

## First Patients Treated with Adaptive Radiotherapy on Linac MRI, Institut Curie's New High-Performance Facility



After several months of installation, the MRI-Linac has been operational since January 2025. The first patients at Institut Curie have now been treated with this next-generation radiotherapy machine, which is set to improve the management of the most complex clinical cases. Funded with 10 million euros by Institut Curie and the Hauts-de-Seine department, the MRI-Linac is installed at Institut Curie's Saint-Cloud hospital site.

The official inauguration of this cutting-edge equipment took place on March 31, 2025, in the presence of all partners, notably the Hauts-de-Seine departmental council and the manufacturer Elekta.

*"As part of our €56 million radiotherapy investment plan launched two years ago, the opening of the MRI-Linac to patients marks a major milestone," said Prof. Steven Le Guill, Director of Institut Curie Hospital Group. "Today, Institut Curie—which boasts the most comprehensive radiotherapy technical platform in Europe—is reinforcing its leadership in the Paris region and beyond. The MRI-Linac is highly attractive to healthcare professionals and opens up new opportunities for research and clinical protocols on an international scale."*

### Combining Improved Quality of Life for Patients with More Precise Treatments

Elekta's MRI-Linac Unity combines a particle accelerator delivering radiotherapy with a high-field MRI (1.5 Tesla), enabling real-time monitoring of tumor evolution and internal organ movements. This unique capacity for instantaneous adaptation offers unmatched precision in treating complex cancers while preserving healthy tissue. Particularly effective for cancers such as prostate cancer, this technology accounts for the mobility of neighboring organs (such as the bladder or rectum) and adjusts radiation doses accordingly.

**This precise, intensive targeting of the treatment area minimizes overall toxicity, preserves at-risk organs, and reduces the most undesirable side effects, significantly improving patients' quality of life.**

**Another major advantage is the significant reduction in the number of sessions required.** While classic radiotherapy may require up to eight weeks of daily treatment, MRI-Linac enables treatment completion in just five sessions over two weeks, with reduced toxicity.

*"In the most complex, high-risk situations, MRI-Linac allows us to minimize toxicity risks by tracking tissue movements in real time during irradiation—a real benefit for patients' quality of life. This achievement results from a collaborative effort involving experts across various complementary medical specialties, each*

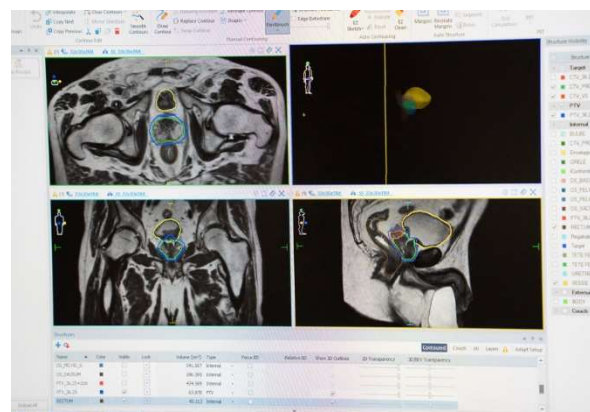
*contributing to the lasting transformation of radiotherapy,"* said **Prof. Gilles Créhange**, Head of the department of oncological radiotherapy at Institut Curie.

### A Collaborative Effort for the Benefit of Patients

The installation of the MRI-Linac at the Saint-Cloud hospital site represents the culmination of a long-term project demonstrating Institut Curie's commitment to uniting multidisciplinary teams around cutting-edge innovations. Biomedical engineers, medical physicists, radiologic technologists, clinicians, and dosimetrists worked together to bring this ambitious project to life.

#### Key figures and info:

- > More than 245,000 patients treated by radiotherapy each year in France (French National Cancer Institute (INCa) - Panorama des cancers 2024)
- > Nearly **99,000 radiotherapy sessions** in 2023 at Institut Curie
- > Institut Curie's six-year radiotherapy investment plan, launched in 2023, totals **€56 million**
- > **12 particle accelerators at Institut Curie** (6 in Paris, 5 in Saint-Cloud, and 1 in Orsay aside from proton therapy)
- > Cost of the MRI-Linac project: **10 million euros** (9 million euros from Institut Curie and 1 million euros from the Hauts-de-Seine department)
- > **Main indications for MRI-Linac:** prostate cancer, colorectal cancer, primary or secondary liver cancer, bladder cancer, pancreatic cancer, cervical cancer, breast cancer, primary or secondary lung cancer



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#### About Institut Curie

Institut Curie, France's leading cancer center, combines an internationally-renowned research center with a cutting-edge Hospital Group, treating all types of cancer, including the rarest. Founded in 1909 by Marie Curie, Institut Curie employs 3,800 researchers, physicians, and health professionals across three sites (Paris, Saint-Cloud, and Orsay), all of whom contribute to its three missions of treatment, teaching, and research. Institut Curie is a charitable foundation authorized to receive donations and bequests. Thanks to the support of its donors, Institut Curie is able to speed up discoveries, thereby improving treatments and the quality of life of patients. To learn more: [curie.fr](https://www.curie.fr), [Facebook](#), [LinkedIn](#), [Instagram](#), [Bluesky](#)