

Leo Cancer Care and Imperial College London Collaborate on Real-Time Tumour Tracking Research for Upright Radiotherapy

CRAWLEY, WEST SUSSEX, UNITED KINGDOM, September 17, 2026 /EINPresswire.com/ -- [Leo Cancer Care](#) today announced a research collaboration with [Imperial College London](#), the [LhARA](#) collaboration and Imperial College Healthcare NHS Trust to investigate real-time tumour tracking and radiation dose verification for upright radiotherapy.

The research will be carried out through a collaborative PhD project as part of MultiSci, Imperial's Medical Research Council-funded Doctoral Training Partnership. Aligning with MultiSci's theme of 'Realising the Power of Big Data to Improve Health', the project will explore how advanced X-ray imaging, artificial intelligence and automation could be used to monitor tumour motion and verify radiation delivery in real time while patients are treated upright.

By investigating accurate tumour tracking and dose measurement in an upright treatment position, the project aims to address a key technical challenge and generate evidence to support the continued development of upright radiotherapy.

Radiotherapy is recommended for more than half of all people diagnosed with cancer and contributes to around 40% of cancer cures worldwide. Despite advances in imaging, treatment planning and delivery, patients are still typically treated lying flat.

Upright radiotherapy has the potential to provide a more natural and comfortable treatment experience for many people while enabling more compact and efficient radiotherapy systems. Realising this potential requires the levels of accuracy and confidence clinicians expect from conventional treatment techniques.

The research will investigate how X-ray imaging could continuously monitor tumour position while simultaneously measuring the radiation dose delivered. Artificial intelligence and automated image analysis will be explored as research tools to identify improvements to the speed and reliability of treatment verification while maintaining clinical accuracy.

A key ambition is to achieve the first demonstration of real-time tumour tracking and dose verification specifically within an upright radiotherapy environment.

As an industrial partner, Leo Cancer Care will provide access to its research and development

facilities in Crawley, including its photon radiotherapy test bunker and linear accelerator photon source. This will enable experimental validation under realistic upright treatment conditions and help provide a pathway from academic research towards potential future clinical implementation.

"At Leo Cancer Care we feel very fortunate to bring in expertise from Imperial College London, Imperial College Healthcare NHS Trust, and the LhARA collaboration for this studentship. We share a common goal of improving radiotherapy, and it's wonderful to welcome an early career researcher to join us on this journey," said Tracy Underwood, Head of Translational Research, Leo Cancer Care.

"Not only is this an exciting opportunity to develop upright radiotherapy, it feeds into wider work about improving the accuracy of modern radiotherapy and so improving outcomes across all patients," said Dr Matt Williams, Consultant Clinical Oncologist, Imperial College Healthcare NHS Trust and LhARA collaborator.

"MultiSci are delighted to support the PhD student who will be carrying out this exciting research, and welcome Leo Cancer Care as our newest industry partner. The training and experience they will provide truly aligns with our ambition of empowering the next generation scientists to deliver cutting-edge research across the fundamental and applied medical biosciences," said Professor Laki Buluwela, Director MultiSci MRC DTP, Imperial College London.

"It is exciting to embark on a new phase in the development of the LhARA initiative. Working with Leo Cancer Care and our partners in MultiSci and the Imperial College Healthcare Trust we have the opportunity to contribute to the development of compact, automated, radiotherapy tailored to the patient. The partnership aligns with the LhARA collaboration's vision to create an ecosystem where co-creation pulls cutting-edge science into clinical practice to the benefit of patient care," said Professor Ken Long, Department of Physics at Imperial College London, who co-leads the development of LhARA at Imperial.

The project is expected to generate evidence supporting the safe and accurate delivery of upright radiotherapy while informing the future development of Leo Cancer Care's technologies.

Results will be shared through peer-reviewed publications, scientific conferences and academic, clinical and industrial collaborations, helping to translate research into technologies with the potential to improve both the patient experience and precision of cancer treatment.

Sophie Towe
Leo Cancer Care

[email us here](#)

Visit us on social media:

This press release can be viewed online at: <https://www.einpresswire.com/article/943020443>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2026 Newsmatics Inc. All Right Reserved.