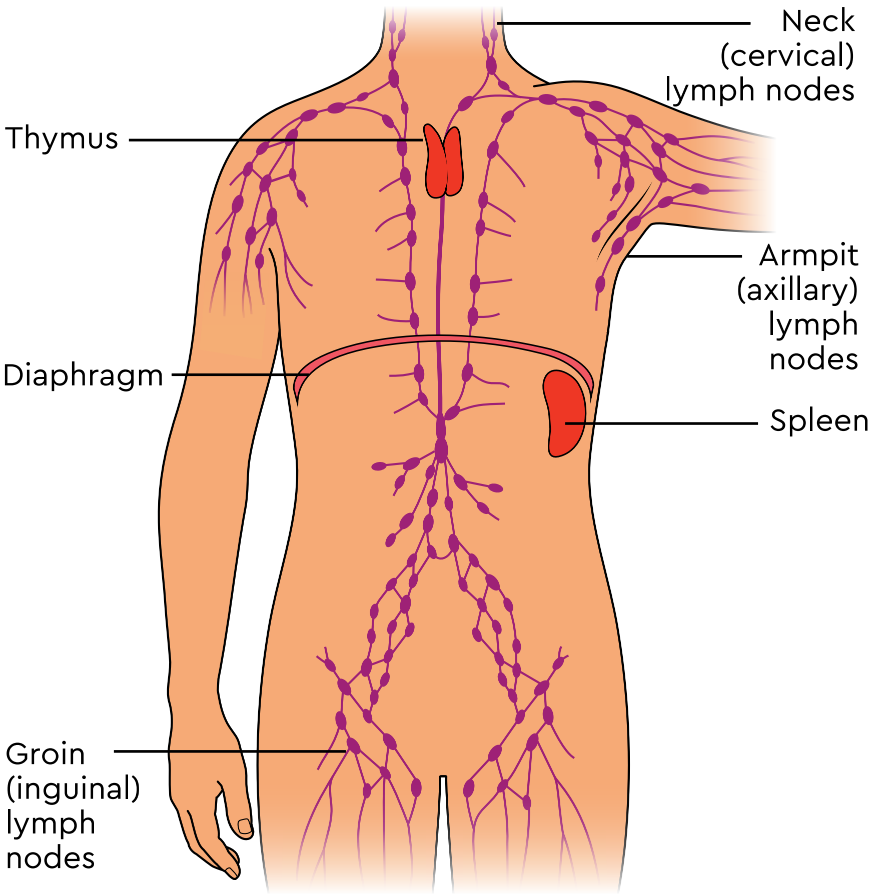
The lymphatic system

The lymphatic system helps to protect us from infection and disease. It is made up of organs such as the bone marrow, thymus and the spleen. It also has fine tubes called lymphatic vessels. These vessels connect to groups of small lymph nodes throughout the body. The lymphatic system drains lymph fluid from the tissues of the body before returning it to the blood.

Lymph nodes are sometimes called lymph glands. They filter bacteria (germs) and disease from the lymph fluid. When you have an infection, some lymph nodes may swell as they fight the infection.

One of the first places a cancer may spread to is nearby lymph nodes. Your doctor may remove some lymph nodes during surgery to check them for cancer cells. If they contain cancer cells, your doctor may talk to you about treatment with chemotherapy to help reduce the risk of the cancer coming back.

The lymphatic system



Chemotherapy

Chemotherapy uses anti-cancer (cytotoxic) drugs to destroy cancer cells. Cytotoxic means toxic to cells. Chemotherapy is sometimes called systemic anti-cancer therapy (SACT). Chemotherapy drugs can be given in different ways. This includes:

- into a vein (intravenous) – pages 49 to 51
- as tablets or capsules that you swallow – pages 52 to 53.

Chemotherapy drugs disrupt the way cancer cells grow and divide but they also affect normal cells.

Sometimes chemotherapy is used on its own to treat some types of cancer. But often it is used with other treatments such as surgery, radiotherapy, hormonal therapy or other anti-cancer drugs.

Chemotherapy drugs

Not all cancers are treated with the same chemotherapy drugs, or in the same way. You may have one chemotherapy drug or a combination of different drugs. There are many different chemotherapy drugs and new drugs are being developed all the time.

Research results help your cancer specialist decide on the most effective drugs to treat the type of cancer you have. You may be invited to take part in a clinical trial (page 18).

Other anti-cancer drugs

Other anti-cancer drugs are also used to treat cancer. For example, drugs called targeted therapies are directed at certain parts of the cancer cells and work differently to chemotherapy. These drugs can be given on their own or in combination with chemotherapy drugs.

We have information about:

- individual and combinations of chemotherapy drugs
- other anti-cancer drugs, such as targeted therapies and immunotherapies.

We have more information about chemotherapy and other anti-cancer drugs on our website. Visit **macmillan.org.uk/treatment**

How chemotherapy drugs work

Chemotherapy drugs work by stopping cancer cells dividing and growing. Different drugs affect the cancer cells in different ways. When a combination of drugs is used, each drug is chosen for its different effects.

Most chemotherapy drugs are carried in the blood. This means they can reach cancer cells anywhere in the body.

Chemotherapy can be given in different ways. The way you have chemotherapy depends on:

- the type of cancer you have
- the chemotherapy drugs being used.

Chemotherapy drugs also affect some of the healthy cells in your body. These healthy cells can usually recover from damage caused by chemotherapy. But cancer cells cannot recover, and they eventually die.

Side effects

Chemotherapy drugs can affect some of the healthy cells in your body, causing side effects. Most side effects will go away after treatment finishes.

Healthy cells in certain parts of the body are more sensitive to chemotherapy drugs. These include:

- cells in the bone marrow – where blood cells are made
- hair follicles – where hair grows
- the digestive system.

This is why some side effects are more common, such as being at risk of infection (page 60), hair loss (page 65) or feeling sick (pages 68 to 69). We have more information about the side effects of chemotherapy and how they can be reduced and managed in our booklet **Side effects of cancer treatment** (page 108).

> **"My mouth sometimes tasted metallic and I would get a little ringing in my ears after treatment. But these were small side effects I could deal with."**
>
> Danielle

Monitoring the effects on the cancer

During treatment, your cancer doctor may want to find out how the cancer is responding to the chemotherapy drugs. This can be done in the following ways:

- If your doctor can see or feel the cancer, they will be able to tell if it is responding to chemotherapy by doing a physical examination.
- If the cancer can be seen on a scan, you may have a scan after a few cycles of chemotherapy. This is done to see if the cancer is getting smaller. Chemotherapy to reduce the risk of cancer coming back after surgery (adjuvant chemotherapy) will not usually need scans to check if it is working.
- With some cancers, blood tests can be used to check if treatment is working. These cancers release proteins into the blood (tumour markers) that can be measured with a blood test. If the tumour markers are reducing, it usually means the chemotherapy is working.

If results show the cancer has not responded well enough, your doctor may decide to change your treatment to different chemotherapy drugs.

When chemotherapy is used

Having chemotherapy depends on different factors. These include:

- the type of cancer
- the risk of the cancer coming back
- if the cancer has spread
- your general health.

Chemotherapy can be used in different ways, such as:

- as a main treatment for cancers such as lymphomas and leukaemias
- to shrink a cancer before surgery or radiotherapy – this is called neo-adjuvant chemotherapy
- to reduce the risk of cancer coming back after surgery or radiotherapy – this is called adjuvant chemotherapy
- at the same time as radiotherapy, to make it work better – this is called chemoradiation
- to treat cancer that has spread into surrounding areas (locally advanced cancer) or to other parts of the body (advanced or metastatic cancer)
- to shrink and control a cancer and relieve symptoms – this is called palliative chemotherapy.

Your cancer doctor or chemotherapy specialist nurse will explain why chemotherapy is being advised for you.

Planning chemotherapy

Your treatment is planned by your cancer doctor. Cancer doctors are called oncologists. This doctor is an expert in treating people with chemotherapy, and other cancer treatments and drugs. Other health professionals are also involved in your care. You may see a chemotherapy specialist nurse or a pharmacist. These professionals can give you information and support.

Your cancer doctor or specialist nurse will explain:

- the aims of your chemotherapy
- any possible side effects (pages 58 to 79)
- the benefits and disadvantages of treatment.

Giving your permission (consent)

Doctors need your permission (consent) before you have any treatment. They will give you all the information you need to make your decision. We explain this in our section on talking about your treatment plan.

You can give consent in writing when you sign a form that your doctor gives you, agreeing to a treatment. Or it can be a spoken (verbal) agreement with your doctor. Your doctor records your consent in your patient notes.

You may decide not to have treatment even when your doctor advises you to have it. If you refuse treatment, your decision must be respected. But your doctor needs to make sure you have all the information you need to make your decision. You need to understand all your treatment options and what will happen if you do not have the treatment. Always talk to your doctor about any concerns you have, so they can give you the best advice.

Clinical trials

Clinical trials are medical research studies involving people. Doctors may use cancer clinical trials to:

- test new treatments to see if they work better than current treatments
- find which treatments have fewer side effects
- find new ways to combine treatments to see if they work better
- test new cancer drugs to find out more about them and their side effects
- improve the way treatments are given to try to reduce side effects.

Results from clinical trials can improve cancer treatments and help people live longer. Trials can also look at improving things like diagnosis and symptom management. We have more information on clinical trials. Visit **macmillan.org.uk/clinicaltrials**

Your course of chemotherapy

Chemotherapy is usually given as several sessions of treatment, with rest periods in between each session. The rest period allows your body to recover from any side effects. It also allows the number of healthy cells in your blood to go back to normal.

Chemotherapy and the rest period make up a cycle of your treatment. Your cancer doctor will explain the number of cycles you need. After your first cycle, you will have a better idea of what to expect. The complete course of all the treatment cycles may take several months.

How often you have chemotherapy, how it is given, and how long your course takes depends on:

- the type of cancer you have
- the chemotherapy drugs you are having
- how the cancer responds to the drugs
- any side effects you have (pages 58 to 79).

Sometimes treatment involves having chemotherapy in more than one way. For example, you may have chemotherapy into a vein (intravenous) and take chemotherapy tablets.

Chemotherapy is sometimes given continuously into a vein by an infusion pump for several days or weeks. If you are having chemotherapy as tablets or capsules, you may have them daily for several weeks or months before a rest period.

> **"Overall I had 6 cycles of chemo, every 3 weeks. I had to stay strong. I think your mental state is key when it comes to getting through these things. You have to stay positive and you will get through it."**
>
> Ravinder

Changes to your treatment plan

Sometimes, your chemotherapy treatment plan needs to be changed.

This may be because of the effects of the chemotherapy on your body, or the effects on the cancer. Sometimes changes can be made to suit your personal circumstances. Depending on the reason, your doctor may:

- delay your chemotherapy for a short while
- reduce the dose
- give you a different chemotherapy drug.

Your cancer doctor or nurse will explain why they are changing your treatment.

Delaying your chemotherapy

The most common reason for delaying chemotherapy is a low number of white blood cells. These cells are called neutrophils. This is not unusual, so try not to worry too much about it. When your white blood cells are back to a healthy level, you can start your next cycle of chemotherapy.

You may also be able to delay chemotherapy if you have a special social occasion coming up. Depending on the type of cancer, a small delay in your treatment is not usually a problem. Your cancer doctor or specialist nurse can tell you if this would be okay.

Effects on your body

Chemotherapy can affect organs, such as the bone marrow, lungs, heart, kidneys and liver. You will have regular tests to monitor this. Some drugs can affect the nerves in your feet and hands. This side effect is called peripheral neuropathy. Some drugs may affect your hearing.

Sometimes your doctor may need to reduce the dose of the drug or change to a different drug.

Effects on the cancer

Your doctor may arrange x-rays, scans, blood tests or a physical examination during treatment. This is to check the effects of chemotherapy on the cancer.

If the test results show that chemotherapy is not working well enough, your doctor may talk to you about having different treatment.

> "I was public about my cancer because I believe it is nothing to be ashamed of. I am passionate about that."

Ravinder

Your data and the cancer registry

When you are diagnosed with cancer in the UK, some information about you, your cancer diagnosis and your treatment is collected in a cancer registry. This is used to plan and improve health and care services. Your hospital will usually give this information to the registry automatically. There are strict rules to make sure the information is kept safely and securely. It will only be used for your direct care or for health and social care planning and research.

Talk to your doctor or nurse if you have any questions. If you do not want your information included in the registry, you can contact the cancer registry in your country to opt out (page 119).

Having chemotherapy

> “I was terrified about the chemo. I had this image that I would be lying in a bed with a drip, unable to do anything. But actually things were not that bad at all. I was lucky because a friend of mine is a chemo nurse, so she gave me advice about what to expect and how to cope.„

Susmita

Preparing for chemotherapy

Having information about chemotherapy treatment and its side effects can help you to get organised and feel more in control. There are things you can do to help you feel prepared.

Getting organised

Your fertility

Some chemotherapy drugs affect your fertility. This means whether you can get pregnant or make someone pregnant. If this is a concern for you, it is very important to talk to your cancer doctor before treatment starts. Sometimes your fertility can be preserved by storing sperm or storing eggs before chemotherapy begins. We have more information in our booklet **Cancer and fertility** (page 108).

Getting a wig

If the chemotherapy drugs cause hair loss or thinning you might decide to get a wig. You can have the wig fitted before your hair falls out. This means you can match it to your own colour and style. We have more information in our booklet **Coping with hair loss** (page 108).

Dental checks

Your cancer doctor or nurse may advise you to have a dental check-up before starting chemotherapy. If your teeth or dentures are in good condition, this reduces the risk of possible problems with your mouth during treatment.

Coronavirus swab test

You may need to have a test to check for coronavirus (covid) before each treatment. The test is called a covid swab test. Visit **macmillan.org.uk/coronavirus** to find out more.

Taking other drugs or vitamins

Always tell your cancer doctor about any prescription and other drugs, vitamins, herbal remedies or supplements you are taking or plan to take. Some drugs may interact with chemotherapy drugs or make treatment less effective.

Vaccinations

Vaccinations can reduce your risk of getting certain infections. Your doctor or nurse may talk to you about having vaccinations (page 94). Doctors usually recommend that people with cancer have a flu vaccination and a covid vaccination. To find out more, visit **macmillan.org.uk/coronavirus/vaccine**

Vaccines can be given before, during or after cancer treatment. You can talk to your healthcare team about possibly getting a covid vaccine before chemotherapy treatment starts. This may improve the vaccine's effectiveness. But some people may need to start treatment before having the vaccine.

Work or education

Before starting chemotherapy, it is a good idea to think about your work or education. This means you can make arrangements for time off during treatment. We have more information in our booklet **Work and cancer** (page 108).

Help at home

Chemotherapy makes you tired, so you may need help with day-to-day tasks. Although you may find it hard to ask, family and friends often want to help. If you live alone or are caring for someone else, you can ask to talk to the hospital social worker about getting help.

Help with children

If you have children, you may need help with taking and collecting them from school or clubs. Family and friends usually want to help, so accept their offers or ask for any help you need. It is also useful to know who you can contact at short notice to look after your children. We have more information about childcare when you have cancer. Visit **macmillan.org.uk/childcare**

Tests and scans

Your cancer doctor or nurse will talk to you about any tests, scans or check-ups you need before chemotherapy begins.

Scans and x-rays

Some chemotherapy drugs can affect organs, such as the heart or the kidneys. You may need tests to measure how well these organs are working before you have chemotherapy. For example, if you are having drugs that can affect the heart, you may have an electrocardiogram (ECG). This measures how well your heart is working. Or you may have an echocardiogram (ECHO), which uses soundwaves to create a picture of the heart.

Some people may need further scans or x-rays to find out more about the extent of the cancer (its stage) before chemotherapy.

Height and weight

A nurse will check your height and weight. Your cancer doctor and pharmacist use this information to work out the right dose of chemotherapy for you.

Blood tests

You will have a blood test before each cycle of chemotherapy. Sometimes your blood may be checked 1 to 2 days before chemotherapy. This can be done:

- at the hospital where you are having chemotherapy
- at your GP surgery or with a practice nurse
- at a hospital closer to your home.

The results will be ready for you when you go to have your chemotherapy.

Pregnancy test

You may have a pregnancy test before starting treatment.

Where chemotherapy is given

Depending on the type of chemotherapy, you may have treatment:

- in a chemotherapy day unit or outpatient clinic
- during a stay in hospital
- at home.

A chemotherapy day unit

Chemotherapy drugs into a vein (intravenous) are usually given by nurses in a chemotherapy day unit. The nurses will:

- take blood samples
- give you chemotherapy
- monitor you for side effects
- provide information and support for you and your family.

The nurses try to make sure the unit has a calm atmosphere and the environment is safe and comfortable. There are normally recliner chairs and some beds if you need to rest. A family member or friend may be able to stay with you during your treatment. There may be volunteers who can give you drinks or snacks when you need them. Some units may also have complementary therapists, who provide therapies such as massage and reflexology. The nurses can tell you more about what is allowed in the unit where you have your treatment.

Having the chemotherapy drugs may take between 30 minutes to a few hours. But you may have to wait:

- for blood test results
- for your chemotherapy drugs to be made up and checked by the pharmacy
- to see your cancer doctor.

The nurses will try to make sure you do not have to wait too long. You can take some things with you to help pass the time and feel more comfortable, such as:

- relaxing music
- a newspaper, some magazines, a phone, book or an e-reader
- something to eat and drink in case you get hungry
- playing cards or some knitting.

After you have had your chemotherapy, the nurses may give you drugs to take at home or a prescription for the hospital pharmacy. This may include anti-sickness drugs, steroids or any chemotherapy tablets you need to take. Your nurse or pharmacist will explain these to you.

Chemotherapy in hospital

Some chemotherapy treatments are more complicated or take longer. This may mean you need to stay in hospital to have your treatment. Your cancer doctor or nurse will explain more about this.

Chemotherapy at home

Sometimes, specialist chemotherapy nurses visit people at home to give intravenous chemotherapy. If you are having chemotherapy through a pump, the nurses can come and disconnect the pump when it is finished. This means you do not have to come back to the hospital.

This service is only available in some parts of the UK, and only with certain chemotherapy treatments. Your cancer doctor can tell you more about this.

How to contact the hospital

You will be given phone numbers to contact the hospital if you:

- have a raised temperature
- feel unwell
- need advice on side effects.

The phone numbers should include out-of-hours contact details for evenings, during the night or at the weekend. Some cancer centres have a 24-hour number you can call at any time for advice. In Scotland, you may be given the number of the Cancer Treatment Helpline on **0800 917 7711**.

It is very important to keep the numbers somewhere safe and to follow the contact advice you have been given by the cancer doctor or nurse. You could save the numbers in:

- your phone
- your Macmillan Organiser (page 108)
- the 'Your chemotherapy' section of this booklet (pages 120 to 121).

How chemotherapy is given

How chemotherapy is given

Chemotherapy can be given in different ways depending on the type of cancer you have and your treatment plan. Your chemotherapy nurse will explain what is involved.

Chemotherapy can be given:

- by injection or a drip directly into a vein, called intravenous chemotherapy
- by mouth as tablets or capsules, called oral chemotherapy
- by injection into a muscle (intramuscular) or under the skin (subcutaneous)
- by injection into the fluid around the spine and brain, called intrathecal chemotherapy
- directly into a body cavity, for example the bladder (intracavitary)
- directly to the skin as a cream for some skin cancers.

We have more information about these ways of giving chemotherapy in this section.

Chemotherapy into a vein

Chemotherapy given into a vein is called intravenous chemotherapy. The chemotherapy goes directly into the blood and is carried to all areas of the body.

It can be given through:

- a cannula – a short, thin tube put into a vein in the back of the hand or the lower arm
- a central line – a long, thin tube inserted into a vein in the chest
- a PICC line (peripherally inserted central venous catheter) put into a vein in the arm and threaded through to a vein in the chest
- an implantable port (portacath) put into a vein, with an opening (port) under the skin on the chest or arm.

When your cannula, line or port is in place, the chemotherapy drugs can be given into it by injection, as a drip or through a pump.

Your nurse will check that the cannula, line or port is working properly before giving you the chemotherapy.

Cannula

The nurse will put the cannula into a vein in the back of your hand or your lower arm. Having the cannula put in can be uncomfortable, but it does not usually take not take long. The nurse will place a clear dressing over it to keep it in place. The cannula is removed before you go home.

Tell your nurse or doctor straight away if you notice any discomfort, stinging, redness or swelling while the cannula is being used.

If this happens after you go home, phone the clinic or hospital on the numbers you have been given.

Central lines, PICC lines and implantable ports

You may have a line or port put in for your treatment. This depends on the chemotherapy drugs you are having. A line or port can also be used if there are problems with the veins in your arm, or if you are very anxious about needles. Your specialist nurse will explain how the line or port is put in. Once it is in place, the nurses will show you how to look after it.

Lines and ports are used to take blood samples as well as to give you chemotherapy. You can also have antibiotics, fluids or a blood transfusion through it, if needed. Your line or port in can stay in place until you have finished all your cycles of chemotherapy. This means you will not need cannulas or needles every time.

When your course of treatment is over, the line or port will be taken out. A doctor or nurse will do this for you, usually in the outpatient department.

Central line

A central line is a long, thin tube that is put into a vein in the chest. Central lines are sometimes called skin-tunnelled central venous catheters. But you may hear them called by brand names, such as Hickman® or Groshong® lines.

How it is put in

A specialist nurse or doctor will put in your central line at the hospital. You will usually have a local anaesthetic for this, but sometimes a general anaesthetic is used. Before the procedure, they will use a small ultrasound machine to check the neck for a suitable vein.

When the area is completely numb from the anaesthetic, the doctor or nurse will make a small cut in the skin near the collarbone. They will gently thread the tip of the line into a large vein just above the heart.

They then tunnel the other end of the under the skin to where it comes out of the body. This is known as the exit site. You will have a chest x-ray to make sure it is in the right position.

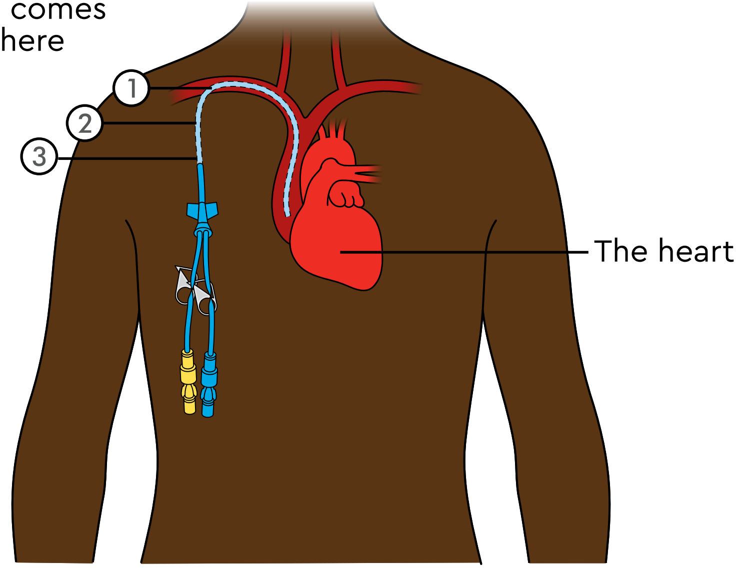
Around the central line, there is a small cuff just above the exit site. It can be felt just under the skin. The tissue under the skin grows around this cuff over about 3 weeks. This holds the line in place. Until this happens, you will have a stitch holding the line in place.

A central line

① Central line inserted into chest here

② Line tunnelled under skin

③ Line comes out here



We have more information about central lines on our website. Visit **macmillan.org.uk/central-lines**

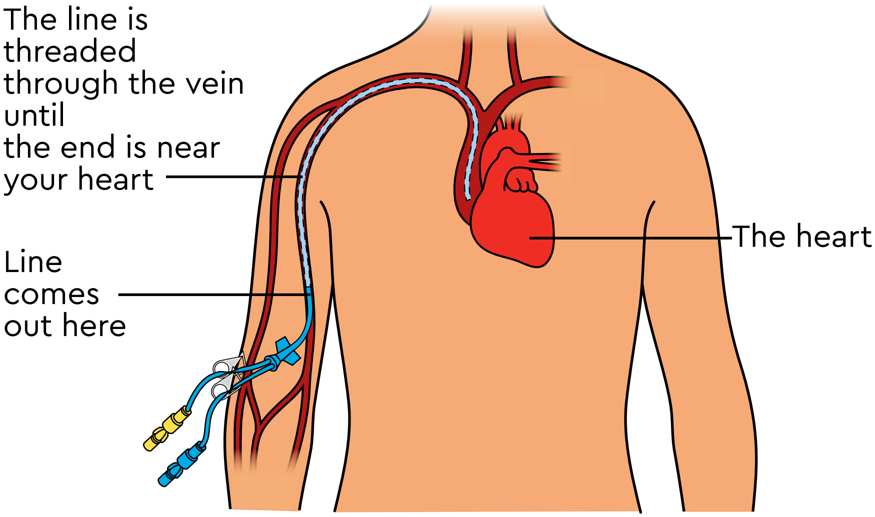
We also have an animation about having a central line put in. You can watch it at **macmillan.org.uk/havingacentralline**

PICC (peripherally inserted central venous catheter) line

A PICC line is a long, thin tube that your doctor or nurse puts into a vein above the elbow.

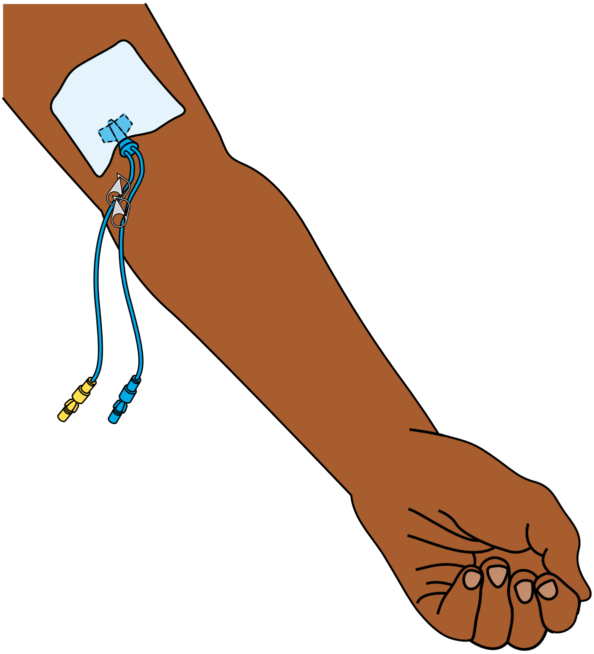
Your doctor or nurse will give you a local anaesthetic to numb the area before they put the line in. When the skin is completely numb, the doctor or nurse will put a needle into the vein. Then they will gently thread the line through the needle and along a vein. The tip of the line sits in a large vein in the chest, that leads to the heart. The end of the line comes out above the bend of the elbow. Once it is in place, the needle is removed and the PICC line is held in place by a clear dressing.

A PICC line



The end of the PICC line

The end of the PICC line comes out above the bend of the elbow.



We have more information about PICC lines on our website.
Visit **macmillan.org.uk/picc-lines**

We also have an animation about having a PICC line put in.
You can watch it at **macmillan.org.uk/havingapiccline**

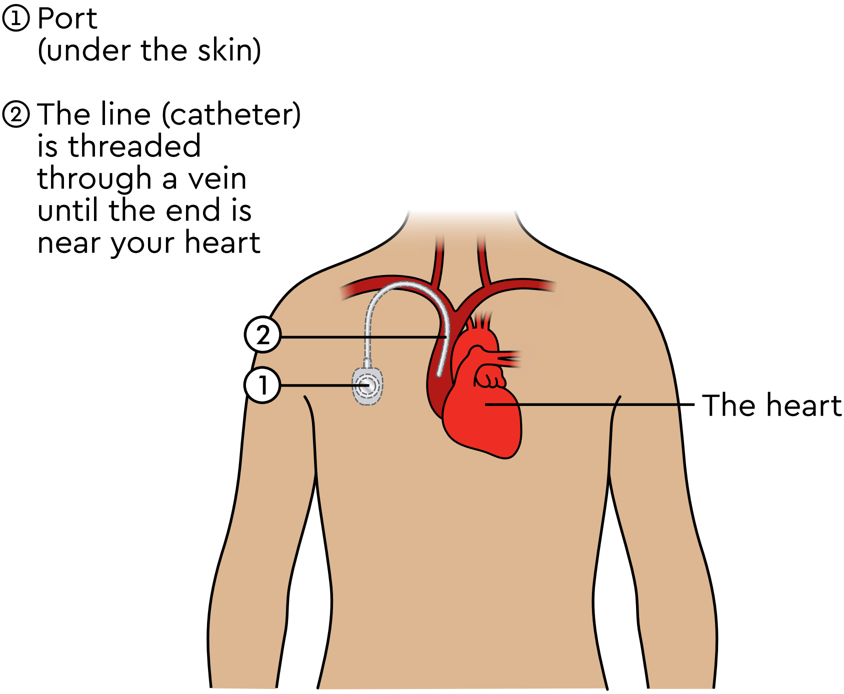
Implantable port (portacath)

An implantable port is also known as a portacath. A thin tube called a catheter is attached to a small reservoir called a port. A specialist doctor called a radiologist or a specialist nurse will put it in. It is usually done in the operating theatre, or an area called the vascular radiology unit. You will usually have a local anaesthetic to numb the area. But a general anaesthetic is sometimes used. They insert the tube into a vein until its tip sits just above the heart and the port lies under the skin on the upper chest. Once it is in place, you can feel and see the port as a small bump underneath the skin of the chest, but nothing shows on the outside of the body.

To use the portacath, a special needle called a Huber needle is passed through the skin into the port. Your nurse can give medicines into the vein or take blood using the portacath. The skin over the port can be numbed with an anaesthetic cream first so you do not feel any discomfort.

We have more information about implantable ports on our website. Visit **macmillan.org.uk/implantable-ports**

An implantable port



Taking care of your line or port

Before you go home, the nurses will show you how to take care of your line or port. If you find this difficult, your nurse can show a family member or friend how to do it. Or they will arrange for a district nurse to visit you. The main things you need to do are:

- clean the area around the line to reduce the risk of infection
- keep the area dry when you have a shower or bath – your nurse may give you waterproof dressings to use
- phone the number you have been given for advice if you think there is a problem with your line or port.

What to check for

Most people will not have any serious problems with their line or port, but possible problems can include blockage and infection. Your nurse will talk to you about this.

Your hospital nurse will arrange for you to have your line or port flushed regularly at the hospital or day unit, or by a district nurse. A small amount of fluid is flushed into the line using a syringe to keep it working and stop it from getting blocked.

Phone the contact number you have been given straight away if you:

- have pain, redness or darkening of the skin around the line or port
- notice fluid leaking from the skin around the line or port
- have swelling of your arm, chest, neck or shoulder
- feel pain in your chest, arm or neck
- feel shivery or unwell after your line or port has been flushed
- have a high temperature – over 37.5°C (99.5°F).

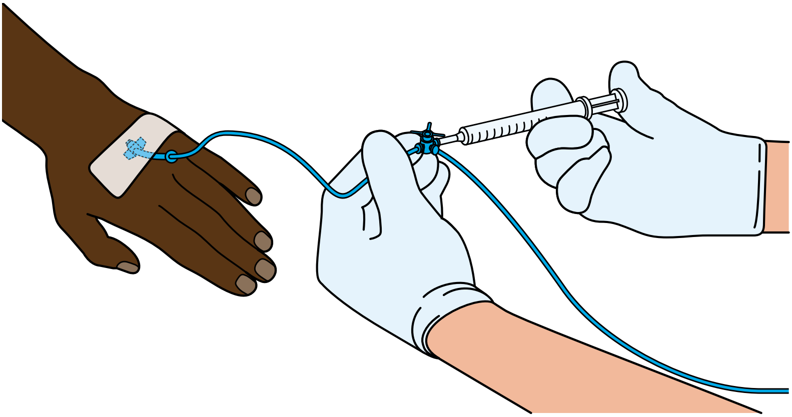
Having intravenous chemotherapy

Chemotherapy drugs given into a vein (intravenously) can be delivered in different ways. Your chemotherapy nurse will wear gloves and a plastic apron while giving you chemotherapy. This is just a precaution to protect them from any spillage of the drugs.

As an injection

The nurse injects the chemotherapy drugs through your cannula or central line directly into a vein over a few minutes. Sometimes, a bag of clear fluid is attached to plastic tubing and connected to the cannula or line in your vein first. This is called a drip or infusion. The drug is injected into a connection or tap on the plastic tubing and flushed into your vein with fluid from the bag.

Chemotherapy being given by injection into a cannula



A drip through a pump

The chemotherapy drugs are mixed in a bag of fluid and given to you as a drip that runs through an infusion pump. The nurses set the pump to give you a controlled amount of chemotherapy over a fixed time. This can be from 10 minutes to several hours, depending on the chemotherapy you are having.

A drip on its own

Sometimes the nurse will give the chemotherapy through a drip without a pump. The nurse will set the rate and check it regularly to make sure it is at the right speed.

Through a small pump

Some types of chemotherapy are given over a few days and are set up at the hospital so you can go home with it. The chemotherapy is in a small pump which your nurse connects to your central (pages 41 to 42) or PICC line (pages 43 to 44). The pump is small enough to be carried in a bag or belt holster.

A nurse will teach you how to take care of it. Sometimes a family member or friend may be taught too. Some pumps are battery-operated, so you need to be careful not to get them wet when you are washing. There are also disposable pumps that are operated by a balloon mechanism or spring control.

When the infusion is finished, there may some fluid left in the pump. Some pumps need to be overfilled to get the correct dose, so this is normal. Your nurse or pharmacist can tell you if you should expect this.

You usually come back to the hospital to have the pump disconnected. Sometimes, a district nurse will do this for you at home. Your chemotherapy nurse or pharmacist will explain how to look after the pump and what to do if there is a problem.

If a chemotherapy drug leaks outside the vein

Rarely, a drug leaks into the area around the vein while being given. This is called extravasation. This is uncommon but can happen if a cannula moves and is not in the correct position in the vein. Extravasation rarely happens with a line or port.

Your nurse will be very careful to prevent extravasation when giving your chemotherapy. Some chemotherapy drugs can damage the tissues, so it is very important that extravasation is dealt with straight away.

Tell your nurse straight away if you have any stinging, pain, redness or swelling around the vein. If you develop any of these problems after you go home, contact the hospital straight away.

Other ways of having chemotherapy

There are other ways you can have chemotherapy, apart from into a vein. Your chemotherapy nurse or cancer doctor will explain more about this.

By mouth (oral chemotherapy)

Some chemotherapy drugs can be taken by mouth, usually as tablets or capsules. This is known as oral chemotherapy. It is just as effective as other types of chemotherapy. The drug is absorbed into the blood and carried around the body, just like intravenous chemotherapy. You may have all your treatment as oral chemotherapy, or you may have it in some other ways as well.

Your nurse or pharmacist will tell when to take your chemotherapy tablets or capsules. They may give you other instructions, such as if you can take them with food or not, or any food or drinks to avoid.

It is very important to:

- read the labels on the drug boxes before you leave the hospital and speak to your nurse, doctor or pharmacist if any instructions are unclear
- take your drugs exactly as prescribed – not taking them at the right times can affect how well treatment works
- contact your nurse or doctor at the hospital straight away for advice if you cannot take your medicines for any reason, are sick after taking them, or have forgotten to take a dose.

Chemotherapy by mouth can cause side effects, just like chemotherapy into a vein. It is important to know what they are. You also need to know how to store your drugs safely. You can read more about having chemotherapy at home on page 55.

Injection into a muscle or skin

Some chemotherapy drugs are given by injection into a muscle in the leg or buttock. This is called an intramuscular injection. It might feel a bit painful or uncomfortable for a short time.

Some drugs are given by injection under the skin using a very fine needle. Injections under the skin are called subcutaneous injections.

Injection into the spinal fluid (intrathecal)

A fluid called cerebrospinal fluid, or CSF, surrounds and protects the brain and spinal cord. In some cancers, such as some leukaemias, lymphomas, or brain tumours, the cancer cells can pass into the CSF. Doctors may give intrathecal chemotherapy to prevent this from happening, or to destroy any cancer cells in the CSF. Only certain chemotherapy drugs can be given in this way. Chemotherapy into a vein or by mouth cannot reach these cancer cells.

The doctor numbs an area of skin over the spine with local anaesthetic. After a few minutes, they gently insert a needle between 2 of the spinal bones, into the CSF. This is called a lumbar puncture. The doctor then injects intrathecal chemotherapy through the needle into the CSF.

Having a lumbar puncture is not usually painful, but some people may find it uncomfortable. Your cancer doctor and nurse will explain it to you, so you will know what to expect. They will make sure you are comfortable.

The most common side effect of a lumbar puncture is a headache. To help prevent this, you will be advised to drink plenty of fluids and lie flat afterwards. This may be from 1 hour to a few hours, depending on how you feel.

Into a body space (intracavitary)

Chemotherapy drugs can be given into a space (cavity) in the body. This can cause irritation or inflammation in the area the drugs are given. It does not usually cause side effects in other parts of the body.

A fine tube called a catheter is usually inserted into the body cavity and chemotherapy is put in through this tube. It may be drained out again after a set period of time. Chemotherapy can be given into the following places:

- Into the bladder (intravesical). This is used to treat early bladder cancer. Liquid chemotherapy drugs are given directly into the bladder through a catheter, which is removed when it is over. We have more information about this treatment at **macmillan.org.uk**
- Into the abdominal cavity (intraperitoneal chemotherapy). This is very occasionally used to treat ovarian cancer or mesothelioma in the abdomen (peritoneal mesothelioma).
- Between the 2 layers of the pleura (tissue that covers the outside of the lungs). Chemotherapy is sometimes put in between the 2 layers of the pleura to treat cancer cells that have spread there.
- Into a limb (isolated limb perfusion). Chemotherapy is very occasionally given directly into the blood vessels in a limb. This is to treat a skin cancer called melanoma that has come back.

Chemotherapy creams

Chemotherapy creams are used to treat some types of skin cancer. A thin layer of the cream is put on the affected skin and the area is covered with a dressing. Your specialist nurse or pharmacist will show you how to do this and will explain how often you need to apply the cream. Although the cream can irritate the skin in the area or make it sore, it will not cause side effects in other parts of the body.

Chemotherapy at home

If you are having chemotherapy at home as tablets, capsules, injections or through a pump, there are important things to remember:

- Some chemotherapy tablets, capsules or injections may need to be stored in a certain way such as away from direct light or in a fridge. Always follow the instructions given by your nurse or pharmacist.
- Other people in your household should not touch your chemotherapy drugs with bare hands.
- All drugs must be stored out of the reach of children, as they could cause serious harm if taken by accident.
- If you are having intravenous chemotherapy by pump, rarely the drug may leak from the pump or tube. You should close the clamps on the pump, wrap it in a plastic bag and wash your hands. Some hospitals provide a spill or leakage kit, which includes instructions on what to do if your pump leaks. You should then contact the nurse or doctor at the hospital straight away.
- If you feel unwell at any time of the day or night, use the contact numbers you have been given to get advice.

Side effects of chemotherapy

Possible side effects of chemotherapy

Any side effects you get will depend on the chemotherapy drugs you are having. Different drugs may cause different side effects. You may get some of the side effects mentioned, but you are very unlikely to get all of them.

Some side effects are mild and easily treated. Your doctor, nurse or pharmacist may prescribe drugs to help control them. It is very important to take the drugs exactly as they tell you. This makes them more likely to work for you. Other side effects can be harder to manage. These can often be reduced or helped in some way. Your nurse will give you advice about this.

Most side effects stop or slowly go away when chemotherapy finishes. Some side effects can be unpleasant, but the benefits of chemotherapy usually outweigh this.

If you are having a single drug, you may not have as many side effects as someone having a combination of drugs. If you are having high doses of chemotherapy, you may have more side effects.

Your cancer doctor and nurse will explain the side effects that your chemotherapy is likely to cause. The main areas of your body that may be affected by chemotherapy are areas where new cells are quickly made and replaced. This includes:

- bone marrow – where blood cells are made
- hair follicles – where hair grows
- the digestive system
- the lining of your mouth.

Your bone marrow and blood

Chemotherapy can reduce the number of blood cells made by the bone marrow. Bone marrow is a spongy material that is found in the middle of your bones. It makes special cells called stem cells. These develop into the different types of blood cells:

- red blood cells, which carry oxygen to all parts of the body
- white blood cells, which fight and prevent infection
- platelets, which help the blood to clot and prevent bleeding and bruising.

You will have regular blood samples taken to check the number of these cells in your blood. This is called a full blood count.

Risk of infection

Chemotherapy can reduce the number of white blood cells in your blood. These cells fight infection. If the number of white blood cells is low, you are more likely to get an infection or find it harder to fight an infection. A low white blood cell count is sometimes called neutropenia.

Your resistance to infection is usually lowest 7 to 14 days after chemotherapy. The number of white blood cells will usually return to normal before your next treatment. You will have a blood test before having more treatment. If your white blood cell count is low, your doctor may delay your treatment for a short time, until your cell count increases.

Infection

Developing an infection when you have a low number of white blood cells can sometimes be a serious complication of chemotherapy. But most people do not have any serious problems with infection.

Some chemotherapy treatments are more likely than others to reduce the number of white blood cells. Your doctor may prescribe antibiotics and other medicines to take during chemotherapy, to prevent an infection. These are called prophylactic drugs.

Even a mild infection can delay your chemotherapy treatment. Your doctor may wait until the infection has gone and for your blood cell levels to go back up before you have more chemotherapy.

Your chemotherapy nurse will talk to you about infection and show you how to check your temperature.

You can have an infection without having a high temperature. Drugs such as paracetamol lower your temperature, so they can hide or mask an infection.

Contact the hospital straight away on the 24-hour contact number you have been given if:

- your temperature goes over 37.5°C (99.5°F)
- you suddenly feel unwell, even with a normal temperature
- you have symptoms of an infection
- your temperature goes below 36°C (96.8°F).

Symptoms of an infection include:

- feeling shivery and shaking
- a sore throat
- a cough
- breathlessness
- diarrhoea
- needing to pass urine (pee) a lot or discomfort when you pass urine.

Chemotherapy units usually have a policy they follow when someone with low white blood cells has an infection. This is to make sure you get treatment with antibiotics straight away.

Some people may have to stay in hospital to have antibiotics given into a vein (intravenously). After a few days, you can usually have them as capsules or tablets to take at home.

Here are some tips for avoiding infection:

- Keep clean and always wash your hands thoroughly after using the toilet or before preparing food.
- Stay away from crowded places and from people who you know have an infection, such as a cold.
- Make sure your food is thoroughly cooked and ask your nurse if there are any foods you should avoid.

We have more information about avoiding infection when your immunity is low at **macmillan.org.uk/infection**

G-CSF

After chemotherapy, your nurse may give you injections under the skin of a drug called G-CSF. This encourages the bone marrow to make more white blood cells and reduces the risk of infection.

We have more information about G-CSF on our website.
Visit **macmillan.org.uk/g-csf**

Anaemia (low number of red blood cells)

Chemotherapy can reduce the number of red blood cells in your blood. Red blood cells carry oxygen around the body. If the number of red cells is low, this is called anaemia. You may have symptoms such as:

- pale skin
- lack of energy
- feeling breathless
- feeling dizzy and light-headed.

Tell your doctor or nurse if you have these symptoms.

If you are very anaemic, you may need a drip to give you extra red blood cells. This is called a blood transfusion. It is the most common way to treat anaemia. Sometimes doctors prescribe a drug called erythropoietin. This helps the body to make more red blood cells. It is given as an injection under the skin. Some people may have erythropoietin and a blood transfusion.

Increased bleeding and bruising

Chemotherapy can reduce the number of platelets in your blood. Platelets are cells that help the blood to clot.

Tell your doctor or nurse if you have any unexplained bruising or bleeding. You may have:

- nosebleeds
- bleeding gums
- heavy periods
- blood in your urine (pee) or stools (poo)
- tiny red or purple spots on your skin that may look like a rash.

Some people may need a platelet transfusion. This is given by drip (infusion). The platelets will start working immediately to prevent bruising and bleeding.

Here are some tips for avoiding injury:

- Wear protective gloves when doing work around the house or in the garden.
- Be careful to avoid bumping into things or tripping.
- Use a soft toothbrush to protect your gums from bleeding and do not floss.

Hair

Your doctor or specialist nurse will tell you if the chemotherapy is likely to cause hair loss. Knowing what to expect gives you time to prepare and find ways of coping.

Some drugs do not make your hair fall out but can make it thinner. You might notice your hair becomes dry and brittle and breaks easily. Looking after the condition of your hair can make it less likely to break.

Here are some tips for looking after your hair:

- Use gentle hair products.
- Pat hair dry after washing it and gently brush with a wide-toothed comb.
- Avoid using hairdryers, straighteners, tongs or curlers.
- Do not perm or colour your hair if it is brittle or your scalp is dry. If you do want to do this, make sure you get professional advice first.
- If you want to colour your hair, use a mild, vegetable-based colourant and test a strand of your hair first. You can also ask your hairdresser for advice.

Scalp cooling

Some people having some types of chemotherapy may be able to reduce hair loss with scalp cooling. This is done by wearing a cold cap. It may help to reduce the blood-flow and the amount of the drug reaching the scalp. But the cold cap is only used with certain drugs and types of cancer and does not always prevent hair loss. You can ask your doctor or nurse whether using one would be helpful for you. We have more information about scalp cooling at **macmillan.org.uk/scalp-cooling**

Hair loss

Some chemotherapy drugs cause all or most of your hair to fall out. This can be very upsetting. Hair loss usually starts within a few weeks of starting chemotherapy but can start within a few days. You may notice your hair coming out when you brush, comb or wash it. Or you may find hair on your pillow in the mornings.

You may lose underarm, body and pubic hair as well. Some chemotherapy drugs also make the eyelashes and eyebrows fall out.

Here are some tips for coping with hair loss:

- You may choose to cut your hair short before chemotherapy. This can stop the weight of long hair pulling on the scalp, which can make hair fall out earlier.
- Wear a hairnet, soft cap or turban at night. This stops your hair becoming tangled and helps to collect loose hair.
- You may choose to wear wigs, hats, turbans, scarves or bandanas.
- You can ask your own hairdresser to cut and style your wig for you.

Your hair will usually grow back over a few months after treatment ends. It will be very fine at first and may be a slightly different colour or texture than before. You will probably have a full head of hair after 3 to 6 months.

Wigs

If you are choosing a wig, here are some tips:

- Choose a wig that matches your natural hair.
- Get the wig fitted before you lose your hair so you can get used to wearing it.
- Get a wig with an adjustable size.

Think about whether you want to try a different hair style from the one you have.

There are different options for paying for your wig:

- NHS wigs are free in Scotland and Wales, and for people of a certain age or on a low income in England.
- Health Service wigs are free in Northern Ireland.
- If you are not entitled to a free wig, you can get one from the NHS at a subsidised price.
- You may want to buy a wig privately. You should not have to pay VAT on your wig if your hair loss is caused by cancer.

We have more information and advice in our booklet **Coping with hair loss**.

You can order our booklets and leaflets for free. Visit **orders.macmillan.org.uk** or call on **0808 808 00 00**.

The digestive system

The digestive system is made up of the stomach and bowels. Chemotherapy can affect the digestive system in different ways.

Feeling sick (nausea)

Some chemotherapy drugs can make you feel sick (nauseous) or be sick (vomit). Not all drugs cause sickness and many people have no sickness at all. Your doctor and nurse can give you drugs to prevent and control sickness.

Anti-sickness drugs

If your chemotherapy can cause sickness, you will be given anti-sickness drugs by injection or tablets before your treatment. These may be called anti-emetic drugs. You will also be given tablets to take at home. Take the drugs exactly as your nurse or pharmacist tells you. It is easier to prevent sickness than to treat it after it has started.

If you feel sick, take small sips of fluids often and eat small amounts regularly. It is important to drink enough fluids. If you continue to feel sick, or if you are sick (vomit) more than once in 24 hours, contact the hospital as soon as possible. They will give you advice. Your doctor or nurse may change the anti-sickness drug to one that works better for you.

If you are sick when taking the tablets, your doctor can prescribe injections or suppositories. You can take these until the sickness is controlled.

Try to have a small meal a few hours before chemotherapy but not just before it. If you manage to eat well in between treatments, do not worry if you cannot eat much for a couple of days after chemotherapy.

Here are some tips if you are feeling sick:

- Try eating dry food, such as toast or crackers, first thing in the morning.
- Try crystallised ginger, ginger tea or ginger biscuits, as ginger can help with nausea.
- Try sipping a fizzy drink, for example mineral water, ginger beer or ale, lemonade or soda water. Sip it slowly through a straw.
- Avoid fried, fatty foods or foods with a strong smell.
- Eat cold food if the smell of cooking bothers you.
- If possible, let someone else cook or prepare food for you.

Some complementary therapies such as acupuncture may help. But you should ask your cancer doctor before starting any complementary therapies. Some people find Sea-bands® helpful. They use acupressure to help relieve nausea. You can buy them in a chemist or online.

> **"I was pretty lucky with the side effects and the cocktail of anti-sickness tablets worked well."**
>
> Danielle

Diarrhoea

Some chemotherapy drugs can cause diarrhoea, usually in the first few days. Diarrhoea means passing more stools (poo) than is usual for you or having watery or loose stools. If you have a stoma, it means having an increased stoma output.

Tell your nurse or doctor if this happens. They can prescribe medicine to help.

Make sure you drink plenty of liquid to replace fluid you are losing with diarrhoea.

If you have diarrhoea:

- try to drink at least 2 litres (3½ pints) of fluids every day
- avoid alcohol, caffeine, milk products, high-fat foods and high-fibre foods.

Contact the hospital straight away if:

- you have diarrhoea at night
- you have diarrhoea more than 4 times in a day
- you have a moderate or severe increase in stoma activity
- the anti-diarrhoea drugs do not work within 24 hours.

You may need to go to hospital to have fluids through a drip.

Constipation

Some chemotherapy drugs, anti-sickness drugs and painkillers can cause constipation. Constipation means that you are not able to pass stools (poo) as often as you normally do. It can become difficult or painful. Here are some tips that may help:

- Drink at least 2 litres (3½ pints) of fluids each day.
- Eat high-fibre foods, such as fruit, vegetables and wholemeal bread.
- Do regular gentle exercise, like going for short walks.

If you have constipation, Tell your nurse or doctor. They can give you drugs called laxatives to prevent or treat it.

Loss of appetite

Chemotherapy can affect your appetite.

If you have a poor appetite, try to eat little amounts as often as possible. Keep snacks such as nuts, grated cheese or dried fruit handy to eat whenever you can.

It is important to try to eat well during your treatment. If you are having problems, ask your nurse for advice. You can also ask to see a dietitian. They may give you food or drink supplements. Or they may suggest changes to your diet or eating habits to help.

You can add extra energy and protein to your diet with everyday foods or by using food supplements. We have more information in our booklet **The building-up diet** (page 108).

Taste changes

You may get a bitter or metal taste in your mouth. Sucking sugar-free sweets may help with this. Some foods may taste different or have no taste. Try different foods to find out what tastes best to you. Taste changes usually get better after treatment finishes. Your nurse can give you more advice.

Helpful hints to improve taste

- Season food or add spices and herbs to add flavour when cooking.
- Use strong, flavoured sauces or gravies to make food tastier.
- Eat sharp-tasting fresh fruit and juices or try sugar-free sweets to leave a pleasant taste in your mouth.
- Try cold foods as they may have a stronger taste than hot foods.

> **“Since starting chemotherapy I often have a difficulty in chewing. I also have lost the ability to taste. Most foods, especially savoury, are quite bland, but sweet foods are generally not so bad.”**
>
> Trevor

Mouth problems

Chemotherapy can cause mouth problems, such as a sore mouth or throat, mouth ulcers or infection. Your chemotherapy nurse will explain how to care for your mouth to reduce the risk of problems.

Some chemotherapy drugs can make your mouth sore. You may get mouth ulcers about 5 to 10 days after treatment. Mouth ulcers can become infected or you may develop an infection in your mouth.

The most common mouth infection is called thrush or candidiasis. It shows as white spots on your mouth and tongue, or your tongue and mouth lining become red and swollen. Thrush is treated with anti-fungal tablets. Some people are given these tablets to prevent thrush.

Always let your doctor or chemotherapy nurse know if you have mouth ulcers, or any problems with your mouth. They can give you mouthwashes, medicines and gels to heal ulcers and clear or prevent any infection. They may prescribe painkillers to help.

Here are some tips for taking care of your mouth:

- See your dentist before you start treatment.
- Clean your teeth or dentures gently every morning, evening and after meals using a soft toothbrush.
- Rinse your mouth regularly with salt water.
- Try using a mouthwash of 1 teaspoon of bicarbonate of soda dissolved in 1 pint (570ml) of warm water.
- If your doctor or nurse gives you a mouthwash, use it as prescribed to prevent soreness.
- Gently use dental tape or floss once a day (unless you have low platelets).
- Keep your lips moist by using Vaseline® or a lip balm.

Here are some tips if your mouth is sore:

- Try to drink at least 2 litres (3½ pints) of fluid a day, including water, tea, weak coffee and soft drinks.
- Suck ice chips or have cold drinks to soothe your mouth.
- Avoid hot spices, garlic, onion, vinegar and salty food.
- Add gravies and sauces to your food to keep your mouth moist and make swallowing easier.
- Try soups and smoothies if you find it difficult to chew or swallow.
- Avoid unmixed alcoholic drinks, such as vodka and whisky, tobacco and acidic drinks, such as orange and grapefruit juice.

Tiredness

Some people feel very tired during chemotherapy. This is normal. It can be difficult to cope with, especially for people who normally have a lot of energy. It is often worse towards the end of treatment and for some weeks after it has finished.

Managing tiredness

Try to pace yourself and plan your day so you have time to rest. Family and friends are often keen to help with things like shopping, household jobs or gardening.

If you have children, you may be able to ask friends or family for help looking after them while you have chemotherapy, and for a few days after. Some people may need help with childcare – a social worker can usually arrange this for you.

Make sure you get plenty of rest. But try to do some gentle exercise, such as going for short walks. This will give you more energy and helps to keep some of your muscles working.

Some people carry on working during chemotherapy. Most employers will reduce your hours and change work duties to make things easier for you. We have more information in our booklet **Work and cancer** (page 108).

If you are having difficulty sleeping, we have information about managing sleep problems. If you feel sleepy, do not drive or operate machinery.

The tiredness will get better when chemotherapy is over. But it can be 3 or 4 months until you feel back to normal. Some people find that they still feel tired a year or so afterwards.

We have more information about coping with tiredness, including helpful tips on dealing with tiredness during chemotherapy in our booklet **Coping with fatigue (tiredness)** – page 108.

> **“I had a year of intensive chemotherapy where I was in hospital every day. I was sleeping for 18 hours a day and eating all the time. I was so tired and out of everything that I wasn't really bothered by my friends doing fun things.”**
>
> Ellis

Skin and nail changes

Your skin

Some drugs can affect your skin. It may become dry or slightly discoloured. Your skin may also be more sensitive to sunlight during and after treatment.

Tell your cancer doctor or nurse if you develop any skin changes or rashes.

Here are some tips if you have skin changes:

- Avoid wet shaving – an electric razor is less likely to cause cuts.
- Use moisturising cream if your skin is dry or itchy, but check with your nurse before using creams if you are also having radiotherapy.
- If you are out in the sun, wear a suncream with a sun protection factor (SPF) of at least 30. Choose suncream that protects skin against UVA and UVB rays, with at least 4 or 5 stars.

Nail changes

This treatment can affect your nails. They may grow more slowly or break more easily. You might notice ridges or white or dark lines across your nails. Sometimes nails can become loose or fall out. When treatment finishes, any changes usually disappear as the nails grow out.

There are things you can do to look after your nails:

- Moisturise your nails and cuticles regularly.
- Keep your nails clipped short.
- Wear gloves to protect your nails when you are doing things in the house or garden.
- Keep your hands and nails clean to help avoid infection, but avoid bathing in very hot water.
- Do not use false nails, gels or other acrylics during this treatment, as they may increase the risk of infection.
- It is fine to wear nail varnish, but try to use a water-based polish. Avoid using harsh chemicals, such as acetone, when taking off the polish.
- If your toenails are affected, wear well-fitted shoes to cushion them.

Tell your doctor or nurse if you notice changes to your nails. They can give you advice or arrange for you to see a podiatrist for foot care advice if needed.

Effects on the nerves

Some chemotherapy drugs can affect the nerves in your hands or feet. This can cause tingling or numbness, or a feeling like pins and needles. This is called peripheral neuropathy You may also find it hard to fasten buttons or do other fiddly tasks.

It is important to tell your doctor if this happens. The dose of the chemotherapy drug may need to be changed if it gets worse. Usually, peripheral neuropathy gradually gets better when chemotherapy is over, but sometimes it is permanent. We have more information about peripheral neuropathy at **macmillan.org.uk**

Effects on the nervous system

Some drugs can make you feel anxious, restless, dizzy, sleepy or have headaches. If you have any of these, it is important to tell your cancer doctor or nurse. They may be able to prescribe medicines that can help with some of these effects.

Some people find that chemotherapy makes them forgetful or unable to concentrate during or after treatment. Doctors sometimes call this cancer-related cognitive changes (CRCC) but it is sometimes known as chemo brain.

If this happens, it is usually mild. There are useful ways of managing it, such as using lists, post-it notes, calendars and your mobile phone for reminders. Doing some mental exercises, eating well, and getting enough rest can also help.

Changes in how your kidneys work

Some chemotherapy drugs can affect how well your kidneys work. Your kidney function will be checked with a blood test regularly during chemotherapy treatments.

You may be given fluids through a drip (infusion) before and after the treatment. This is to keep your kidneys working normally. The nurses may ask you to drink plenty of fluids. They may also ask you to record how much fluid you drink and the amount of urine (pee) you pass.

Changes in hearing

Some chemotherapy drugs can affect your hearing. You may have ringing in your ears, called tinnitus. You may also not be able to hear some high-pitched sounds. Rarely, your sense of balance may be affected. Any hearing loss and changes in balance may be permanent. Tinnitus usually improves when treatment ends. You may have hearing tests before, during and after treatment with some chemotherapy drugs.

Tell your cancer doctor or nurse if you notice any changes.

Blood clot risk

Cancer and some cancer treatments can increase the risk of a blood clot. Symptoms of a blood clot include:

- throbbing pain, redness or swelling in a leg or arm
- suddenly feeling breathless or coughing
- sharp chest pain, which may be worse when you cough or take a deep breath.

If you have any of these symptoms, contact the hospital straight away on the 24-hour contact number you have been given. If you cannot get through to your doctor, call the **NHS urgent advice number** on **111.**

A blood clot is serious, but it can be treated with drugs that thin the blood (anticoagulants). Your doctor or nurse can give you more information.

You can help reduce the risk of developing a blood clot by:

- staying active during treatment
- drinking plenty of fluids, especially water.

You may be given anticoagulants to help prevent a clot.

Side effects of steroids

Steroids are drugs that are often given with chemotherapy treatment. They are usually only given for short periods of time. Side effects of steroids may include:

- indigestion
- hiccups
- increased appetite
- feeling restless or having difficulty sleeping.

Taking steroids with food can help reduce indigestion. Your doctor may also prescribe drugs to protect your stomach and prevent indigestion.

Steroids can make you feel much hungrier than usual and you may gain weight. Your appetite will go back to normal when you stop taking them. If you are worried about gaining weight, talk to your doctor or nurse.

If you are having difficulty sleeping, it can help to take your steroids in the morning with food. Or if you take them twice a day, take the second dose after lunch, or in the early afternoon.

Sometimes, steroids may cause a temporary increase in your blood sugar level. You may have regular blood or urine tests to check this. If you get very thirsty or feel you are passing urine (peeing) more than usual, tell your doctor. If you have diabetes, your blood sugar levels may be higher than usual. Your doctor will talk to you about how to manage this. You may need to check your blood sugars more often and adjust your insulin or tablet dose. We have more information in our booklet **Diabetes and cancer treatment** (page 108).

After finishing a course of steroids, some people feel tired and a bit low in mood. Some people may have aches and pains. This is due to their body adjusting to the changes in steroid levels. It usually gets better within 2 to 3 days.

Effects on sex life and fertility

Having chemotherapy can sometimes affect your sex life. Side effects like tiredness or feeling sick or weak can reduce your sex drive and make having sex difficult. Feeling low in mood or anxious can also affect your sex life.

Some people continue to enjoy sex and want to keep their sex life as normal as possible. Your cancer doctor or nurse will tell you if you need to make changes to your sex life because of a treatment. For example, if you have had high-dose chemotherapy or a stem cell transplant your doctor may advise you not to have close physical contact with anyone for a while. This is to protect you from infection.

It can be difficult to start a conversation about sex with someone from your healthcare team. Some people feel embarrassed or uncomfortable talking about something so personal. But it is important to get the right information when you need it. Most health professionals are used to having these conversations.

It is also important to try to talk about how you feel with your partner. Cuddling, touching and stroking are good ways of showing your feelings even if you do not feel like having sex.

Chemotherapy should not have a long-term effect on your sex life. The side effects usually slowly improve after your treatment finishes.

We have more information on sex during cancer treatment in our booklet **Cancer and your sex life** (page 108).

Protecting your partner

Small amounts of chemotherapy, or other drugs, can get into your body fluids. This includes fluid made in the vagina and the fluid that contains sperm. To protect partners, your cancer doctor may advise that for a few days after certain drugs you use:

- a condom for vaginal or anal sex
- a condom (or a latex barrier such as a dental dam) for oral sex.

Cancer cannot be passed on to your partner and sex will not make the cancer worse.

Contraception

Some cancer treatments can be harmful to an unborn baby. During your treatment and for a time after, it is important to use contraception if you or a partner could become pregnant.

Even if the chemotherapy is likely to damage your fertility, you may still be able to start a pregnancy. Your cancer doctor or specialist nurse can tell you more about this.

There are many different types of contraception. During treatment, it is usually best to use barrier methods of contraception, such as condoms or the cap (diaphragms). Ask your cancer doctor or specialist nurse which type is best for you to use.

Pregnancy and chemotherapy

If you know you are pregnant before starting treatment, or become pregnant during treatment, tell your cancer doctor or nurse straight away. They will explain the possible risks and benefits of having chemotherapy during pregnancy.

It is sometimes possible to delay chemotherapy until after a baby is born, or to have it later in the pregnancy. This depends on:

- the type and stage of the cancer
- the drugs you need
- how many months pregnant you are.

Your cancer doctor and nurse will explain the different options to you.

This can be a difficult and distressing time, especially if you need to make decisions about the pregnancy. You will need time to think about the information you have been given and to talk about it with other people. Your cancer team will help to support you. If you need more specialised help, they can refer you to a counsellor. You may find our booklet **Cancer and pregnancy** helpful (page 108). Or you can also talk to our cancer support specialists.

Call the Macmillan Support Line free on **0808 808 00 00**, 7 days a week, 8am to 8pm.

Breastfeeding and chemotherapy

Breastfeeding during chemotherapy is not advised. This is because the drugs could be passed to a baby through breast milk. You may be able to express extra milk before chemotherapy starts and freeze it to use later.

During chemotherapy, you may be able to express milk. You cannot keep or use it, but it may mean that you are still producing milk when your treatment finishes.

You may be able to start breastfeeding after chemotherapy. But this will depend on whether you are having any other treatment that could interfere with breastfeeding. Your cancer doctor and nurse will tell you about this.

Having chemotherapy will not affect your ability to breastfeed in the future.

Early menopause

Chemotherapy may cause an early menopause. Doctors usually say early menopause is before the age of 45. During menopause, periods stop as the ovaries stop producing certain hormones. It can cause symptoms like hot flushes, vaginal dryness, anxiety, mood swings and a reduced sex drive (libido). Early menopause can increase the risk of bone thinning (osteoporosis).

Depending on the type of cancer, you may be able to have HRT (hormone replacement therapy). This replaces the hormones your ovaries are no longer producing. It can improve some symptoms of menopause and protect your bones and heart.

But if you have a hormone-related cancer, such as breast cancer, doctors do not usually recommend HRT. It contains oestrogen which may increase the risk of the cancer coming back.

To find out more, visit **macmillan.org.uk/information-and-support/coping/side-effects-and-symptoms/menopause**

Managing menopausal symptoms

If your doctor does not advise you to take HRT or if you do not want to take it, there are different ways that symptoms can be managed. If your symptoms are affecting daily life, ask your doctor about other medicines or therapies that may help with menopausal symptoms.

Some complementary therapies, such as controlled breathing, yoga or acupuncture, may help control your menopausal symptoms. Some of these therapies may be available on the NHS. Your GP can give you more details. If you would like to find a complementary therapist, make sure they are properly qualified and registered. We have more information in our booklet **Cancer and complementary therapies** (page 108).

Effects on fertility

Some chemotherapy drugs can affect your fertility. This is whether you can get pregnant or make someone pregnant. This may be temporary or permanent, depending on the treatment that you have.

If you are worried about this, it is important to talk with your doctor before you start treatment. If you have a partner, it is a good idea to include them in this discussion.

It is important to know if your fertility is likely to be affected before chemotherapy starts. You can then decide if you want to be referred to a fertility specialist. They can discuss possible options to help preserve your fertility.

Although chemotherapy can affect fertility, it is still possible to start a pregnancy during chemotherapy. It is important to avoid pregnancy when you are having chemotherapy, as the drugs could harm a developing baby. We have more information in our booklet **Cancer and fertility** (page 108).

Feelings about infertility

If you were planning to have children, infertility can be very hard to come to terms with.

You may find it helpful to talk about your feelings with a trained counsellor or therapist who specialises in fertility problems. Your doctor or specialist nurse may be able to arrange this. You can also talk to our cancer support specialists.

Late effects of chemotherapy

Sometimes side effects do not go away, or they can develop months or years after treatment. These are called late effects.

Late effects may be minor and not affect your daily life much. Or, they may be more difficult to live with. There are usually things that can help you cope with them. Some late effects improve over time and may eventually go away on their own.

Your cancer doctor or specialist nurse can explain any possible late effects of your chemotherapy treatment. Different drugs cause different late effects. Some drugs may cause an early menopause and infertility.

Numb or tingling hands or feet (peripheral neuropathy)

Sometimes the feeling in your hands or feet can be affected by chemotherapy. This usually gets slowly better after treatment ends. This may take several months or more. Sometimes nerves do not fully recover and you may continue to have difficulty with fiddly tasks. This could be things like picking up very small objects or doing up buttons. People generally find these kinds of changes become less noticeable over time as they adapt and find ways of coping with them.

We have more information about peripheral neuropathy on our website. Visit **macmillan.org.uk/peripheral-neuropathy**

Effects on the heart, lungs or kidneys

Some chemotherapy drugs can increase the risk of heart, lung or kidney problems. Your doctor can give you more information about this. There are things you can do to help improve your general health.

We have helpful tips on looking after your heart and how late effects can be monitored and managed in our booklet **Heart health and cancer treatment** (page 108).

Second cancer

Some chemotherapy drugs can increase the risk of developing some types of cancer later in life. This is rare, and treatments are designed to limit these risks as much as possible. Talk to your doctor if you are worried about this.

Life during chemotherapy

Effects on daily life

Many different areas of your life can be affected by cancer and its treatment. You might have very few changes to your daily life during treatment. But this depends on the type of chemotherapy you are having.

Even if you feel unwell after a cycle of chemotherapy, you may recover quickly. You may have time to do the things you usually do before your next cycle. If you have symptoms caused by the cancer, your chemotherapy may make you feel better by relieving them.

You might find you go through many different emotions during treatment. You might also find you need to take a break from work or need support with your finances. Some people can continue to work, with time off and shorter working hours.

Social life

Depending on how you feel, you should still be able to have a social life if you plan ahead.

If you are going out for the evening, try to rest during the day so you have more energy at night. If you are going out for a meal, take anti-sickness tablets if you need to, before you go.

If you have an important social event coming up, ask your cancer doctor if your treatment date can be changed so that you feel as well as possible for the occasion.

Alcohol

For most people, having an occasional drink should not affect your chemotherapy treatment. But it is best to check with your cancer doctor or specialist nurse first.

Vaccinations

Vaccinations can reduce your risk of getting certain infections. If you are planning to have any vaccinations, it is always best to discuss this with your cancer doctor or specialist nurse. If you are having cancer treatment, you may not be able to have some vaccinations.

Your doctor or nurse may talk to you about having a flu vaccination and a covid vaccination. These are both inactivated vaccines that can help reduce the risk of infection. As they are not live vaccines, they cannot harm you when your immunity is reduced. Talk to your doctor about the best time to get these vaccines to give you the most protection.

You will need to avoid live vaccines if your immune system is weak. Live vaccines include measles, mumps, rubella (MMR), oral typhoid, BCG and yellow fever and some shingles vaccines. Live vaccines contain a very weak version of the illness they are vaccinating you against. If your immune system is weak, you may become unwell.

If you are planning a holiday abroad and need certain vaccinations before you travel, check with your cancer doctor or specialist nurse first.

Holidays and travel insurance

If you are planning a holiday, it is important to speak to your cancer doctor or nurse before you make plans. When buying travel insurance, you need to check whether the policy will cover claims related to pre-existing medical conditions, including cancer. There are some companies that specialise in providing this kind of travel insurance. Ideally, you should start looking before booking a holiday.

Your feelings

You may find that coping with cancer and chemotherapy can make you feel anxious, frightened or depressed.

Sometimes, these feelings can be caused by changes to your daily routine. Or it may be something more obvious, such as a particular side effect. It is natural to have these feelings during your treatment.

Everyone needs support during difficult times, such as being diagnosed with cancer or going through treatment. It is often helpful to talk about your feelings with your family or close friends.

You can also talk to your cancer doctor, nurse or another healthcare professional about how you are feeling. It is important to let them know if you are struggling, or if you think you may be depressed. They can arrange more support. This could be referring you to a counsellor or doctor who specialises in emotional problems.

People often talk about having a positive attitude. This does not mean being cheerful and happy all the time. When you are coping with a serious illness, it is normal to feel worried or low sometimes. Accepting that you will have days when you do not feel positive is part of coping with cancer.

Finding information

Knowing more about the cancer and the side effects of your treatment can help you feel more in control. You may have questions about the effects of chemotherapy on the cancer and your life in general. Getting information and answers to these questions can help to reduce anxiety.

If you do not understand something, let your doctor or nurse know. Most doctors and nurses are very willing to answer any questions and keep you up-to-date on your progress.

Keeping a journal or blog

You may find it helpful to keep a diary, journal or blog of your treatment. This can have a practical use, as well as letting you write down your feelings. A diary also allows you to write down things that you find difficult to talk about. Sometimes, it can be used to help you get ready to talk to someone about a problem. Or you can use it to describe feelings that perhaps you do not feel able to talk about.

If you keep notes about any side effects you have, you can use them to talk to your doctor or nurse at your next appointment. It can help you to see how things change when different medicines are used. Changes to reduce side effects can often be made by using this kind of information.

Help with money and benefits

When you are affected by cancer, you may need help with extra costs. Or you may need support with money if you have to stop working. We have more information online about Statutory Sick Pay and benefits you may be entitled to. We also have information for carers (page 108).

Benefits are payments from the government to people who need help with money. You can find out more about benefits and apply for them online. Go to:

- **gov.uk** if you live in England or Wales
- **socialsecurity.gov.scot** if you live in Scotland
- **nidirect.gov.uk** if you live in Northern Ireland.

You can also get information about benefits and other types of financial help from Citizens Advice if you live in England, Scotland or Wales, or Advice NI if you live in Northern Ireland.

Our booklet **Help with the cost of cancer** has lots more information (page 108).

Macmillan Grants

Macmillan Grants are small, one-off payments to help people with the extra costs that cancer can cause. They are for people who have a low level of income and savings.

If you need things like extra clothing or help paying heating bills, you may be able to get a Macmillan Grant. A grant from Macmillan does not usually affect the benefits you are entitled to. It is an extra bit of help, not a replacement for other support.

To find out more, or to apply, call on **0808 808 00 00** or visit **macmillan.org.uk/grants**

Insurance

If you have, or have had, cancer, you may find it hard to get certain types of insurance.

If you are thinking about buying insurance or making a claim, one of our money advisers can help. You can call them on **0808 808 00 00**.

We have more information on travel insurance in our booklet **Travel and cancer** (page 108). Our Online Community forum on travel insurance may also be helpful, visit **macmillan.org.uk/community**

Work

You may not know how cancer will affect your work, now or in the future.

It is a good idea to talk to your manager or human resources (HR) department soon after you are diagnosed. This will help them to support you better.

Your cancer doctor, GP or specialist nurse can help you decide whether you should go back to work, and when.

Our booklets **Work and cancer**, **Working while caring for someone with cancer** and **Self-employment and cancer** have more information that may be helpful. You can also find out more about your employment rights in our booklet **Your rights at work when you are affected by cancer** (page 108).

We also have more information about work on our website.
Visit **macmillan.org.uk/work**

You can order our booklets and leaflets for free.
Visit **orders.macmillan.org.uk** or call on **0808 808 00 00**.

After treatment

Follow-up

After your chemotherapy has finished, you will have regular check-ups. You may also have scans or x-rays. This will depend on the type of cancer and the treatments you have had.

You may get anxious before your appointments. This is normal. It may help to get support from family or friends. You can also talk to our cancer support specialists on **0808 808 00 00**.

Or you can also visit our chemotherapy forum to talk with people who have had chemotherapy. Visit **macmillan.org.uk/community**

Follow-up appointments are a good opportunity to discuss any problems or worries you have. It may help to make a list of questions before you go so you do not forget anything important.

If you have any problems, or notice any new symptoms in between your appointments, tell your GP, specialist nurse or cancer doctor as soon as possible. Do not wait until your next appointment – you can ask for an earlier one.

You may have your follow-up appointments at a nurse-led clinic and only see your cancer specialist if something needs to be checked further. Instead of routine appointments, you may be asked to contact your nurse or cancer specialist if there is anything you are worried about.

Beginning to recover

You may have mixed emotions when you get to the end of your chemotherapy treatment. You will probably feel relieved, but may feel anxious or uncertain. You may feel ready to get on with your life after chemotherapy, but sometimes you may feel less positive. We have more information in our booklets **How are you feeling? The emotional effects of cancer** and **Your feelings after cancer treatment**.

It is important to accept that it will take you time to recover and you may feel tired for a while. You may also have new challenges to cope with, such as physical effects caused by the cancer or its treatment. It usually takes time to adjust to these and find out what is now normal for you.

When your treatment is over, you may want to think about making some positive changes to your lifestyle. Many people find that over time they settle back into their usual routines. But it is important to remember that support is available to help you with any physical or emotional problems you have. We have more information in our booklets **Life after cancer treatment** and **What to do after cancer treatment ends: 10 top tips**.

You can order our booklets and leaflets for free.
Visit **orders.macmillan.org.uk** or call on **0808 808 00 00**.

What you can do

There are some things you can do that will help improve your health:

- Regular physical activity is good for your heart and lungs, and it keeps your bones healthy. We have information about heart health and cancer treatment, which has helpful tips on looking after your heart and how late effects can be monitored and managed. You may find our booklets **Physical activity and cancer** and **Heart health and cancer treatment** useful (page 108).
- Keeping to a healthy weight and eating healthily is good for your heart and bones.
- If you smoke, giving up is the best decision you can make for your health. Smoking is a major risk for heart and lung problems and also affects your bone health.
- Complementary therapies may help you feel better and reduce any stress and anxiety. We have more information in our booklet **Complementary therapies and cancer** (page 108).

How other people can help

There may be times when you want to be alone with your thoughts. At other times, sharing your feelings can be a relief.

Support groups

Support groups can be a good way to talk to other people going through the same things as you. Talking with other people can be a good way of sharing feelings, and you can also pick up some coping tips. Our Online Community will give you a chance to share experiences, ask questions and talk to people who understand.

We also have more information in our booklet **Talking about cancer** (page 108).

Family and friends

Family and friends often want to help you. But they may find it hard to understand exactly what you are going through.

Good communication is really important. Try to be open and honest about how your treatment is going and how you feel about it. This will help your family and friends understand what is happening. It will also give them the chance to support you.

We have information for family members and friends of people with cancer in our booklet **Cancer and relationships: support for partners, families and friends** (page 108). It looks at the difficulties people may have when talking about cancer.

> **"I worried about my children, but they were wonderful. I explained to them before the treatment what was going to happen. They were prepared and coped really well. The support of my family stopped me from being isolated, as I am sure many people feel."**
>
> Susmita

Further information

About our information

We provide expert, up-to-date information about cancer. And all our information is free for everyone.

Order what you need

You may want to order more booklets or leaflets like this one. Visit **orders.macmillan.org.uk** or call us on **0808 808 00 00**.

We have booklets about different cancer types, treatments and side effects. We also have information about work, financial issues, diet, life after cancer treatment and information for carers, family and friends.

Online information

All our information is also available online at **macmillan.org.uk/information-and-support** You can also find videos featuring stories from people affected by cancer, and information from health and social care professionals.

Other formats

We also provide information in different languages and formats, including:

- audiobooks
- Braille
- British Sign Language
- easy read booklets
- eBooks
- large print
- translations.

Find out more at **macmillan.org.uk/otherformats**

If you would like us to produce information in a different format for you, email us at **informationproductionteam@macmillan.org.uk** or call us on **0808 808 00 00**.

The language we use

We want everyone affected by cancer to feel our information is written for them.

We try to make sure our information is as clear as possible. We use plain English, avoid jargon, explain any medical words, use illustrations to explain text, and make sure important points are highlighted clearly.

We use gender-inclusive language and talk to our readers as 'you' so that everyone feels included. Where clinically necessary we use the terms 'men' and 'women' or 'male' and 'female'. For example, we do so when talking about parts of the body or mentioning statistics or research about who is affected. Our aims are for our information to be as clear and relevant as possible for everyone.

You can read more about how we produce our information at **macmillan.org.uk/ourinfo**

Other ways we can help you

At Macmillan, we know how a cancer diagnosis can affect everything, and we are here to support you.

Talk to us

If you or someone you know is affected by cancer, talking about how you feel and sharing your concerns can really help.

Macmillan Support Line

Our free, confidential phone line is open 7 days a week, 8am to 8pm. We can:

- help with any medical questions you have about cancer or your treatment
- help you access benefits and give you financial guidance
- be there to listen if you need someone to talk to
- tell you about services that can help you in your area.

Our trained cancer information advisers can listen and signpost you to further support. Call us on **0808 808 00 00**. We are open 7 days a week, 8am to 8pm.

You can also email us, or use the Macmillan Chat Service via our website. You can use the chat service to ask our advisers about anything that is worrying you. Tell them what you would like to talk about so they can direct your chat to the right person. Click on the 'Chat to us' button, which appears on pages across the website. Or go to **macmillan.org.uk/talktous**

If you would like to talk to someone in a language other than English, we also offer an interpreter service for our Macmillan Support Line. Call **0808 808 00 00** and say, in English, the language you want to use. Or send us a web chat message saying you would like an interpreter. Let us know the language you need and we'll arrange for an interpreter to contact you.

Macmillan Information and Support Centres

Our information and support centres are based in hospitals, libraries and mobile centres. Visit one to get the information you need and speak with someone face to face. If you would like a private chat, most centres have a room where you can speak with someone confidentially.

Find your nearest centre at **macmillan.org.uk/informationcentres** or call us on **0808 808 00 00**.

Help with money worries

Having cancer can bring extra costs such as hospital parking, travel fares and higher heating bills. If you have been affected in this way, we can help.

Financial guidance

Our financial team can give you guidance on mortgages, pensions, insurance, borrowing and savings.

Help accessing benefits

You can speak to our money advisers for more information. Call us free on **0808 808 00 00**. Visit **macmillan.org.uk/financialsupport** for more information about benefits.

Macmillan Grants

Macmillan offers one-off payments to people with cancer. A grant can be for anything like heating bills or extra clothing.

Call us on **0808 808 00 00** to speak to find out more about Macmillan Grants.

Help with work and cancer

Whether you are an employee, a carer, an employer or are self-employed, we can provide support and information to help you manage cancer at work. Visit **macmillan.org.uk/work**

Talk to others

No one knows more about the impact cancer can have on your life than those who have been through it themselves. That is why we help bring people together in their communities and online.

Support groups

Whether you are someone living with cancer or a carer, family member or friend, we can help you find support in your local area, so you can speak face to face with people who understand. Find out about support groups in your area by calling us or by visiting **macmillan.org.uk/selfhelpandsupport**

Online Community

Thousands of people use our Online Community to make friends, blog about their experiences and join groups to meet other people going through the same things. You can access it any time of day or night. Share your experiences, ask questions, or just read through people's posts at **macmillan.org.uk/community**

Macmillan healthcare professionals

Our nurses, doctors and other health and social care professionals give expert care and support to individuals and their families. Call us or ask your GP, consultant, district nurse or hospital ward sister if there are any Macmillan professionals near you.

Other useful organisations

There are lots of other organisations that can give you information or support. Details correct at time of printing.

General cancer support organisations

Cancer Black Care

Tel **0208 961 4151**
www.cancerblackcare.org.uk
Offers UK-wide information and support for people from Black and ethnic minority communities who have cancer. Also supports their friends, carers and families.

Cancer Focus Northern Ireland

Helpline **0800 783 3339**
www.cancerfocusni.org
Offers a variety of services to people affected by cancer in Northern Ireland.

Cancer Research UK

Helpline **0808 800 4040**
www.cancerresearchuk.org
A UK-wide organisation that has patient information on all types of cancer. Also has a clinical trials database.

Daisy Network

www.daisynetwork.org.uk
A support group for women who have early ovarian failure.
They have information about premature menopause and related issues.
Also a mailing list for subscribers and details of other helpful groups.
Membership fee of £20 a year.

Look Good Feel Better

Tel **0137 274 7500**
www.lookgoodfeelbetter.co.uk
Holds free skincare and makeup workshops to help with the visible side effects of cancer treatment and aims to boost confidence and well-being.

Macmillan Cancer Voices

www.macmillan.org.uk/cancervoices
A UK-wide network that enables people who have or have had cancer, and those close to them such as family and carers, to speak out about their experience of cancer.

Maggie's

Tel **0300 123 1801**
www.maggies.org
Has a network of centres in many locations throughout the UK. Provides free information about cancer and financial benefits. Also offers emotional and social support to people with cancer, their family, and friends.

Penny Brohn UK

Tel **0303 300 0118**
www.pennybrohn.org.uk
Offers physical, emotional and spiritual support across the UK, using complementary therapies and self-help techniques.

Tenovus

Helpline **0808 808 1010**
www.tenovuscancercare.org.uk
Aims to help everyone in the UK get equal access to cancer treatment and support. Funds research and provides support such as mobile cancer support units, a free helpline, benefits advice and an online 'Ask the nurse' service.

Support for older people

Age UK

Advice line **0800 678 1602**
www.ageuk.org.uk
Provides information and advice for older people across the UK via the website and advice line. Also publishes impartial and informative fact sheets and advice guides.

LGBT-specific support

LGBT Foundation

Tel **0345 330 3030**
www.lgbt.foundation
Provides a range of services to the LGBT community, including a helpline, email advice and counselling. The website has information on various topics including sexual health, relationships, mental health, community groups and events.

OUTpatients (formerly called Live Through This)

www.outpatients.org.uk
A safe space for anybody who identifies as part of the queer spectrum and has had an experience with any kind of cancer at any stage. Also produce resources about LGBT cancer experiences. OUTpatients run a peer support group with Maggie's Barts.

Support for carers

Carers Trust

Tel **0300 772 9600**
www.carers.org
Provides support, information, advice and services for people caring at home for a family member or friend. You can find details for UK offices and search for local support on the website.

Carers UK

Helpline (England, Scotland, Wales) **0808 808 7777**
Helpline (Northern Ireland) **028 9043 9843**
www.carersuk.org
Offers information and support to carers across the UK. Has an online forum and can put people in contact with local support groups for carers.

Cancer registries

The cancer registry

The cancer registry is a national database that collects information on cancer diagnoses and treatment. This information helps the NHS and other organisations plan and improve health and care services.

There is a cancer registry in each country in the UK. They are run by the following organisations:

England – National Disease Registration Service (NDRS)

www.digital.nhs.uk/ndrs/patients

Northern Ireland Cancer Registry

Tel **0289 097 6028**
www.qub.ac.uk/research-centres/nicr/AboutUs/Registry

Scotland – Public Health Scotland (PHS)

www.publichealthscotland.scot/our-areas-of-work/conditions-and-diseases/cancer/scottish-cancer-registry-and-intelligence-service-scris/overview

Wales – Welsh Cancer Intelligence and Surveillance Unit (WCISU)

Tel **02920 104278**
phw.nhs.wales/wcisu

Your chemotherapy

Drug name	Dose	When do I take it?

Number of cycles planned:

Dates:

Treatment will be reviewed on:

How do I take it? (E.g. injection or liquid tablet)	**Any special instructions?** (E.g. with food or on an empty stomach?)	**Possible side effects**

If there are any problems, contact:

- **In clinic hours**
- **At other times**

Tell the doctor or nurse:

- **Your name**
- **Your hospital number**
- **Your diagnosis**
- **Your chemotherapy treatment**
- **Name of your cancer doctor**

Questions you can ask about chemotherapy

Here are some questions you may want to ask your cancer doctor or specialist nurse.

What are the contact telephone numbers I should use, and who do I contact if I have problems during the night?

How long will my whole course of chemotherapy take?

How many cycles of chemotherapy will I have?

Will I have to stay in hospital?

Can I have the treatment closer to home?

Will I need any tests before or after chemotherapy?

What are the likely side effects of the chemotherapy?

What can I do to help myself or prevent side effects?

Are there any long-term effects I should know about?

Will the chemotherapy drugs affect my fertility?

Any other questions you may have:

Your notes and questions

Disclaimer

We make every effort to ensure that the information we provide is accurate and up to date but it should not be relied upon as a substitute for specialist professional advice tailored to your situation. So far as is permitted by law, Macmillan does not accept liability in relation to the use of any information contained in this publication, or third-party information or websites included or referred to in it. Some photos are of models.

Thanks

This booklet has been written, revised and edited by Macmillan Cancer Support's Cancer Information Development team. It has been approved by Senior Medical Editor, Prof Tim Iveson, Consultant Oncologist.

With thanks to: Dr Charlotte Benson, Consultant Medical Oncologist; Dr Ruth Board, Consultant Medical Oncologist; Jenny King, Chemotherapy Clinical Nurse Specialist; Catherine Loughran, Lead Cancer Pharmacist; Dawn Platt, Clinical Nurse Specialist; Melanie Powell, Consultant Medical Oncologist; Karen Stanley, Clinical Nurse Specialist; and Colin Ward, Lead Pharmacist.

Thanks also to the people affected by cancer who reviewed this edition, and those who shared their stories.

We welcome feedback on our information. If you have any, please contact **informationproductionteam@macmillan.org.uk**

Sources

Below is a sample of the sources used in our chemotherapy information. If you would like more information about the sources we use, please contact us at **informationproductionteam@macmillan.org.uk**

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Can you do something to help?

We hope this booklet has been useful to you. It is just one of our many publications that are available free to anyone affected by cancer. They are produced by our cancer information specialists who, along with our nurses, benefits advisers, campaigners and volunteers, are part of the Macmillan team. When people are facing the toughest fight of their lives, we are here to support them every step of the way.

We want to make sure no one has to go through cancer alone, so we need more people to help us. When the time is right for you, here are some ways in which you can become a part of our team.

5 ways you can help someone with cancer

1. **Share your cancer experience**
   Support people living with cancer by telling your story, online, in the media or face to face.
2. **Campaign for change**
   We need your help to make sure everyone gets the right support. Take an action, big or small, for better cancer care.
3. **Help someone in your community**
   A lift to an appointment. Help with the shopping. Or just a cup of tea and a chat. Could you lend a hand?
4. **Raise money**
   Whatever you like doing you can raise money to help. Take part in one of our events or create your own.
5. **Give money**
   Big or small, every penny helps. To make a one-off donation see over.

Please fill in your personal details

Mr/Mrs/Miss/Other

Name

Surname

Address

Postcode

Phone

Email

Please accept my gift of £
(Please delete as appropriate)

I enclose a cheque / postal order / Charity Voucher made payable to Macmillan Cancer Support
OR debit my:
Visa / MasterCard / CAF Charity Card / Switch / Maestro

Card number
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Valid from
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Expiry date
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Security number
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Macmillan Cancer Support and our trading companies would like to hold your details in order to contact you about our fundraising, campaigning and services for people affected by cancer. If you would prefer us not to use your details in this way please tick this box. ☐

In order to carry out our work we may need to pass your details to agents or partners who act on our behalf.

If you would rather donate online go to **macmillan.org.uk/donate**

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Please cut out this form and return it in an envelope (no stamp required) to: Supporter donations, Freepost RUCY-XGCA-XTHU, Macmillan Cancer Support, PO Box 791, York House, York YO1 0NJ

MACMILLAN CANCER SUPPORT

This booklet is about chemotherapy. It is for anyone who is having chemotherapy treatment for cancer. There is also information for carers, family members and friends.

The booklet explains how chemotherapy works, how it is given and possible side effects. It also has information about emotional, practical and financial issues.

At Macmillan, we give people with cancer everything we've got. If you are diagnosed, your worries are our worries. We will help you live life as fully as you can.

For information, support or just someone to talk to, call **0808 808 00 00** or visit **macmillan.org.uk**

Would you prefer to speak to us in another language? Interpreters are available. Please tell us in English the language you would like to use. Are you deaf or hard of hearing? Call us using Relay UK on **18001 0808 808 00 00**, or use the Relay UK app.

Need information in different languages or formats? We produce information in audio, interactive PDFs, easy read, Braille, large print and translations. To order these, visit **macmillan.org.uk/otherformats** or call our support line.

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