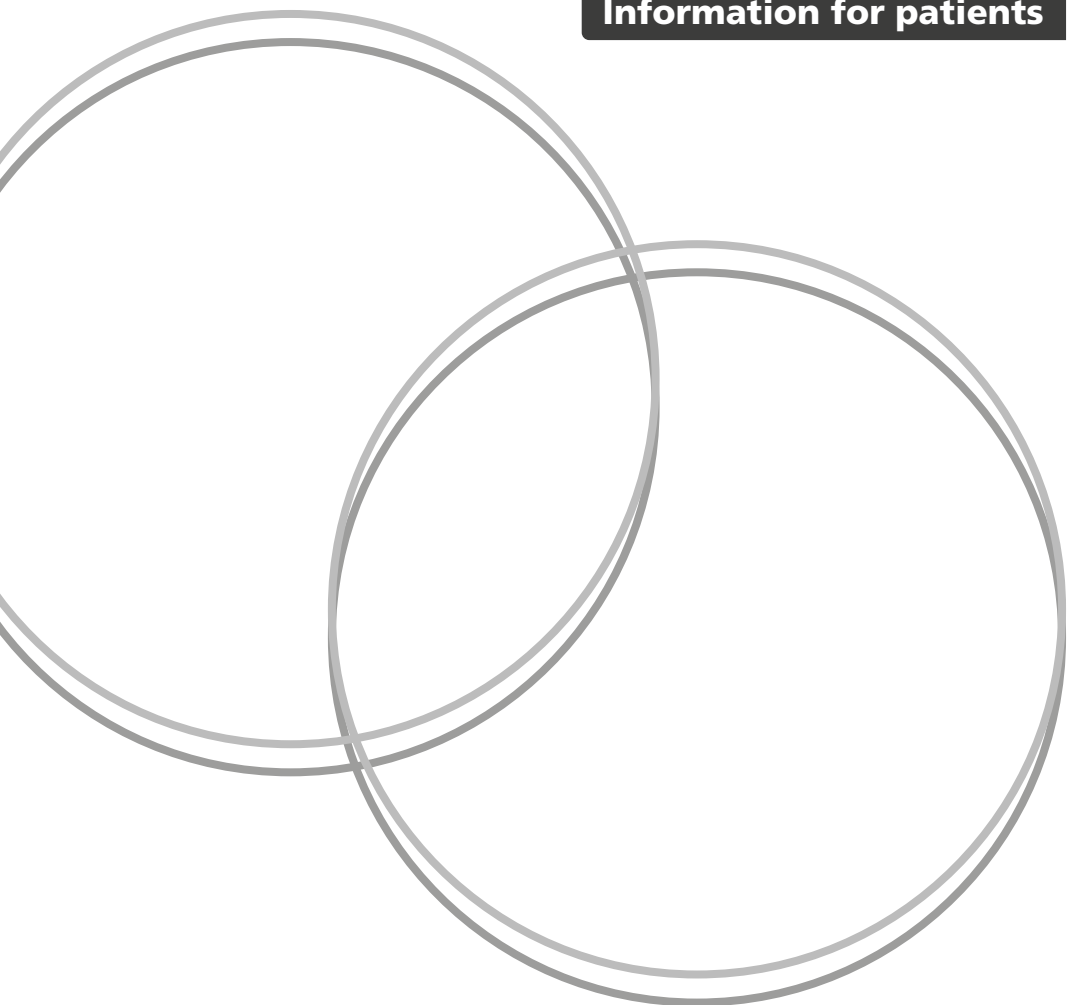


# Magnetic Resonance Linear Accelerator (MR Linac) Radiotherapy

Information for patients





Your doctor has discussed with you the opportunity to have your radiotherapy treatments on an MR Linac (Magnetic Resonance Linear Accelerator). An MR Linac combines two technologies – a magnetic resonance imaging (MRI) scanner and a radiotherapy machine (linear accelerator or 'linac'). You may have had an MRI scan before.

This machine will allow us to see the treatment area very clearly and adapt the treatment to improve accuracy if necessary.

The Oxford University Hospitals NHS Foundation Trust and the University of Oxford are working in partnership with GenesisCare to make radiotherapy treatments on an MR Linac available to Oxford NHS patients at their centre in Oxford.



Photo of the MR Linac in Oxford courtesy of GenesisCare

## **What are the differences in treatment on the MR Linac compare to a standard machine?**

The machine looks very similar to a standard MRI scanner. The treatment you will receive will be the same as on a standard radiotherapy machine. However, we will be using MRI scans before and during your treatment. In contrast to X-ray images taken during standard radiotherapy, these MRI scans do not involve giving any additional radiation dose. Before treatment, you will need to have a planning session on the MR Linac as well as on a CT scanner the same day.

Some people are not able to undergo an MRI scan, including those with pacemakers, metal heart valves, some implants, aneurysm clips in the brain or people who have had metal fragments in their eyes.

When you attend for a radiotherapy planning session, the MR Linac radiographers will ask you some questions and ensure that it is safe for you to have a scan. There are usually no special preparations required. You may eat and drink normally unless you have been told otherwise. When you come for your planning appointment, you are advised to wear clothing without metal fastenings, decorations or fibres.

You will be carefully screened at the beginning of treatment, and again before each visit, to ensure that you are safe to enter the MR Linac treatment room and have a scan. If you have any questions regarding safety or if anything has changed during your course of treatment in your eligibility for an MRI scan, please discuss these with your doctor and radiographers as soon as you can.

## **What happens during treatment on the MR Linac?**

You will be asked to change into hospital clothing before treatment and will be shown where you can leave your belongings.

In the treatment room, the radiographers will position you for radiotherapy and then leave the room in order to operate the machine from outside. You will be holding an emergency call button and can speak to the radiographers at all times on the intercom. Staff will be able to closely monitor you at all times during the session on CCTV.

The scanner produces a range of loud noises during the scan; you will be provided with ear protection and will be able to listen to music.

The scans and treatment are painless and only last a few minutes each. It may be necessary to repeat the scans a number of times; treatment sessions can take up to an hour each day.

## **What happens if I decide I no longer want treatment on the MR Linac?**

If at any point you decide you no longer want to have treatment on the MR Linac, you can have standard radiotherapy at the Churchill Hospital. You will need to have another planning CT session at the Churchill Hospital before you can continue your treatment.

## **Are there any different side effects from treatment on the MR Linac compared to a standard linac?**

The radiotherapy side effects are no different for treatment on the MR Linac when compared to treatment on a standard radiotherapy machine. There are no anticipated side effects from the MRI scan itself, however very occasionally people do experience a metallic taste, tingling in hands and feet, and an increase in body temperature.

Please consult the radiotherapy booklet provided by your doctor for information regarding specific side effects of your radiotherapy treatment. During the course of your radiotherapy treatment and follow-up, your medical team will monitor you closely.

## **What do I have to do?**

The planning and treatment appointments for the MR Linac will take place at the GenesisCare's centre in Oxford rather than the Churchill Hospital although you will still be under NHS care. You will need to organise your own transportation to GenesisCare's centre in Oxford where there is free parking.

## Contact information

If you have any questions or concerns, please feel free to speak to your Oncologist or any member of the MR Linac team.

### **Churchill Hospital Radiotherapy reception**

Telephone: **01865 235 465** or **01865 235 466**

This partnership has been made possible by a generous donation from the John Black Charitable Foundation.

### **GenesisCare**

GenesisCare's centre in Oxford is located southeast of Oxford city centre, just off the A4142 Oxford ring road, providing access from the M40, A40 and A34.

Peter's Way  
Sandy Lane West  
Oxford  
OX4 6LB

Telephone: **01865 237 700**

Website: **[www.genescare.com/oxford](http://www.genescare.com/oxford)**

## Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

Portions of this document were copied in part from a document (CHR/XRT/1333/19.02.19 Version 1) created by The Christie NHS Foundation Trust.

Authors: Ms Kwun-Ye Chu, Dr. Rob Owens, Mrs Angela Baker,  
Radiotherapy Department, Churchill Hospital

June 2024

Review: June 2027

Oxford University Hospitals NHS Foundation Trust

[www.ouh.nhs.uk/information](http://www.ouh.nhs.uk/information)



*Making a difference across our hospitals*

[charity@ouh.nhs.uk](mailto:charity@ouh.nhs.uk) | 01865 743 444 | [hospitalcharity.co.uk](http://hospitalcharity.co.uk)

OXFORD HOSPITALS CHARITY (REGISTERED CHARITY NUMBER 1175809)

