

Chemotherapy

This fact sheet is about chemotherapy. Many people with cancer will have chemotherapy as part of their treatment.

We also have fact sheets in your language about radiotherapy and surgery.

We hope this fact sheet answers your questions. If you have any more questions, you can ask your doctor or nurse at the hospital where you are having your treatment.

We've listed other information from Macmillan. Some of this is only in English. If you'd like to talk about this information with our cancer support specialists, we have interpreters for non-English speakers. You can also talk to someone about how you are feeling and about any worries you may have.

You can call the Macmillan Support Line free on **0808 808 00 00**, Monday–Friday, 9am–8pm. If you have problems hearing you can use textphone 0808 808 0121, or Text Relay. Or you can visit macmillan.org.uk

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What is cancer?

The organs and tissues of the body are made up of tiny building blocks called cells. Cancer is a disease of these cells.

Cells in each part of the body may look and work differently but most repair and reproduce themselves in the same way. Normally, cells divide in an orderly and controlled way. But if for some reason this becomes out of control, the cells carry on dividing and grow into a lump called a tumour.

In a **benign tumour**, the cells do not spread to other parts of the body and it is not called cancer. However, the cells may carry on growing at the original site, and may cause a problem by pressing on other parts of the body.

In a **malignant tumour**, the cells are able to spread to other parts of the body. The cancer will begin to grow in one part of the body. This is called primary cancer. If the cancer is not treated it may spread. If it spreads and grows in another part of the body, it is called secondary or metastatic cancer.

What is chemotherapy?

Chemotherapy uses anti-cancer drugs to destroy cancer cells. The drugs are carried in the blood so they can reach cancer cells in most parts of the body. The treatment works by damaging dividing cells so that they die. Healthy cells will also be damaged, but they will usually repair themselves.

You may have one or more drugs during your treatment. Your doctor will talk to you about how the treatment may work and when it may help you. They will also tell you about how you are likely to feel while you are having the drugs.

When is chemotherapy used?

Chemotherapy is one type of cancer treatment. It can be given to cure or control a cancer. It may also be given to try to prevent cancer from coming back. Other types of treatment include surgery, radiotherapy or hormonal treatment.

Some people may have chemotherapy before they have surgery. This can make the cancer smaller so they need less surgery or the surgery is easier.

Other people may have treatment after surgery or radiotherapy. This is to help reduce the risk of the cancer coming back in the future. Sometimes it is given with radiotherapy.

In some people, the cancer may have spread to other parts of the body (secondary or metastatic cancer). Chemotherapy can help make the cancer smaller and control it better. It may also improve some cancer symptoms and help someone live longer.

Giving chemotherapy

You will usually have your chemotherapy treatment in sessions. Each session is followed by a rest period. The session of treatment and the rest period is called a cycle of treatment. A number of cycles makes up a course of treatment. Your cancer doctor will discuss with you how many cycles you have.

Chemotherapy drugs are usually given into a vein or by mouth. Sometimes they are given by injection under the skin, into the muscle, into the fluid around the spine or into a body cavity such as the bladder. Chemotherapy creams may be used for some skin cancers.

Intravenous chemotherapy

Many drugs are given by injection into a vein:

- **Cannula:** A small tube inserted into a vein in your arm or in the back of your hand.
- **Central line:** A thin tube put in through the skin of the chest into a vein near the heart.
- **PICC or a peripherally inserted central catheter:** A thin tube is passed into a vein in the bend or upper part of the arm and threaded through until the end of the tube lies in a vein near the heart.
- **Implantable port, also called a portacath:** A thin, soft, plastic tube that is put into a vein near your heart. It looks like a bump under the skin on your chest.

Infusion pumps are sometimes used to give a measured, small amount of the drug over a period of time. They may run for a couple of days or up to a week. The pump may stay on longer, but will be changed every week. You can go home with this and carry on with your everyday life.

Oral tablets or capsules

Some people may have tablets or capsules. Not all treatments can be given this way. Most people who have tablets or capsules can take them at home. It is important to remember that they are chemotherapy drugs and can still have side effects.

Understanding your treatment

Before you have any treatment, your doctor or nurse will explain why you need it and how often it will be given. They will tell you how you may feel after you have had the treatment and about any side effects.

It's a good idea to take someone with you who speaks both your language and English. Interpreters may be available if you need one, but try to let the hospital know in advance if you would like one to be there. You will be asked sign a form to show that you agree to the chemotherapy treatment and understand its possible side effects. This is called giving consent.

Remember, no treatment should be given unless you understand why you are having it and how you may feel.

Tests before treatment

You may need some tests before starting your treatment. These help the doctors make sure you're well enough to have your treatment. They will usually include blood tests and maybe urine or heart tests. Sometimes, you may also need to have x-rays or scans before treatment starts.

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

Where is treatment given?

You will have treatment in a chemotherapy day unit or ward. Sometimes you may be able to have it at home, or in a mobile unit near your home. You can discuss with your doctor or nurse where you can have treatment but it is important that it is the safest place for you to have it. You may need to travel to get your treatment depending on where you live. You may be able to get help with the cost of travel or have transport arranged for you.

How long does treatment take?

You can have most intravenous treatments as a day patient at the hospital. This may take from half an hour to a few hours. Some people may need to stay in hospital for a short time. If you're having chemotherapy tablets, capsules or creams, you can take these at home. You may have treatment for a few weeks or for a number of months.

Changes to your treatment plan

Your doctors will use blood tests or urine tests to check the effect of the chemotherapy on your body. The doctor may also examine you and look at the results of blood tests, scans or x-rays. Sometimes your treatment may need to be changed. Your doctor will always discuss this with you.

Sometimes your treatment may need to be delayed to give your body more time to recover before the next cycle of treatment is given. The most common reason to delay treatment is because the number of white cells in the blood is too low.

Side effects

Chemotherapy drugs can cause side effects that make you feel unwell, as they affect some of the healthy cells in your body. Damage to the healthy cells usually only lasts a short time and most side effects will improve. Some side-effects can last longer. Your doctor or nurse will tell you about them and how long they may last.

Different drugs cause different side effects and each person will react in a different way. Some people have very few side effects while others may have more.

We describe the most common side effects here. These won't affect all people who have treatment. If you notice any effects which aren't listed here, or if you want to know more about side effects, ask your doctor or nurse.

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

Infection

Chemotherapy can reduce the number of white cells in your blood. This will make you more likely to get an infection. When they are low it's called neutropenia.

Contact the hospital straight away on the contact number you've been given if:

- your temperature goes over 37.5°C (99.5°F) or over 38°C (100.4°F), depending on the advice given by your chemotherapy team
- you suddenly feel unwell, even with a normal temperature
- you have symptoms of an infection – this can include feeling shaky, a sore throat, a cough, diarrhoea or needing to pass urine a lot.

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

Anaemia

Chemotherapy can reduce the number of red cells in your blood. These cells carry oxygen around the body. If they are low you may be tired and breathless. Tell your doctor or nurse if you feel like this. If you are very anaemic, you may need a drip to give you extra red cells (blood transfusion).

Bruising and bleeding

Your treatment can reduce the number of platelets in your blood. Platelets are cells that help the blood to clot. Tell your doctor if you have any bruising or bleeding you can't explain. This includes nosebleeds, bleeding gums, blood spots or rashes on the skin. Some people may need a drip to give them extra platelets.

Tiredness

Feeling very tired is a common side effect. It's often worse towards the end of treatment and can last for a time after your treatment finishes. Try to pace yourself and get as much rest as you need. It helps to balance this with some gentle exercise, such as short walks. If you feel sleepy, don't drive or operate machinery.

Feeling sick or being sick

This may happen in the first few days after chemotherapy. Your doctor will prescribe anti-sickness drugs to help prevent or control sickness. Take them exactly as your nurse or pharmacist explains to you.

If you still feel sick or are being sick, contact the hospital as soon as possible. They can give you advice and change the anti-sickness drug to one that works better for you.

Constipation

Constipation is when you have not opened your bowels for a while. This can usually be helped by drinking lots of fluids, eating more high-fibre foods and taking gentle exercise. You may need to take a medicine called a laxative to help. Your doctor can prescribe these for you or you can buy them at a chemist.

Diarrhoea

Diarrhoea is when you have loose bowel movements more often than usual. You may get some stomach pain. Tell your doctor if this happens. It can usually be easily controlled with medicine. It's 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 during treatment. It can help to drink lots of fluids and to clean your teeth gently with a soft toothbrush.

You should also avoid foods which irritate the mouth, such as garlic, onions, chillies and citrus fruit juices. Tell your doctor or nurse if your mouth feels sore. They can advise you on mouth care and give you mouthwashes and medicine to prevent or clear mouth infections.

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, you can ask to see a dietitian or specialist nurse at your hospital. They can advise you on improving your appetite and keeping to a healthy weight.

Taste changes

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

Hair loss

Not all chemotherapy drugs make your hair fall out. Some may make only a little fall out. Others can make all of your hair fall out and this can be very upsetting.

If your hair falls out, it usually starts two–three weeks after starting treatment, although sometimes it can start within a few days. It will usually grow back over a few months once you've finished your treatment.

Some people having certain types of chemotherapy may be able to reduce hair loss by using a cold cap. This is called scalp cooling. Not everyone can have scalp cooling, but you can ask your doctor or 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

Additional information

Blood clot risk

Cancer increases the chance of a blood clot and chemotherapy can add to this. A clot can cause symptoms such as pain, redness and swelling in a leg, 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 that thin the blood. Your doctor or nurse can give you more information.

Other medicines

Some medicines, including ones you can buy in a shop or chemist, can be harmful when you are having chemotherapy. Tell your doctor about any medicines you are taking, including over-the-counter drugs, complementary therapies and herbal drugs.

Fertility

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

Contraception

Your doctor will advise you not to become pregnant or to father a child during treatment. This is because the drugs may harm a developing baby. It's important to use contraception during and for a few months after chemotherapy. You can talk to your doctor or nurse about this

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.

Breastfeeding

You should not breastfeed during treatment and for a few months after. This is in case there is chemotherapy in the 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 think you need dental treatment. Always tell your dentist you are having chemotherapy.

Travel

If you have a holiday planned it's very important to talk to your doctor or nurse about your plans. Because the treatment affects the immune system, you cannot have some vaccines and you may be advised not to fly.

Related Macmillan information

- Chemotherapy fact sheets
- Controlling nausea and vomiting
- Coping with fatigue
- Coping with hair loss
- How are you feeling? The emotional effects of cancer
- Living with and after cancer
- Mouth care during chemotherapy
- Understanding chemotherapy

For copies of this information call free on **0808 808 00 00** or visit **macmillan.org.uk**

This fact sheet has been written, revised and edited by Macmillan Cancer Support's Cancer Information Development team. It has been approved by our medical editor, Dr Tim Iveson, Consultant Clinical Oncologist.

With thanks to Michael Flynn, Chemotherapy Nurse Consultant, and the people affected by cancer who reviewed this edition.

This fact sheet has been compiled using information from a number of reliable sources, including:

- *British National Formulary*. 65th edition. 2013. British Medical Association and Royal Pharmaceutical Society of Great Britain.
- electronic Medicines Compendium (eMC). www.medicines.org.uk (accessed August 2013).
- National Chemotherapy Advisory Group, August 2009. Chemotherapy Services in England: Ensuring Quality and Safety.

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