

MR-linac Radiotherapy

[Home](#) > [Treatments](#) > MR-linac Radiotherapy

What is MR-linac radiotherapy?

A radiotherapy evolution: real-time treatment personalisation

The Rutherford Cancer Centre North West is the first of the Rutherford centres to offer the next generation of personalised adaptive radiotherapy technology to oncology patients, with the new *Elekta Unity* MR-linac available in Liverpool.

The Elekta Unity is a state-of-the-art MR-linac machine that is setting a new standard for personalised radiotherapy. It provides the ability to reshape the radiotherapy treatment dose based on daily changes in shape, size and position of the tumour and surrounding healthy anatomy.

This then enables an accurate treatment dose delivery with real-time visualisation of the tumour - ensuring that every patient's treatment is adapted to their personalised real-time status.



Cancers that can be treated with MR-linac radiotherapy

Before treatment begins, an oncologist will discuss and explain the full aim of the MR-linac radiotherapy treatment plan and if further services will be required alongside it.

MR-linac radiotherapy can be used as a sole method for treating certain cancers or used in combination with other cancer services, such as chemotherapy, or to ensure that any remaining cancerous cells are destroyed following tumour removal surgery.

We are working towards being able to offer treatment for all suitable body areas with MR-linac radiotherapy. Contact us for further information on the current availability and suitability of MR-linac radiotherapy.

Areas of the body* that can be treated using MR-linac radiotherapy:

- Bladder
- Breast
- Oesophagus
- Glioblastoma
- Liver
- Lung
- Oropharynx
- Pancreas
- Prostate
- Rectum
- Stomach

State-of-the-art technology

With the Elekta Unity MR-linac delivering the latest advancements in precision radiotherapy, the Rutherford Cancer Centres continues to widen access to leading radiotherapy treatments for cancer patients across the UK.

- Treat tumours with certainty - the Elekta Unity Radiotherapy Machine can visualise the target tumour during treatment with confidence, ensuring that dose is delivered to the target and enabling more healthy tissue to be spared than ever before.
- Expand your treatment options - Elekta Unity provides an opportunity to manage hard-to-treat cancers and increase treatment options using the MR Imaging capabilities to visualise daily changes in tumour and surrounding healthy tissue.
- Assess tumour response* - Elekta Unity can leverage functional MRI protocols to probe radiobiology to detect/assess tumour response with diagnostic quality imaging provided by the state-of-the-art 1.5T MRI.
*DWI is intended for imaging purposes only and is CE marked only for brain applications.

How MR-linac radiotherapy is delivered

Integrating MR (magnetic resonance) with precision RT (radiotherapy) makes it possible to see the target tumour and soft tissue during treatment. This intelligent and pioneering technology will enable real-time visual tracking, enabling daily treatment adaption when treating cancer patients. The Elekta Unity MR-linac transforms the conventional radiotherapy workflow to a *scan, plan, treat* approach—to truly enable personalised radiotherapy for every patient, every time.

Scan:

Visualise daily changes with sub-millimetre resolution.



Plan:

React to changes in the tumour and reshape the dose.



Treat:

See the tumour while treating with stereotactic precision.



Putting the patient experience first

Elekta Unity has been carefully designed to make the treatment - for patients of all shapes and sizes - as comfortable as possible. In addition to the wide tunnel size and positioning options, a laser free workflow benefits the patient as it reduces set-up time by avoiding manual tattoo alignment. The patient-centric design includes:

- Short tunnel length and wide tunnel diameter
- Comfortable patient positioning
- Soothing and relaxing environment

At the Rutherford Cancer Centres it's important that patients are supported at all times during treatment but also afterwards. This includes regular follow-up checks with treatment teams and consultants, as well as access to supportive care services.

At the forefront of advancements in cancer care

The Rutherford Cancer Centres and Elekta are bringing the latest radiotherapy treatment technology to cancer centres across the UK.

Patient choice is central to our cancer treatment and care approach. We are expanding treatment services, and are providing clinicians with the opportunity to offer their patients more treatment options.

There are opportunities for clinicians to get involved and develop their professional skills in this exciting area of treatment and research. Opportunities include:

- Access to Elekta MR-linac consortium to promote knowledge and collaborate with industry leaders and peers, who can ensure world-class manufacturing and trusted service and support infrastructure to match your clinical needs, and drive development and clinical evidence generation
- Clinical and imaging protocol development for the unique MR-linac platform built with workflow and patient needs in mind
- Expanding treatment options as the Elekta Unity provides an opportunity to manage hard-to-treat cancers and increase patient treatment options
- To find out more please contact the [Rutherford Cancer Centre North West](#).

We're here for you

It's important that you feel supported, not only during your treatment but also afterwards, to give your body the best possible chance to heal.

After treatments your recovery will be supported by regular follow-up checks with your consultant. These will vary depending on the area of your body that's been treated, and the amount of treatment you've received. Follow-up appointments are used to help keep track of your recovery, so if you have any concerns you will have the opportunity to discuss them with your consultant.

The diagnosis of cancer combined with possible side effects can affect how you feel. Your treatment team is here to support you, and we encourage you to talk to us. Sometimes just talking about your emotions can be of great help and if necessary, we can arrange for further advice and support.

Macmillan Cancer Support offers a wide range of information and support, as well as help with your practical, emotional, and financial needs. All telephone helplines are free and confidential, and interpreting services are also available.

Freephone: 0808 808 00 00 (Monday to Friday, 9.00am – 8.00pm)

www.macmillan.org.uk

Supporting

MACMILLAN
CANCER SUPPORT



Contact Us

Get in Touch [0800 210 0402](tel:08002100402)

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- [Call us](#)
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