

# Radiotherapy for Children, Teenagers and Young Adults

Information for patients  
and parents



This leaflet provides you with information about radiotherapy and the team who will care for you / your child.

The leaflet describes radiotherapy planning and treatment. It also explains the side-effects, which you / your child may experience during and after treatment.

Each patient's treatment will vary so the information given is a general guide. If you have any questions after reading this leaflet, please speak to the team. The team will make every effort to meet you / your child's individual needs or will direct you to the person who can help.

*All your radiotherapy appointments will take place in the Radiotherapy department on Level -2, Bexley Wing, Leeds Cancer Centre, LS9 7TF.*

## **What is radiotherapy?**

Radiotherapy is the use of high energy x-rays to treat cancer. The tissues of the body are made up of tiny building blocks called cells. Radiotherapy causes damage to cancer cells in the treated area. Although normal cells are also affected, they can repair themselves and are able to recover. Radiotherapy is a localised treatment, meaning it only affects the part of the body that is being treated.

When you / your child is having radiotherapy, they will not feel anything and the radiotherapy will not make them radioactive. They may hear a buzzing noise when the machine is switched on. The photo below shows a typical radiotherapy treatment machine.



Radiotherapy is usually given over 1 day - 7 weeks. This is a total of between 1 - 35 treatment days. Treatment is usually given daily, Monday to Friday; however, you / your child's treatment may not start on a Monday. Radiotherapy can take between 15 minutes and up to 1 hour to deliver, depending on the area being treated. Radiotherapy is usually given as an outpatient and your child may need to attend for treatment on a weekend due to a bank holiday. We will let you know if this is the case. Whenever possible, your child will attend at a time of day that suits you but this cannot always be arranged or guaranteed.

## **The Radiotherapy team**

The Radiotherapy team are a key part of the Oncology / Haematology clinical specialist teams at Leeds General Infirmary and other hospitals.

### **Clinical Oncologist**

The clinical oncologist is the consultant who is responsible for and supervises you / your child's course of radiotherapy treatment.

### **Paediatric Therapeutic Radiographers**

The paediatric therapeutic radiographers offer advice, information and support to you / your child and family during the radiotherapy process. They will be a point of contact throughout treatment preparation, planning, delivery and follow-up. We also have therapeutic radiographers called 'buddies'. They give you additional support throughout your child's course of treatment.

### **Paediatric Radiotherapy Nurse Specialist**

The paediatric nurse specialist provides support, information and advice to patients and their families for the duration of planning, treatment and follow-up.

### **Play Specialist**

The play specialist supports you / your child throughout radiotherapy preparation and delivery, and provides coping mechanisms to reduce fears and concerns.

### **Therapeutic Radiographers**

Therapeutic radiographers are the professionals who operate the radiotherapy machines. They are specially trained in the accurate planning and delivery of radiotherapy treatment.

## Mould Room Technicians

Mould room technicians create equipment to help your child maintain the same position each day for treatment.



Please use the following link to see a video about the mask making process:

<https://www.lchtv.com/paediatric-radiotherapy>

## Physicists and Dosimetrists

The physicists and dosimetrists work behind the scenes to accurately plan you / your child's radiotherapy treatment.

## Paediatric General Anaesthetic team

If your child requires a general anaesthetic for their treatment, this care will be provided by an anaesthetist, operational departmental practitioner and a nurse.

## The children and young adult's rooms

This unit is a purpose-built facility within the larger radiotherapy department. It acts as a hub for you / your child during treatment and as an area to wait, rest and play.



The treatment room is used for those who may need nursing care. The clinic room is where patient consultations and assessments take place, including weekly review appointments.

## Radiotherapy planning

Before you / your child's planning appointments, you may have an introductory meeting with the clinical oncologist. This may be done in person or over the phone / via a video link. During this appointment, you will meet members of the Paediatric Radiotherapy team and will be able to familiarise yourself with the department. We will discuss the radiotherapy planning and treatment processes and you will have the opportunity to ask any questions you may have.

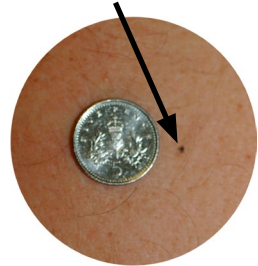
A number of appointments will then be made to plan the radiotherapy treatment. You / your child may need a mask for their treatment and this will be made during the planning phase.

The planning process also involves having a CT scan of the area to be treated. This will be done on a CT scanner in the Radiotherapy department. There may be several members of the team present at this scan. You / your child will be placed in the position they will need to be in for their treatment. The CT scanning time can vary in length and this will be discussed with you. Radiotherapy CT planning scans are not diagnostic scans. The images from the scan are used to plan you / your child's radiotherapy treatment.



Small permanent dots may need to be made under the skin with ink. This involves a tiny scratch with a needle. These 'tattoos' act as reference points during treatment. This helps the radiographers to make sure you / your child is treated in the same position throughout the entire radiotherapy course.

*Permanent ink mark next to a five pence piece*



## MRI scan

A MRI scan may be taken to determine the exact shape, size and position of the treatment area. This will be used for planning your child's treatment.

Maintaining a stable position is vital for accurate radiotherapy. Each patient is assessed for their particular needs before any planning takes place. If you / your child requires a general anaesthetic, you will be provided with the **General Anaesthetic for Radiotherapy** leaflet. We will discuss with you what this involves.

## Radiotherapy delivery

We ask that you arrive early for you / your child's appointment to ensure there is time for any preparation that is needed.

The radiotherapy treatment involves you / your child lying completely still on the treatment couch. Various pieces of equipment may be used and these will have been decided on during the planning process. The 'tattoos', which may have been created during the CT scan, will be used to ensure the same position is maintained for each treatment. You / your child may need to undress and put on a gown. The radiographers will discuss this with you when you first attend the department. The radiographers will position you / your child and adjust the treatment couch and machine to the correct positions.

For the first few treatments, and also, intermittently during treatment, we will take images to check the accuracy of the treatment. This will take a few minutes or more. These images do not monitor you / your child's condition. They are purely for treatment accuracy.

During you / your child's treatment, they will be alone in the Radiotherapy room. However, the radiographers will be able to see you / your child on monitor screens at all times and can speak over the intercom system if needed.



During the treatment, you / your child will not see or feel the radiotherapy treatment beam but they may hear a buzzing noise. The machine will move around you / your child but will not touch them. Treatment time may vary but this will be explained to you by the therapeutic radiographers. The time the beam is on is fairly short but it can take time to position correctly.

## Additional information

Whilst you / your child is having their radiotherapy treatment, parents / carers will be asked to wait in the designated waiting areas.

On some days, the department may be busy and there may be a delay before your treatment. We will keep you informed of any delays. It may be a good idea to bring something to eat and drink with you, including any medications you / your child may need. Some refreshments are available in the waiting areas.

You will be able to park in the hospital's multi-storey car park free of charge when attending for radiotherapy appointments. We will provide you with an appointment letter to use as your parking ticket.

Information booklets and support resources are available in the department. Please ask a member of staff if you need any additional information.

**It is very important that you / your child does not miss treatment days as it may make treatment less effective. If you feel you / your child is unable to attend for any reason, please telephone us so that we can discuss this with you.**

Radiotherapy may cause side-effects which will vary. This is because it depends on the area being treated, whether other treatments are being given and you / your child's individual treatment plan.

Acute side-effects occur during the course of treatment or in the few weeks after treatment completion. Specific treatment plans and side-effects of you / your child's radiotherapy will be discussed with you and you will have the opportunity to ask questions. You / your child will be given information and explanations appropriate to their age and understanding.

## Fatigue

You / your child may feel very tired whilst receiving radiotherapy. This tiredness may continue for several weeks or months after radiotherapy has been completed. This is a very common side-effect of radiotherapy. It can be helped by keeping you / your child hydrated and making sure they get plenty of rest.

## Skin

Some patients develop a skin reaction whilst having their radiotherapy. The skin in the area being treated may become red or darker, flaky and itchy. In the long-term, the affected skin may be discoloured (pigmented). Skin reactions will heal and the Radiotherapy team will assess you / your child's skin each day when they attend for treatment. They will continue to do so when your child attends for follow-up. We advise that you / your child washes the area with warm water and unperfumed soap / gel. The area should be dried by patting, not rubbing, the skin. Do not put any creams on the skin without first seeking advice from the team.

Some moisturisers may be used in the area being treated and the team will recommend to you which creams can be used if required. Dressings may also be needed for some skin reactions and the team will assess this throughout the course of treatment.

Radiotherapy increases sensitivity to the sun so it is essential that you / your child's skin has lifelong high factor sunscreen applied.

### **Bone marrow**

Radiotherapy to some parts of the body can sometimes affect the bone marrow. We may monitor the levels of red cells, white cells and platelets by carrying out regular blood tests on you / your child throughout their treatment.

### **Appetite changes**

You / your child may experience a loss of appetite during radiotherapy. It is important that you / your child tries to maintain a well-balanced diet throughout treatment and drink plenty of fluids. It may help to have several small snacks during the day rather than one big meal. You / your child will be weighed and assessed regularly throughout treatment.

### **Nausea and vomiting**

Some patients may feel nauseous (sick) or may vomit after a radiotherapy treatment. This can specifically occur if the brain, abdomen / tummy or pelvis is within the area being treated. The clinical oncologist or clinical nurse specialist can prescribe anti-sickness medication if required.

## Diarrhoea and constipation

Radiation to certain areas such as the abdomen, lower spine and pelvis may mean the treatment causes loose watery poo (diarrhoea). On the other hand, as a result of the prescribed medications, you / your child may experience constipation. Medications may be prescribed and advice provided if either of these occur.

## Sore throat and taste changes

Patients receiving radiotherapy to the upper body and head and neck area may experience a sore throat, or experience changes in taste. Irritation of the throat and mouth by the radiation may cause discomfort, when eating or swallowing.

You / your child will be assessed and may receive medication to help with swallowing, as well as information on how to keep your mouth healthy and clean.

## Hair loss

If you / your child needs radiotherapy to the head area, they are likely to experience hair loss. The team will be able to provide you / your child with advice in relation to hair and skin care. Hair may grow back after treatment but may not be the same texture, colour or thickness as before.

## **When radiotherapy is finished**

You / your child's side-effects may get worse in first few weeks after treatment and will then gradually settle. These should start to settle after 4 - 6 weeks but may take longer.

You / your child may be asked to return for follow-up checks at regular intervals. This will vary according to the area of the body that has been treated.

## **Late effects of radiotherapy**

Late side-effects may occur many years after treatment has finished. They are very much dependent on the area being treated and the dose of radiation given. Your clinical oncologist will discuss these with you in depth when you attend for your introductory meeting.

## Contact details

Paediatric / Teenagers and Young Adults radiotherapy is open Monday to Friday, 8:00 am - 6:00 pm.

Tel: **0113 206 8619** or **0113 206 7810 (answer machine)**

Email: **[leedsth-tr.paediatricradiotherapy@nhs.net](mailto:leedsth-tr.paediatricradiotherapy@nhs.net)**

At certain times during the day, we may not be able to answer the telephone. Please leave a message on the answerphone and we will get back to you as soon as possible.

## Other useful contacts

### Main Radiotherapy Reception

Open from 8.00 am - 6.00 pm. Tel: **0113 206 8940**

### Ward / Clinic

The Paediatric / Teenagers and Young Adults team will complete this with specific, relevant contact details.

Monday - Friday daytime:

Evenings and weekends:

## Local support services

### Maggie's Centre

If you or someone you love has cancer, you may have lots of questions. Maggie's is a warm, welcoming place, where you can meet people who are experiencing similar things to you.

You may also be able to find support groups specific to your needs and get advice and information from their professional staff.

You don't need an appointment and all support is free.

Tel: **0113 457 8364**

(Monday to Friday, 9.00 am - 5.00 pm).

Email: **leeds@maggies.org**

Website: **<https://www.maggies.org>**

Address: **St. James's University Hospital**  
(next to the multi-storey car park)  
**Alma Street, Leeds**  
**LS9 7BE**

### Candlelighters

Candlelighters provide support to children and their families affected by childhood cancer in Yorkshire.

Tel: **0113 8878333**

Website: **[www.candlelighters.org.uk](http://www.candlelighters.org.uk)**



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[leedshospitalscharity.org.uk](http://leedshospitalscharity.org.uk)



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