
Clinical trial shows more precise radiotherapy using Elekta Unity MR-Linac preserves sexual function in men with prostate cancer

ERECT trial used MR-guidance to spare nerves and blood vessels essential for achieving and maintaining an erection

VIENNA – Elekta (EKTA-B.ST) today announced that use of its 1.5T Elekta Unity MR-Linac can enable doctors to reduce the radiation dose to key structures responsible for erection among men being treated for prostate cancer. The preliminary results of the ERECT (EREctile Function Preservation for Prostate Cancer Radiation Therapy) trial* were presented by University Medical Center Utrecht (UMC Utrecht, the Netherlands) clinicians at the 2025 European Society for Radiotherapy and Oncology (ESTRO) annual congress, May 2-6 in Vienna, Austria.

The ERECT Trial is a sub-study of MOMENTUM, the MR-Linac Consortium's platform registry. It showed reduced incidence of erectile dysfunction (ED) and preserved erectile function up to 18 months using MR-guided radiotherapy (MRgRT) compared to conventional radiotherapy in patients with localized prostate cancer.

In the study, researchers used Elekta Unity MR-Linac to treat 70 intermediate risk prostate cancer patients with a radiation dose of 36.25 Gy over five fractions. According to UMC Utrecht radiation oncologist and trial principal investigator, Jochem van der Voort van Zyp, MD, PhD, Unity's pristine MR image quality not only enabled detailed visualization of the prostate, but also that of critical structures needed to achieve and maintain an erection. This anatomy includes the neurovascular bundle, internal pudendal arteries, corpora cavernosa and penile bulb.

"While radiation therapy for prostate cancer has been shown to confer very high cure rates, the close proximity of nerves and blood vessels that support sexual function can mean they receive a radiation dose sufficient to interfere with their function," says Dr. van der Voort van Zyp.

"However, with the enhanced precision of MR-guidance, we gain the confidence to limit – or deescalate – the dose they receive. In short, the prostate gets the therapeutic dose while the erectile tissues receive a much lower dose, thus preserving their function."

The endpoint of this preliminary analysis was the incidence of ED – as reported by patients – at six, 12- and 18-months post-treatment, compared to a control group that received the same dosage without neurovascular sparing. ED incidence was significantly lower in ERECT patients at all time points (six months: 6% vs. 21%, 12 months: 8.5% vs. 38%, 18 months: 16% vs. 36%).

MRI is the gold standard for visualizing the prostate and surrounding structures in diagnostic radiology. Elekta Unity MR-Linac is the world's first and only device to combine a high-field MRI with a state-of-the-art linear accelerator and enables clinicians to use MRI to guide radiation delivery to tumor targets and avoid surrounding structures. In addition, while treatment is ongoing, the system allows clinicians to non-invasively monitor the position of the target. If for example, if a prostate shifts due to motion of the bowels or bladder filling, the radiation treatment can be discontinued to avoid unnecessary radiation to surrounding normal tissues.

"These results from the ERECT Trial add to a growing evidence base showing that minimizing the radiation dose to the normal tissues surrounding the prostate can improve the quality of life

of men with prostate cancer,” says John Christodouleas, MD, MPH, Elekta’s Senior Vice President of Medical Affairs. “An obvious way to reduce dose to normal tissues is to ‘see what you treat’ and the best way to see the prostate and surrounding tissues is using MR-guidance.”

To learn more about how clinicians can see clearly, adapt to change and be certain they are delivering the prescribed treatment with Elekta Unity, visit: <https://www.elekta.com/products/radiation-therapy/unity/>.

*Lalmahomed T, Teunissen F, de Boer J, van Melick H, Verkooijen H, Meijer R, Wortel R, van der Voort van Zyp J: [“The EREctile function preservation for prostate Cancer radiation Therapy \(ERECT\) trial \(NCT04861194\): preliminary results up to 18 months.”](#) Radiotherapy and Oncology. 2025; 206(1), 1924-1925.

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About Elekta

As a leader in precision radiation therapy, Elekta is committed to ensuring every patient has access to the best cancer care possible. We openly collaborate with customers to advance sustainable, outcome-driven and cost-efficient solutions to meet evolving patient needs, improve lives and bring hope to everyone dealing with cancer. To us, it's personal, and our global team of 4,500 employees combine passion, science, and imagination to profoundly change cancer care. We don't just build technology, we build hope. Elekta is headquartered in Stockholm, Sweden, with offices in more than 40 countries and listed on Nasdaq Stockholm. For more information, visit [elekta.com](https://www.elekta.com).