



# **Paediatric Radiotherapy Treatment at the Beatson West of Scotland Cancer Centre**

**A patient information booklet**

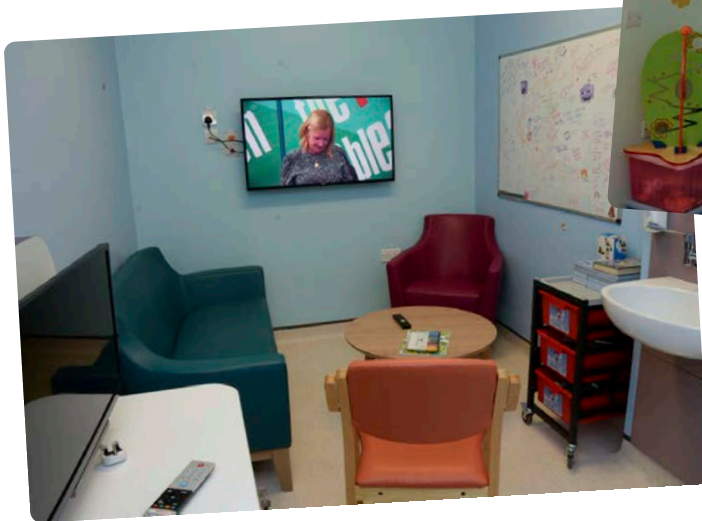




Once you have checked in at the reception desk, you can follow the butterflies to our dedicated paediatric waiting area.



We have a play room and chill out room for you and your parents or carers to relax in while you wait for your appointment. These rooms have a range of toys, games and activities for all age groups.



We also have an electric car which you can use to drive to the treatment room.

**Beep!  
Beep!**



# Who will I meet in The Beatson?

When you come for radiotherapy, there will be several members of staff involved in looking after you. They all work together closely to ensure you receive the best care and have a positive experience. If we can help with anything, please let us know.



**Consultant clinical oncologists (called doctors in this leaflet):** are doctors who specialise in radiotherapy. They are in overall charge of your care and are responsible for planning your radiotherapy treatment.

**Specialist paediatric radiographer:** this is a specialist radiographer who will explain the process of radiotherapy and answer any questions you may have before and during your treatment. They will help to ensure everything is in place for you when you attend for your planning and treatment.

**Healthcare play specialist:** a qualified and registered play specialist provides support at each stage of your radiotherapy. They will help you to understand each step in your treatment. Their role involves:

- Preparation prior to treatments and procedures.
- Distraction during treatments and procedures.
- Support, general play/activities throughout your treatment journey.

**Therapy radiographers:** you will see the radiographers when you come for your scan and each day at the treatment machine. They operate the radiotherapy planning and treatment machines.

**Paediatric liaison nurse:** this is a nurse who will support you through your treatment, and help you with any problems that you might have during your radiotherapy.

**Mould room technicians:** you may need to go to the mould room. Here you will meet our mould room technicians who will make any individual pieces of equipment you may need for your treatment. This may include immobilisation shells and specially moulded bean bags which help to keep you comfortable and still.

**Anaesthetics team:** Some children will need a general anaesthetic for their planning and treatment. This ensures we deliver their treatment safely and precisely. If you need an anaesthetic, the team will discuss this with you and your parents/carers. A paediatric anaesthetist and anaesthetic nurse from the Royal Hospital for Children will attend the BWOSCC. They work closely with the rest of the paediatric radiotherapy team.

**Physics planning staff:** Treatment planning physicists and dosimetrists use sophisticated planning software to prepare individual treatment plans. Each treatment plan is designed to ensure that the tumour can receive as large a radiation dose as possible, whilst minimising the dose received to healthy tissue and sensitive organs.

## What is radiotherapy?

Your body is made up of lots (billions) of really tiny bits called cells. Normal cells can change into cells that grow in a different way to other cells (sometimes they are called 'abnormal' or bad cells). We don't fully understand why this happens. These abnormal cells can multiply and grow into a lump. This lump is called a tumour.

Radiotherapy is used as part of your treatment to try to help destroy these abnormal cells. It uses X-rays (radiation) which are very accurately directed to a specific part of your body. The radiation stops the abnormal cells dividing properly, injuring or killing them. Normal cells are also affected by radiotherapy but they are able to recover.



## Why do I need radiotherapy?

You will already have had lots of tests and scans to find out what type of tumour or blood condition you have.

If we don't treat your tumour, it may grow bigger and the abnormal cells might travel to other parts of your body. Your doctor will therefore decide which treatment is best for you. This might include surgery, chemotherapy, radiotherapy or a combination.

## Giving consent



Before your first visit to the Beatson, you and your parents/carers will meet with your doctor. Your doctor will speak to you about the radiotherapy. They will also discuss the benefits and side effects with you and make sure you agree to have the treatment. A consent form will need to be signed by you and/or your parents/carers before treatment can begin.

# Planning preparation: Mould Room

It is very important for radiotherapy that you stay still and in the same position each day for treatment. Sometimes, to make this easier for you, we make you an immobilisation shell. This is usually only if you are having your head or upper chest area treated.

The shell is made in the mould room and does not hurt. Your parents/carers will be able to stay in the mould room with you while you have your mask made but not whilst you are having your radiotherapy treatment. It is made from a special thin plastic that is warmed up and moulded to the shape of your head, face or chest. It is used for your planning scan and each day for your treatment.

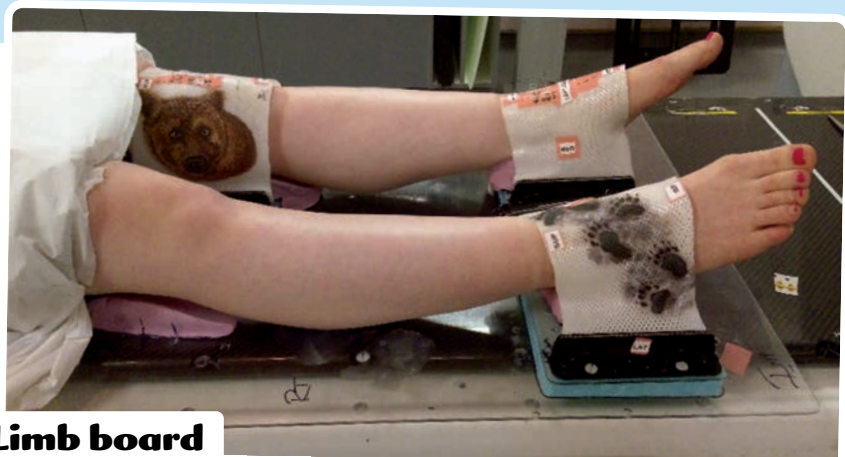
The mould room staff will talk to you about the shell and answer any questions you might have. If you would like your shell decorated like the ones shown below, the mould room staff may be able to do this for you.



**Shell**



If you are having a limb (arm or leg) treated, you may have to have a special board made to help keep your limb in the same position each day for treatment. It is made with the same kind of material used to make the shells. The board will be made by the mould room staff who will explain it all to you.



**Limb board**



We can also use a vac-bag to help to keep you in a comfortable position. It is a bit like a big bean bag. When the air is sucked out of it, it moulds round you and helps to keep you in the same position.

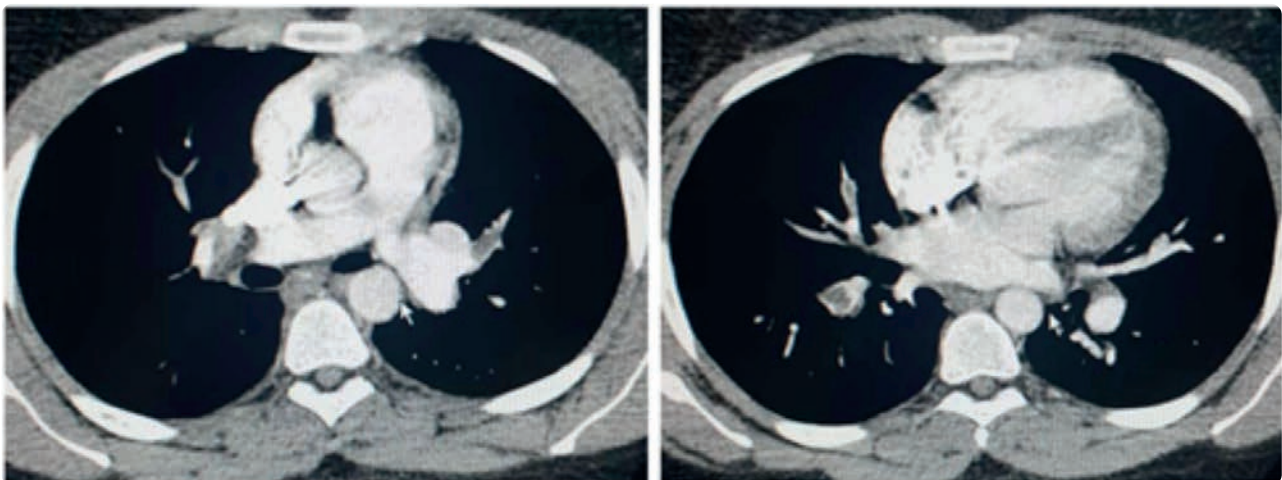


**Vac bag**



## How is my radiotherapy planned?

Your radiotherapy is planned individually for you. You will visit our CT scanner which is similar to the scanners at the children's hospital. The CT scanner takes pictures of the inside of your body. These pictures are used to make your individual treatment plan.



### **CT Scan**

You may have had a CT scan before. Our scan is slightly different as it is done with you lying in the position needed for your radiotherapy. If you have a shell, special board or vac bag, it will be used for your scan.

Your radiographers might ask you to remove some of your clothing for your scan. They will cover you whenever possible. They will help you to lie on the CT couch. It is a little hard but you will not have to be there too long and your radiographers will make you as comfortable as possible.

They will draw some temporary marks on your skin with a felt tip pen and place some small markers on top of these. These markers show up on your scan and will be removed when the scan is finished. If you have a shell or vac bag, we may put the marks on these instead. Sometimes you will still need some marks on your skin too.



**Felt tip pens and stickers**

Your radiographers will move the couch into the CT scanner and leave the room. Don't worry, they can see you through a window. As you go through the scanner you will be aware of a quiet whirring noise but will not feel anything.

It is important that you keep nice and still during the scan.

**CT Scanner**



### **Will the pen marks be removed?**

Once the scan is finished, your radiographers might have to make some of the pen marks more permanent. These marks don't show us where the tumour is, but are used to help us make sure you are in the same position every day for treatment. It is therefore important that they are still visible when you come for your treatment. There are two ways we can do this:

- Your radiographers may place some clear stickers over the pen marks. These will help the pen marks to stay in place. You can still wash with these on. We will give you some of the stickers away with you in case they start to peel off.
- Your radiographers may replace the pen marks with some small tattoos. These are permanent tiny dots on your skin. They look a bit like a full stop or a freckle. Your radiographers have to use a small needle with some ink to make these tattoos. Most people will have 3 tattoos. It shouldn't be too sore and it is very quick.

If you have a shell, board or vac bag, the marks are sometimes put onto these and not on your skin. Your radiographer will discuss this with you.

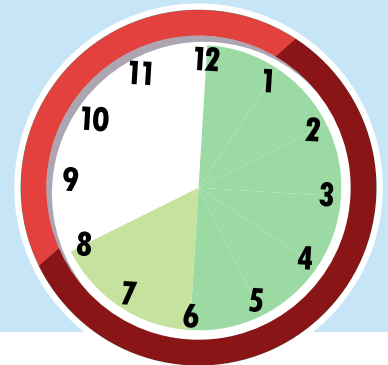


## Pregnancy check

Before you have your scan, if you are 12 years or older, we will have to check that you are not pregnant. Your radiographers or your doctor will ask either you or your parent/guardian to sign a form to confirm that you are not pregnant. Radiation used during the scan and treatment can cause risks to the foetus; it is therefore very important that you let us know if you are or could be pregnant.

## How long will the planning scan take?

Your appointment can last between 30 and 40 minutes, but the actual scan only takes 2-3 minutes.



## Who plans my radiotherapy?



After you have had your CT scan, your doctor will draw on your images to show where they want to give your treatment. Our physics planning staff then use state of the art computers to generate an individual plan for you. This can take 1-2 weeks, so there will be a delay between your scan and starting treatment.

Your doctor and the planning staff carefully plan your treatment to ensure the abnormal cells receive a high dose of X-rays, while ensuring that as low a dose as possible is received by your healthy cells. Your radiotherapy plan is carefully checked before your treatment starts.

Your plan is then sent to the treatment room ready for you to start your treatment.

## Radiotherapy Treatment

### Can I visit the department before my treatment starts?

It may be possible for you to come to the hospital and have a look around the department before you start your treatment. Your paediatric radiographer can show you the different rooms you might visit and explain what will happen when your treatment starts. If you would like to arrange a visit, please speak to any of the staff involved in your care.

## How long will my treatment last?

This varies for each person but you will usually have between 2 and 7 weeks of treatment.



## When do I come for treatment?

You will be given a list of all the dates and times to come for your treatment. This will be every day, Monday to Friday, including public/bank holidays. The treatment rooms are closed at the weekend so you won't come for treatment on Saturdays or Sundays.

## Will I have to stay in hospital?



Most people have their radiotherapy as an outpatient. This means that you come to the hospital each day and go home again. This may change if you require any other treatments at The Royal Hospital for Children.

## What happens if I miss a treatment?

It will usually be added on at the end. It is very important to try not to miss any treatments if you can.

Sometimes, you might have your treatment on another machine. All the machines are the same and do the same treatment.

# What happens when I come for my treatment?

Your radiographers will check some details with you, your parent or carer before you go into the treatment room. This is to ensure that we have your personalised plan ready for you.

When you enter the treatment room, you will see a large machine. This is the machine used to deliver your radiotherapy treatment and it is called a linear accelerator or linac.



**Linear accelerator**

Your radiographers will ask you to lie on the treatment bed. The bed is quite hard. Your radiographers will help to make you as comfortable as possible. You will lie in the same position as you did for your CT scan. If you had a shell, board or vac bag made, it will be used for each appointment. It is important that you stay still to ensure that your treatment is given accurately.

The lights in the room will be dimmed. You might notice a light beam shining from the machine and some green or red lasers. Your radiographers use these and the marks on your skin, shell, board or vac bag, to position you correctly for your treatment. The bed moves up and underneath the machine. The machine may seem close but it will never touch you. It will move around you during your treatment but your radiographers are controlling it. They will explain everything to you. They will also be talking to each other to ensure you are in the correct position. They will check your individual treatment plan before leaving the room. When they are happy, they will go outside to where they checked your details with you. They are watching you at all times on CCTV.

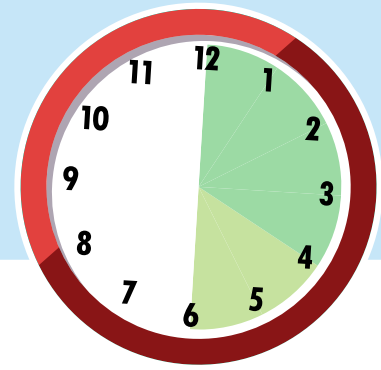
When your radiographers leave the room, they press a button that starts a very quiet siren. This will stop after a couple of minutes. You may also be aware of a red flashing light. They can play music for you, so please let us know if you have a song, artist or a story book you like. If you have an iPod or a mobile phone with music on it, you can also bring it with you.

Your radiographers are operating the machine from outside the room. They may take X-ray pictures before they start your treatment. This is another way for them to check you are in the correct position. Once they are happy, they will start your treatment. The machine will move round about you while it delivers the treatment, but it won't touch you. You won't feel anything and the treatment does not hurt.



## How long does each treatment last?

Each treatment lasts around 20-30 minutes.



## Will anyone be able to be in the room with me during my treatment?

No one else is allowed in the treatment room with you during your radiotherapy. Your radiographers will be watching you on a special TV screen outside the room.

If you would like, we can give you a long piece of special string. You will hold one end and your parent/carer will hold the other side from outside the treatment room. This helps you to know that they are just outside.

## Why do I have to lie still during my radiotherapy?

It is very important that you lie still during your radiotherapy. This helps to ensure your treatment is accurate. If you cannot lie still, you will need to have a general anaesthetic each day. The anaesthetic is light and you will recover quickly from it. This means you will be able to go home after your treatment. If you are going to have a general anaesthetic, our team will give you more detailed information about this.

Having a general anaesthetic can mean the treatment can take a little longer. You will also have to wait in the department until you have recovered and had something to eat.

## Will a doctor see me during my treatment?

You will be seen weekly at The Royal Hospital for Children. They will check how you are feeling and help with any side effects or other worries you may have.

You can also talk to your radiographers, paediatric radiographer or liaison nurse who will be happy to answer your questions.



# What are the side effects of radiotherapy?

The side effects you experience will depend on which part of your body is being treated. Some parts of your body are more sensitive than others. You might not experience all of the following side effects. Take each day as it comes.

## Tiredness

Nearly all people having radiotherapy feel tired. This can happen whilst you are having your treatment and can last for some time afterwards.

It is good to try to still do some of things you enjoy doing. Sometimes a little bit of exercise can help with your tiredness.

It might help to go to bed a little bit earlier.



## Skin

Sometimes the area of your skin being treated can become pink and warm. It may become dry and itchy and sometimes sore and red or even blister. If your skin gets irritated by the treatment, you can use Cetraben cream to help soothe it.

- You should wash your skin with lukewarm water and an unperfumed soap. Pat your skin dry gently with a soft towel.
- If you are having treatment in an area that you shave, it is best to use an electric razor, or not shave at all until after the treatment has finished and your skin has settled down.
- Wear comfortable clothes. Loose clothing with cotton next to your skin can be best.

During treatment, you will need to protect the treatment area from the sun by covering up. When the treatment has finished, this area of skin will always be more sensitive to the sun. You should therefore use sunscreen with both UVA/UVB protection with minimum SPF 50 while in the sun.

We advise you not to swim while you are having radiotherapy as this could irritate your skin.



## Eating

Try to eat a good variety of foods. Your body needs extra energy during treatment.

Drink plenty of water to keep yourself hydrated.

If you are having your tummy or pelvis treated, you may get diarrhoea. If this happens, you should try not to eat too many fruit and vegetables as these can make your bowels looser.



# Hair

Radiotherapy may make you lose hair in the area treated. If you are having chemotherapy as well, you may lose all of your hair.

## Feelings and worries

Being diagnosed with a tumour can be a deeply distressing time for you and those closest to you. It is better to discuss your feelings with somebody rather than keeping them to yourself. If you don't find it easy to talk to your family, you can talk to your radiographers, nurses, doctors, play specialist or clinical liaison nurse about anything.

Sometimes you might find it easier to write down how you are feeling. You might find that you have a mixture of emotions all at once and that can be difficult.



## What about school?

You can go to school every day during your radiotherapy if you are well enough and want to go.

If you have had time off school, it can sometimes take a while to get used to being back. You may still get very tired and find it difficult to concentrate.

People will understand. Speak to your teacher if you are struggling.



## Will my friends understand?

Your friends will want to be there to help support you. Why don't you give them this leaflet to read to help them understand what you are going through?





# Contacts

## Beatson West of Scotland Cancer Centre

Reception Desk: ☎ 0141 301 7600  
Booking office: ☎ 0141 301 7300  
Radiotherapy Advice Line: ☎ 0141 301 7432  
Dr Cowie's Secretary: ☎ 0141 301 7067

**Paediatric Liaison Nurse: Shona Mills,**

☎ 0141 301 7337 Page number: 15185

✉ [shona.mills@ggc.scot.nhs.uk](mailto:shona.mills@ggc.scot.nhs.uk)

**Paediatric Radiographer: Jill Scott,**

☎ 0141 301 9903 Page number: 15700

✉ [jill.scott@ggc.scot.nhs.uk](mailto:jill.scott@ggc.scot.nhs.uk)

**Teenage Cancer Trust** has a unit within Ward B4 and B7 in the Beatson.  
There is a chill out zone located in B7.

☎ 0141 301 7586 or ☎ 0141 301 7616

## Other sources of information and support

Children's Cancer and Leukaemia Group (CCLG) can be contacted via [www.cclg.org.uk](http://www.cclg.org.uk)

**Young Lives vs Cancer** – Helping children and young people with cancer find the strength to face everything cancer throws at them.

🌐 [www.younglivesvscancer.org.uk](http://www.younglivesvscancer.org.uk)

**The MSN for children and young people with cancer** - Information for children and young people with cancer and their families/carers in Scotland.

🌐 [www.youngcancer.scot.nhs.uk/](http://www.youngcancer.scot.nhs.uk/)

**A special thanks to the parents  
and children who provided  
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leaflet.**

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