

Receiving radiotherapy on the MR-Linac

Your doctor has discussed having your treatment on a machine called the MR-Linac (magnetic resonance linear accelerator). The machine combines a normal radiotherapy machine (linear accelerator) with an MRI scanner which provides high quality images with no radiation dose.

The MR-Linac will allow us to see the treatment area more clearly and make changes to improve the accuracy of treatment.

What are the differences in treatment on the MR-Linac compared to a standard machine?

The treatment you will receive will be the same as on a standard radiotherapy machine (linear accelerator or 'linac') however, the process will be slightly different. We will be using MRI scans before and during your treatment. In contrast to standard images taken during radiotherapy, these MRI scans do not involve giving any radiation dose.

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 metal fragments in their eyes.

When you attend for your radiotherapy planning scan, the MR-Linac radiographers will ask you some questions to ensure that you are safe to have a scan. If you have any implants or have recently had surgery, please bring any information that you have about the implants and discuss this with the radiographer looking after you. You may eat and drink normally unless you have been told otherwise. When you come for your planning scan you are advised to wear clothing without metal. If you take regular pain relief, please continue to do so. Please make sure to bring any medication with you to your appointment. You can wear glasses, but will need to take these off once you enter the MR-Linac room.

You will be carefully screened at your radiotherapy planning scan, and again before each scan/treatment session, to ensure it is safe for you to have a scan. If you have any questions regarding safety or if anything has changed please discuss these with your doctor/radiographers.

What happens during treatment on the MR-Linac?

The machine looks very similar to a standard MRI scanner. You may be asked to change into hospital clothing before your scan/ 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. Staff will closely monitor you at all times during the session on CCTV. You will be holding a call button and can speak to the radiographers at all times on the intercom by pressing the button.



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

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

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

The treatment that you receive will be the same as treatment on a standard treatment machine. If at any point you decide that you no longer want to have treatment on the MR-Linac it may be possible to transfer your treatment to another machine in the department. Your clinical team will discuss this with you. This may also be necessary if there is a routine machine service or breakdown.

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

The radiotherapy side effects from treatment on the MR-Linac are no different to side effects from 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. If you notice any of these symptoms, please inform the radiographers looking after you. 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.

Contact information

If you have any questions or problems regarding treatment on the MR-Linac please call: **0161 446 3485** and ask to speak to the MR-Linac team.

If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

The Christie is committed to producing high quality, evidence based information for patients. Our patient information adheres to the principles and quality statements of the Information Standard. If you would like to have details about the sources used please contact **the-christie.patient.information@nhs.net**

For information and advice visit the cancer information centres at Withington, Oldham, Salford or Macclesfield. Opening times can vary, please check before making a special journey.

