

Radiotherapy

This information is about radiotherapy.

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

The word list also includes how to say the words in English.

Many people with cancer will have radiotherapy as part of their treatment. There are different types of radiotherapy. We explain the main types in this information.

Some people will also need other treatments, such as chemotherapy or surgery. We also have information in your language about these treatments.

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

You can also call Macmillan Cancer Support on freephone **0808 808 00 00**, 7 days a week, 8am 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.

There is more cancer information in your language at [macmillan.org.uk/translations](https://www.macmillan.org.uk/translations)

This information is about:

- What is radiotherapy?
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What is radiotherapy?

Radiotherapy uses high-energy rays called radiation to treat cancer. It destroys cancer cells in the area where the radiotherapy is given. It can damage normal cells too, but they usually recover after treatment finishes.

Why is radiotherapy given?

Many people have radiotherapy as part of their cancer treatment. Radiotherapy is given for different reasons.

To cure the cancer

Radiotherapy can be given to try to cure some types of cancer. It may be given on its own or with other cancer treatments such as chemotherapy. It may be given before or after surgery. Before surgery it may make the tumour smaller. After surgery, it can help destroy any cancer cells left behind.

To help with cancer symptoms

If curing the cancer is not possible, you may have radiotherapy to help control the symptoms of the cancer. This is called palliative radiotherapy.

Your radiotherapy team

Consultant clinical oncologist

This is a doctor who treats cancer with radiotherapy. They help plan your treatment. You may see them before, during and after your treatment. You can also ask to see them between appointments.

Radiographers

The team of radiographers help to plan your treatments and give you the radiotherapy. They also give you advice about any side effects or worries that you may have.

Clinical nurse specialists

Many cancer centres have specialist cancer nurses. They are sometimes called a clinical nurse specialist (CNS). They are nurses who are experts in the type of cancer you have. You can talk to them about any concerns you have. They can give you support and information during and after your treatment. They can also help you manage any side effects.

Your key worker

Your key worker is the person to contact if you need more information or support. Usually, one radiographer or specialist nurse in your team is your key worker. If you are not sure who your key worker is, ask someone at your next appointment.

Understanding your treatment

Before you have treatment, your doctor, nurse or radiographer 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 give your permission before you have any treatment. This is called consent. It shows that you agree to treatment and understand its possible side effects.

It is a good idea to take someone with you who speaks your language and English. Sometimes the hospital can provide an interpreter for you. They usually need to arrange this in advance. So if you need an interpreter, tell the hospital before the appointment.

Where is radiotherapy given?

Radiotherapy is given in hospital. You usually have your treatment as a day patient. This means you can go home after the treatment and you do not need to stay overnight. With some types of radiotherapy, you may need to stay in hospital for a few days.

If you are unwell or also having chemotherapy, you may need to stay in hospital as an inpatient. In this case, you will go to the radiotherapy department each day from the ward. If you have to travel a long way to the hospital for radiotherapy treatment you may have it as an inpatient.

Planning your treatment

Before you start your treatment, it needs to be planned. Radiotherapy is planned carefully for each person. This is to make sure the treatment works as well as it can and causes as few side effects as possible. Planning your treatment may take more than 1 visit. Your radiotherapy team will tell you what to expect.

Scans

You will have 1 or more scans before you start treatment. This helps your team decide how much radiotherapy you need. It also helps them plan exactly where to give the radiotherapy.

Before a scan, you may be asked to change into a hospital gown. Someone from the team may also give you an injection of dye into a vein. This helps get a clear picture from the scan.

Moulds and masks

You may need a mould or radiotherapy mask for your treatment. If you need one, your radiotherapy team will make it for you. A mould or mask helps you stay still and in the correct position. Moulds are for a leg, arm, or other body part. Masks are for the head or neck.

A mould or mask is made of a plastic mesh. It fits tightly but it should not be uncomfortable. You only wear it for short periods of time. You would wear it:

- when your treatment is being planned
- when you have your treatment.

You can breathe normally while you are wearing a mask.

A radiotherapy mask



Marks on the skin

Someone from your radiotherapy team may make small, permanent marks on your skin. The marks show exactly where to give the radiotherapy. The marks are made in the same way as a tattoo. These marks will only be made with your permission. If you are worried about them or already have a tattoo in the treatment area, tell your radiographer.

Fertility

Radiotherapy can affect your ability to get pregnant or make someone pregnant. Many people find this difficult to deal with. If you are worried about this, talk to your

doctor or nurse before treatment starts. They can tell you what to expect and about ways to protect your fertility. Speaking to a counsellor or religious leader may also be helpful.

Contraception

Your doctor may advise you not to become pregnant or make someone pregnant. This is because radiotherapy may harm a developing baby. It is important to use contraception during and for a few months after radiotherapy. You can talk to your doctor or nurse if you are worried about this.

Types of radiotherapy

There are different types of radiotherapy:

- **External radiotherapy** – given from outside the body by a radiotherapy machine.
- **Internal radiotherapy** – when a radioactive material is put into your body. There are two types of internal radiotherapy: brachytherapy and radioisotope therapy.

How you have radiotherapy will depend on where the cancer is in the body and the type of cancer. Some cancers are treated with both external and internal radiotherapy

Ask your doctor to explain which type you are having, so you can read the right parts of this information.

External beam radiotherapy

This is when radiotherapy is given from outside the body using a radiotherapy machine. You usually have 1 session of radiotherapy a day, often with a rest at the weekends. Some hospitals give treatment at the weekends too, with a rest during the week instead.

How many treatments you have will depend on the type and size of the cancer.

Treatment only takes a few minutes each day, but you may need to wait for your treatment if the hospital is busy. It can help to do something while you wait, like read or listen to music.

Before your first treatment, the radiotherapy team will explain what will happen. They may ask you to change into a hospital gown. It is normal to feel worried about having treatment. But it usually gets easier as you get to know your radiotherapy team and what happens.

It may take a little while to get you in the correct position for treatment. You will need to lie very still. The radiographers will dim the lights. Then they will leave the room while the treatment happens. Having radiotherapy does not hurt and the radiotherapy machine does not usually touch you.

Someone having external beam radiotherapy



The radiographers will watch you from the next room, either through a window or on a screen. No one else will be able to see you. There is usually an intercom, so you can talk to them if you need to during your treatment.

The machine may move around your body to give the treatment from different directions. Once the treatment is over, the radiographers will come back into the room and help you down from the machine.

This treatment will not make you radioactive. It is safe for you to be with other people, including children, after your treatment.

Brachytherapy

Brachytherapy is a type of radiotherapy given inside the body. It is mainly used to treat cancers in the prostate, cervix and womb. Your healthcare team will explain your treatment plan. This may also involve external beam radiotherapy before or after brachytherapy or other treatments such as chemotherapy, hormonal therapy or targeted therapy.

Brachytherapy uses radioactive sources that are placed in your body near the cancer. You may be asleep under a general anaesthetic when it is put in. Or you may have painkiller injections.

You may have your treatment and go home on the same day or you may stay in hospital. This depends on the type of brachytherapy you have. During your treatment

in hospital you may be alone in the treatment room for some time while the radiotherapy is given. This is to protect others from the treatment. Tell your team if you are worried about this so they can help. They will explain how long your treatment will take.

As soon as the source is removed from your body, there is no risk to people around you. You are not radioactive.

For some types of brachytherapy, the source is not removed. It is safe for you to be around most other people. Your team may ask you to avoid close contact with children or people who are pregnant. They will tell you how long you need to do this.

Your team will give you information about your treatment to carry with you at all times.

Radioisotope therapy

This is a type of radiotherapy given inside the body. You have a radioactive liquid:

- by mouth as a drink or capsules
- as an injection into a vein.

Cancer cells take in the liquid more than normal cells do. This destroys the cancer cells.

After treatment your body fluids are slightly radioactive. This will gradually return to normal. Your team will give you instructions about using the toilet and cleaning up any spilled body fluids safely. They may ask you to avoid close contact with children or people who are pregnant. They will tell you how long you need to do this.

If you need to stay in hospital for your treatment, you may be asked to stay alone in your room all the time. Tell your team if you are worried about this so they can help.

Side effects of radiotherapy

Radiotherapy affects everyone differently. Some people have very few side effects while others have more. We describe the most common side effects here. It is unlikely that you will get all of these.

Before your treatment, your radiotherapy team will talk to you about which side effects you may get. Ask them any questions you may have. Tell your team if you have any side effects during treatment. They can give you advice or medicines to help. If you feel unwell when you are at home, call the hospital.

Tiredness

You may feel very tired during treatment and for weeks or months after it finishes. Travelling to hospital each day can make you even more tired. Try to allow yourself time to rest.

It is important to do some gentle exercise each day if you can. A short walk may give you more energy.

Feeling sick

Treatment can make you feel sick or be sick. This is more likely if you have treatment near the tummy or the brain. Your treatment team can give you medicine to help to stop you feeling sick.

Eating and drinking

Sometimes you may not want to eat. If this happens, try having regular small snacks rather than large meals. If you are having problems with eating it is important to tell your radiotherapy team. They will give you advice.

Looking after your skin

The skin in the area that is treated may get:

- red
- darker
- sore or itchy.

If you have skin changes like these, tell your radiotherapy team straight away. They can give you advice and treatments.

Here are some tips that may help:

- wear loose-fitting clothes made from natural fibres, such as cotton
- wash your skin gently with soap and water and gently pat it dry
- do not rub the skin
- do not apply very hot things such as a heating pad
- do not use cooling pads unless your team tells you it is ok
- do not wet shave
- do not use hair-removing creams or products, including wax and laser treatment
- ask your radiotherapy team if you can use moisturisers or deodorants on the skin
- protect the skin from the sun.

Hair loss

You only lose hair from the area of your body where you have treatment.. Some people feel upset about losing hair. If you are worried about it, talking to your doctor or nurse can help.

It usually grows back after treatment finishes. Sometimes it grows back a different texture or colour than before. It may take several months to grow back, depending on the dose of radiotherapy you have.

Changes in your blood

Sometimes radiotherapy can lower the number of normal blood cells in your blood. Your radiotherapy team may arrange blood tests for you to check the number of blood cells you have. Some people need treatment if the level of certain types of blood cells is too low.

Always tell your team if you have bruising or bleeding and you do not know why. This includes:

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

You should also contact your radiotherapy team **straight away** if:

- your temperature goes over 37.5°C (99.5°F) or below 36°C (96.8°F)
- you suddenly feel unwell, even with a normal temperature
- you have symptoms of an infection – this can include:
 - feeling shivery and shaky
 - a sore throat
 - a cough
 - breathlessness
 - diarrhoea
 - needing to pee a lot, or discomfort when you pee.

Diarrhoea

It is common to have loose stools (poo) or diarrhoea if you have treatment near your pelvis. You may need to use the toilet more often than usual. It is important to drink plenty of fluids. Your doctor or nurse can tell you what is best to drink. Tell the staff at the hospital if you have diarrhoea or tummy (abdominal) pain. They can give you tablets to help.

Problems with passing urine

Treatment near the bladder can cause side effects such as:

- passing urine (peeing) more often than usual
- passing urine during the night
- a burning feeling when you pass urine (similar to a urine infection)
- a feeling that you are not able to wait when you need to pass urine
- blood in your urine
- leaking small amounts of urine (incontinence).

Always tell your radiotherapy team if you have any side effects during or after your treatment. Drinking more fluids may help.

Tell the doctor or nurse straight away if

- your symptoms get worse
- you have a high temperature

- you feel you cannot pass urine.

Radiotherapy for prostate or penis cancer sometimes makes it difficult to pass urine. If this happens, you may need to have medication that helps. Or you may have a tube (catheter) put into the bladder for a short time.

Sore mouth

If you have treatment to your head or neck, your mouth may get sore. This may make swallowing difficult. It is important to look after your mouth during treatment. Your team will show you how to do this. It can help to avoid:

- smoking
- drinking alcohol
- very hot food.

It is important to tell the doctor or nurse if your mouth feels sore or if you have mouth ulcers. They can give you mouthwashes and painkillers to help.

Late and long-term side effects

Radiotherapy is carefully planned and treatments are becoming more and more accurate. This allows your team to treat the cancer while doing as little damage as possible to other parts of the body.

But there may still be a risk you will have side effects that:

- do not get better after treatment – these are called long-term side effects
- only start months or years later – these are called late effects.

This risk may be higher if you are also having other treatments, such as chemotherapy.

Before you decide to have cancer treatment, your team will explain your risk of developing these side effects.

Getting the right care and support for you

If you have cancer and do not speak English, you may be worried that this will affect your cancer treatment and care. But your healthcare team should offer you care, support and information that meets your needs.

We know that sometimes people may face extra challenges in getting the right support. For example, if you work or have a family it can be hard to find time to go to hospital appointments. You might also have worries about money and transport costs. All of this can be stressful and hard to cope with.

But help is available. Our free support line **0808 808 00 00** can offer advice, in your language, about your situation. You can speak to nurses, financial guides, welfare rights advisers and work support advisers.

We also offer Macmillan Grants to people with cancer. These are one-off payments that can be used for things like hospital parking, travel costs, childcare or heating bills.

How Macmillan can help you

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

Macmillan Support Line

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 help with medical questions, give you information about financial support, or be there to listen if you need someone to talk to. The free, confidential phone line is open 7 days a week, 8am to 8pm. Call us on **0808 808 00 00**.

Web chat

You can send us a web chat message saying you would like an interpreter. Tell us, in English, the language you need, and we will arrange for someone to contact you. Click on the 'Chat to us' button, which appears on pages across the website. Or go to **macmillan.org.uk/talktous**

Macmillan website

Our website has lots of information in English about cancer. There is also more information in other languages at **macmillan.org.uk/translations**

We can also arrange translations just for you. Email us at **cancerinformationteam@macmillan.org.uk** to tell us what you need.

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

Local support groups

At a support group, you can talk to other people affected by cancer. Find out about support groups in your area at **macmillan.org.uk/supportgroups** or call us on **0808 808 00 00**.

Macmillan Online Community

You can also talk to other people affected by cancer online at **macmillan.org.uk/community** You can access it at any time of day or night. You can share your experiences, ask questions, or just read through people's posts.

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.
	Cervix		The cervix is the entrance to the <u>womb</u> . It is inside the body at the top of the <u>vagina</u> . People who have a cervix include women, trans men and people assigned female at birth.
	Chemotherapy		A cancer treatment that uses drugs to kill cancer cells.
	Contraception		Drugs or devices that prevent pregnancy.
	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.
	Pelvis		The area between your hips and below your belly button.
	Prostate		A small gland inside the body. It is near the bladder. People

			who have a prostate include men, trans women and people assigned male at birth.
	Radioactive		If something is radioactive, it means it releases radiation.
	Scan		When doctors take a picture of the inside of your 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.
	Vagina		A passageway inside the body. The entrance to the vagina is between the legs. At the top of the vagina is the <u>cervix</u> , which then leads to the <u>womb</u> . People who have a vagina include women, trans men and people assigned female at birth
	Womb		A round organ inside the body in the lower tummy area. It is where a baby grows if you are pregnant. People who have a cervix include women, trans men and people assigned female at birth

More information in your language

We have information in your language about these topics:

<p>Types of cancer</p> <ul style="list-style-type: none">• Breast cancer• Cervical 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">• Cancer and coronavirus• Claiming benefits when you have cancer• Eating problems and cancer• End of life• Healthy eating• Help with costs when you have cancer• If you're diagnosed with cancer – A quick guide• Side effects of cancer treatment• Tiredness (fatigue) and cancer• What you can do to help yourself
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To see this information, go to [macmillan.org.uk/translations](https://www.macmillan.org.uk/translations)

References and thanks

This information has been written and edited by Macmillan Cancer Support's Cancer Information Development team. It has been translated into your language by a translation company.

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

This information has been reviewed by relevant experts and approved by our Senior Medical Editor, David Gilligan, Consultant Clinical Oncologist.

Thanks also to the people affected by cancer who reviewed this information.

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