

Chemotherapy

This information is about chemotherapy.

Any words that are underlined are explained in the word list at the end.

Many people with cancer will have chemotherapy as part of their treatment.

Some people also have other treatments such as targeted therapies, radiotherapy or surgery. The doctors at the hospital will talk to you about your treatment. We also have information in [language] about these treatments.

If you have any questions, ask your doctor, nurse or pharmacist at the hospital where you are having your treatment.

If you have any questions or want someone to talk to, you can call Macmillan Cancer Support on **0808 808 00 00**, Monday to Friday, 9am to 8pm. We have interpreters, so you can speak to us in your own language. When you call us, please tell us in English which language you need (say “xxxxx”).

We have more information in [language] about different types of cancer, treatments and living with cancer. Visit [macmillan.org.uk/translations](https://www.macmillan.org.uk/translations) or call us on **0808 808 00 00**.

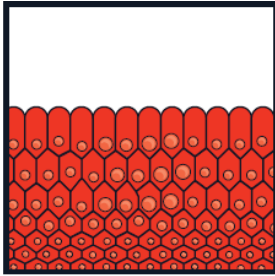
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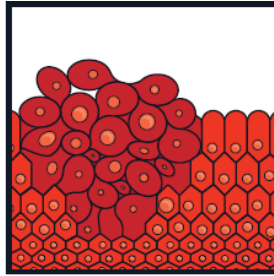
What is cancer?

Cancer starts in the cells in our body. Cells are the tiny building blocks that make up the organs and tissues of our body. Usually, these cells divide to make new cells in a controlled way. This is how our bodies grow, heal and repair. Sometimes, this goes wrong and the cell becomes abnormal. The abnormal cell keeps dividing and making more and more abnormal cells. These cells form a lump called a tumour.

Normal cells



Cells forming a tumour



Not all lumps are cancer. A lump that is not cancer is called benign. It cannot spread to anywhere else in the body. A lump that is cancer is called malignant. It can grow into other areas of the body.

Cancer cells sometimes break away from the first cancer and travel through the blood or lymphatic system to other parts of the body. Cancer cells that spread and develop into a tumour somewhere else in the body are called a secondary cancer.

What is chemotherapy?

Chemotherapy drugs destroy cancer cells. The drugs are carried around the body in the blood. The drugs damage cancer cells so that they die. Healthy cells can also be damaged but they will usually repair themselves.

You may have one or more drugs during your treatment.

When is chemotherapy used?

Chemotherapy can be used on its own or with other types of treatment such as targeted therapies, surgery or radiotherapy. It can be given:

- as the main treatment for certain types of cancer
- before other treatments, to make the cancer smaller
- at the same time as other treatments
- after other treatments, to try to stop the cancer coming back
- to help someone feel better or live longer, if the cancer cannot be cured.

Chemotherapy is also sometimes used to treat conditions that are not cancer.

Having chemotherapy

You will usually have your chemotherapy as a course of treatment sessions. Each session is followed by some rest days when you have no chemotherapy. This is called a **cycle** of treatment. You will usually have a few cycles of chemotherapy. How many you have depends on what type of cancer you have. Your cancer doctor will talk to you about how many cycles you need.

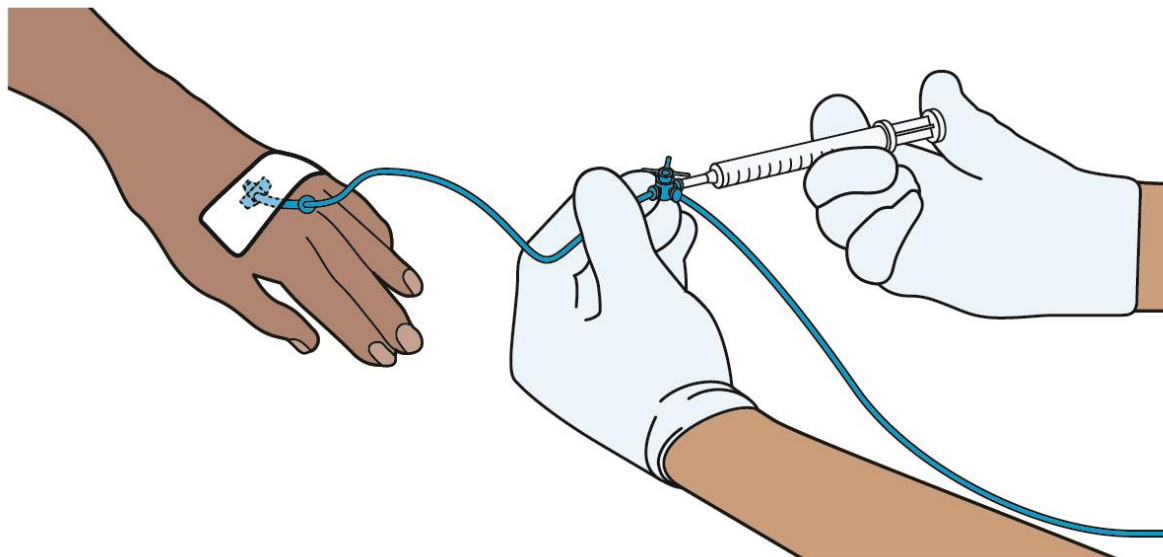
Chemotherapy drugs can be given in different ways. They can be given:

- into a vein
- as tablets or capsules
- by injection under the skin
- by injection into a muscle
- by injection into the fluid around the spine
- into an area such as the bladder
- as a cream for some skin cancers.

Having chemotherapy into a vein

Most chemotherapy drugs are given into a vein. They are usually given through a small tube called a cannula. The nurse will put the cannula into a vein in your hand or arm. The nurse will then connect the cannula to either a fluid bag or a syringe with chemotherapy inside. The cannula will be taken out before you go home.

A cannula:



Chemotherapy can also be given through a tube in your arm or chest. A line in your arm is called a PICC line. A line in your chest is called a central line. The line stays in during your treatment. Your nurse will talk to you about this if you need one.

A central line:



A PICC line:



Many people worry that chemotherapy will be painful, or that they will feel different when it is being given. Having chemotherapy into a vein should not be painful, so tell your nurse straight away if it hurts.

Sometimes, a portable pump can be used to give chemotherapy at home.

Having chemotherapy as tablets

Chemotherapy tablets can be taken at home. Only some types of chemotherapy are tablets. It is important to remember that they can still have side effects.

Understanding your treatment

Before you have treatment, your doctor, nurse or pharmacist will explain:

- why you need it
- how often you will have it
- the possible side effects
- how you may feel after the treatment.

No treatment should be given unless you understand why you are having it and how you may feel. You will be asked to sign a form to show that you agree to the treatment and understand its possible side effects. This is called a consent form.

It is a good idea to take someone with you who speaks [language] and English. The hospital may have interpreters, but try to ask for one in advance if you would like one.

Many people are worried at the thought of having chemotherapy. It can help to ask your doctor, nurse or pharmacist any questions you have about your treatment.

Tests before treatment

You may need some tests before starting your treatment. These help the doctors check that you are well enough to have your treatment. These usually include blood tests and maybe tests on your urine or heart. Sometimes, you may need to have x-rays or scans. You will also have your height and weight measured. Women may be asked to take a pregnancy test.

Before each treatment, you may have a blood test. This may be on the day of your treatment or a day or two before. Your doctor or nurse will check your blood results and ask you how you have felt since your last treatment.

Where will you have treatment?

You usually have treatment in a day unit or a hospital ward. Sometimes you can have it at home. You can talk to your doctor, nurse or pharmacist about where you will have treatment. It is important to make sure that this is the safest place for you to have it. You may need to travel for your treatment. Talk to your nurse if you need help getting to hospital or if you need help with the cost of travelling there.

How long does treatment take?

You can usually have chemotherapy into a vein as a 'day patient'. This means you do not need to stay overnight and you can go home after the treatment. Treatment may take from half an hour to a few hours. Some people may need to stay in hospital for a short time.

Your course of treatment will usually last for a few months. This will depend on what type of cancer you have.

Changes to your treatment plan

Your doctors use tests to check the effect of the treatment on your body. Sometimes your treatment may need to be delayed or changed to give your body time to recover. Your doctor will talk to you about this.

Side effects

Chemotherapy drugs can cause side effects that make you feel unwell. This is because they affect healthy cells in your body. Most side effects will improve after treatment ends, but some can last longer. Your doctor, nurse or pharmacist will talk to you about any side effects you may get.

Different drugs cause different side effects. Some people have very few side effects while others may have more.

We describe the most common side effects here. It is unlikely that you will get all of these. If you notice any side effects which are not listed here, or if you have any questions about side effects, ask your doctor, nurse or pharmacist.

Your nurse will give you telephone numbers so you can call the hospital if you feel unwell or need advice. You can call any time of the day or night. Save these numbers in your phone or keep them somewhere safe.

Infection

Chemotherapy can reduce the number of white blood cells in your blood. This is called neutropenia. This makes you more likely to get an infection.

Contact the hospital straight away on the contact number you've 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, such as:
 - feeling hot or cold
 - feeling shaky
 - a sore throat
 - a cough
 - diarrhoea
 - needing to pee a lot.

Your white blood cells usually return to normal before your next treatment. You will have a blood test before having more chemotherapy. If your white blood cells are still low, your doctor may delay your treatment for a short time.

Sometimes you may have injections of a drug called G-CSF to help your bone marrow make more white blood cells.

Anaemia

Chemotherapy can reduce the number of red blood cells in your blood. This can make you feel tired and breathless. Tell your doctor or nurse if you feel like this. You may need to be given extra red blood cells (blood transfusion).

Bruising and bleeding

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 bruising or bleeding. This includes nosebleeds, bleeding gums, blood spots or rashes on the skin. Some people may need to be given extra platelets.

Tiredness

Feeling very tired is a common side effect. It is often worse towards the end of treatment. It can last for some time after your treatment finishes. Try to get as much rest as you need. It helps to also do some gentle exercise such as short walks. If you feel sleepy, do not drive or operate machines.

Feeling sick or being sick

You might feel sick if you have chemotherapy. Your doctor may give you anti-sickness drugs (medicine) to help. Take them exactly as your doctor, nurse or pharmacist explains to you. If you still feel sick, contact the hospital as soon as possible. They can give you advice and change the medicine to one that works better for you.

Constipation

Chemotherapy can cause constipation. Drinking lots of fluids, eating foods with lots of fibre, and taking gentle exercise can help. If you still have constipation, you may need to take a medicine called a laxative. Your doctor can give these to you.

Diarrhoea

Chemotherapy can also cause diarrhoea. Your doctor or nurse will tell you if this might happen with your treatment. They will also tell you when you should contact the hospital if this happens. There are medicines that can help. It is important to drink plenty of fluids if you have diarrhoea.

Sore mouth

Your mouth may become sore or dry, or you may notice small ulcers. Drinking lots of fluids and cleaning your teeth gently with a soft toothbrush can help.

Try to avoid hot and spicy foods that can irritate your mouth. Tell your doctor or nurse if your mouth feels sore. They will check for infection and may give you a mouthwash or medicine to help.

Loss of appetite

Some people lose their appetite. This may last a few days or longer. If you think you are not eating enough, or if you are losing weight, talk to your doctor or nurse. They can suggest ways to increase your appetite and keep to a healthy weight.

Taste changes

You may notice that food tastes different. Some people get a strange taste in their mouth. Sucking on flavoured sugar-free sweets or mints may help. Normal taste usually comes back after treatment finishes.

Effects on the nerves

Some chemotherapy drugs can damage some nerves in the body. This can cause numbness, tingling or pain. This feeling usually starts in the fingers and toes. Tell your doctor or nurse if this happens. This usually improves after treatment has finished. For some people, it can last longer.

Hair loss

Many people find this side effect very upsetting. Not all chemotherapy drugs make your hair fall out. Some drugs make some hair fall out. Others can make all of your hair fall out. This can include other body hair too. Your doctor or nurse will explain what might happen. They can also give you advice on how to look after your hair and scalp.

If your hair falls out, it usually happens 2 to 3 weeks after starting treatment. Sometimes it can happen within a few days. Hair usually grows back over a few months once you' finish treatment. You can also ask about getting a wig or hairpiece.

Some people may be able to reduce hair loss by using something called scalp cooling or a cold cap. This lowers the temperature of your scalp during treatment. Not everyone can have scalp cooling, but you can ask your nurse whether it would be useful for you.

It's important to let your doctor know straight away if you feel unwell or have any severe side effects, even if they're not mentioned here.

Other important information

Blood clots

Both cancer and chemotherapy can increase the chance of developing a blood clot. A blood clot can cause pain, redness, swelling, breathlessness and chest pain. Contact your doctor straight away if you have any of these symptoms. A blood clot is serious but your doctor can treat it with drugs. Your doctor or nurse can give you more information.

Other medicines

Some medicines can affect chemotherapy or be harmful when you are having it. This includes medicines you can buy in a shop or chemist. Tell your cancer doctor about any drugs you are taking, including vitamins, herbal drugs and complementary therapies.

Fertility

Your treatment may affect your ability to get pregnant or father a child. If you are worried about this, talk to your doctor or nurse before treatment starts.

Contraception

Your doctor will advise you not to become pregnant or father a child during treatment. The chemotherapy may harm a developing baby. It is important to use contraception during your treatment.

Sex

If you have sex within the first couple of days of having chemotherapy, you need to use a condom. This is to protect your partner from the chemotherapy drugs. Talk to your doctor or nurse if you are worried about this.

Breastfeeding

You should not breastfeed during treatment. This is because chemotherapy could be passed to a baby through breast milk.

Medical and dental treatment

If you need to go into hospital for any reason other than cancer, always tell the doctors and nurses that you are having chemotherapy. Tell them the name of your cancer doctor so they can ask for advice.

Talk to your cancer doctor or nurse if you need dental treatment. Always tell your dentist you are having chemotherapy.

Travel

Talk to your doctor or nurse if you are planning to travel abroad during treatment. You may not be able to have certain vaccines. They will also check if it is safe for you to fly.

Remember to take extra care in the sun. Some chemotherapy drugs can make your skin more likely to burn.

Working during chemotherapy

You may need to take time off work during chemotherapy. Some people need to keep working for financial reasons. Your doctor or nurse can give you advice and tell you about support that is available. We have information about work and cancer and about claiming benefits if you cannot work.

How Macmillan can help

Macmillan is here to help you and your family. You can get support from:

- **The Macmillan Support Line (0808 808 00 00).** We have interpreters, so you can speak to us in your language. Just tell us, in English, the language you want to use. We can answer medical questions, give you information about financial support, or talk to you about your feelings. The phone line is open Monday to Friday, 9am to 8pm.
- **The Macmillan website (macmillan.org.uk).** Our site has lots of English information about cancer and living with cancer. There is more information in other languages at macmillan.org.uk/translations
- **Information centres.** At an information centre, you can talk to a cancer support specialist and get written information. Find your nearest centre at macmillan.org.uk/informationcentres or call us. Your hospital might have a centre.
- **Local support groups** – Find a group near you at macmillan.org.uk/supportgroups or call us.
- **Macmillan Online Community** – You can talk to other people in similar situations at macmillan.org.uk/community

Word list

Word (target language)	In English	How to say in English (transliteration of English word)	Meaning
	Benign		A lump in the body that is not cancer and cannot spread to anywhere else in the body.
	Cells		The tiny building blocks that make up the organs and tissues of our body.
	Central line		A thin tube that goes into a vein in your chest. It is used to give chemotherapy. One end stays outside the body.
	Constipation		When you find it difficult or painful to poo. You might not be going as often as usual, or your poo might be hard and

			lumpy.
	Cured		When there are no cancer cells left in the body.
	Diarrhoea		When you have soft or watery poo. You might need the toilet more than usual or very urgently. You may also have tummy pain.
	Lymphatic system		A network of vessels and glands throughout the body that helps to fight infection.
	Malignant		A lump in the body that is cancer and can spread around the body.
	PICC line		A thin tube that goes into a vein in your arm. It is used to give chemotherapy. One end stays outside the body.
	Platelets		Cells that help the blood to clot.
	Radiotherapy		A cancer treatment that uses high-energy x-rays to kill cancer cells.
	Red blood cells		Cells in our blood that carry oxygen around the body.
	Side effects		Unwanted effects of cancer treatment. For example, hair loss, feeling sick or tiredness. Most side effects go away after treatment finishes.
	Surgery		Having an operation.
	Tumour		A group of cells that are growing in an abnormal way. The abnormal cells keep multiplying and form a lump.
	White blood cells		Cells in our blood that fight infection.

More information in [language]

We have information in [language] about these topics:

<p>Types of cancer</p> <ul style="list-style-type: none">• Breast cancer• Large bowel cancer• Lung cancer• Prostate cancer <p>Treatments</p> <ul style="list-style-type: none">• Chemotherapy• Radiotherapy• Surgery	<p>Coping with cancer</p> <ul style="list-style-type: none">• If you're diagnosed with cancer – A quick guide• Claiming benefits• Eating problems and cancer• End of life• Financial support – benefits• Financial support – help with costs• Healthy eating• Tiredness (fatigue) and cancer• Side effects of cancer treatment• What you can do to help yourself
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To see this information, go to macmillan.org.uk/translations

Speak to us in [language]

You can call Macmillan free on **0808 808 00 00** and speak to us in your own language through an interpreter. You can talk to us about your worries and medical questions. Just tell us, in English, the language you want to use.

We are open Monday to Friday, 9am to 8pm.

References and thanks

All of this information has been written and edited by Macmillan Cancer Support's Cancer Information Development team.

The information in this fact sheet is based on the Macmillan booklet **Understanding chemotherapy**. We can send you a copy, but the full booklet is only available in English.

This content has been reviewed by relevant experts and approved by our Chief Medical Editor, Dr Tim Iveson, Macmillan Consultant Medical Oncologist.

With thanks to Catherine Loughran, Pharmacist; Claire Haslop, Clinical Nurse Specialist; Jenny King, Chemotherapy Clinical Nurse Specialist; Natalie Singer, Macmillan Advanced Haematology Clinical Nurse Specialist; Robin Jones, Clinical Oncologist; Wendy Anderson, Macmillan Nurse Consultant Chemotherapy.

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All our information is based on the best evidence available. For more information about the sources we use, please contact us at bookletfeedback@macmillan.org.uk



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We make every effort to ensure that the information we provide is accurate but it should not be relied upon to reflect the current state of medical research, which is constantly changing. If you are concerned about your health, you should consult your doctor. Macmillan cannot accept liability for any loss or damage resulting from any inaccuracy in this information or third-party information such as information on websites to which we link.

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