



Data presented at ASTRO underscore the promise of Elekta’s high-field MR-adaptive linear accelerator as a transformative advance in radiation therapy

Multiple presentations highlight clinical potential of MR-linac in a variety of cancers and demonstrate the need to address intra-session motion

BOSTON, September 29, 2016 – Elekta (EKTA-B.ST) today announced that its high-field MR-linac was the focus of multiple presentations at the American Society for Radiation Oncology (ASTRO) 2016 Annual Meeting, held September 25 – 28 in Boston. Additional abstracts presented by members of Elekta’s MR-linac Consortium also highlight the need for adaptation of radiation therapy to address moving tumors and nearby organs during treatment sessions. Naturally occurring physiological movements limit our ability to conform the treatment to the target and increase exposure of radiation to healthy tissues.

Elekta’s MR-linac will integrate an advanced linear accelerator and a 1.5 Tesla magnetic resonance imaging (MRI) system. Combined, these systems will allow for simultaneous radiation therapy delivery and high-field MR tumor monitoring.

A joint session of ASTRO and the European Society for Radiation Oncology (ESTRO) highlighted the potential for adaptive imaging in radiation therapy during a session titled [“In Room Adaptive Imaging with a Focus on MRI.”](#) Elekta’s MR-linac was featured in two presentations during this session:

- “Linac-based MR Device”; Christopher Schultz, MD, FACR, Professor in the Department of Radiation Oncology at Froedert and Medical College of Wisconsin. This presentation discussed strategies for integrating MR-linac into current RT protocols and provided an overview of the development plan that the Elekta MR-linac Consortium is undertaking in order to generate the clinical, physics and quality control data that will be essential for developing and realizing the full clinical potential of MR-linac technology.
- “MRI Linac: Physics Perspective”; Bas Raaymakers, PhD, Professor in the Department of Radiotherapy at University Medical Center Utrecht. This presentation highlighted the potential to leverage the power of MR-linac technology to move from pre-treatment planning to online plan adaptation and, ultimately, to real-time plan adaptation. Dr. Raaymakers also discussed the need for novel quality assurance procedures for MR-linac devices, patients and workflow.

“Online treatment adaptation is the future of radiation therapy and it is essential for enabling surgical precision and accuracy,” said John Christodouleas, MD, MPH, Vice President of Clinical Affairs, Elekta, and a practicing radiation oncologist at the Hospital of the University of Pennsylvania. “The Elekta MR-linac Consortium is advancing MR-linac technology toward the clinic. Data demonstrating the feasibility of MR-linac in breast, non-small cell lung cancer and other cancers also highlight required advances in the software and computer algorithms that are critical to transforming online imaging into actionable adaptive replanning.”

Additional key findings related to the MR-linac Consortium’s development of MR-linac presented at the conference include:

- Abdominal organ motion is complex and can occur despite motion management strategies. Abstract #3708: [“Complex Abdominal Organ Motion Assessed from MRI”](#); Eenas Omari, PhD, Postdoctoral Fellow in the Department of Radiation Oncology at Medical College of Wisconsin.



- Substantially improves targeting and lowers radiation dose to normal breast tissue in patients undergoing pre-operative partial breast irradiation. Abstract #3695: [“Dosimetric Feasibility of Pre-operative Partial Breast Irradiation in Prone Position Using MR-linac”](#); Phil Prior, PhD, Medical Physicist in the Department of Radiation Oncology at Medical College of Wisconsin.
- Clinically acceptable treatment plans for patients with locally advanced non-small cell lung cancer can be created. Abstract #3150: [“Dosimetric Implications for Radical Radiotherapy on the MR-linac \(MRL\) in Locally Advanced Non-small Cell Lung Cancer \(LA NSCLC\)”](#); Dr. Hannah Bainbridge, Clinical Fellow Lung Team, The Institute of Cancer Research, Sutton, United Kingdom, The Royal Marsden NHS Foundation Trust, Sutton, United Kingdom.
- Online adaptive replanning is feasible for prostate cancer radiation therapy. Abstract #3639: [“A Hybrid Adaptive Replanning Approach for Prostate SBRT”](#); Ozgur Ates, PhD, Postdoctoral Fellow in the Department of Radiation Oncology at Medical College of Wisconsin.
- An automated QA tool can quickly identify contour errors from auto-segmentation and may have utility in online adaptive replanning. Abstract #3638 [“Implementation of a Machine-learning Based Automatic Contour QA Tool for Online Adaptive Radiotherapy of Prostate Cancer”](#); Jing Qiao Zhang, PhD, Postdoctoral Fellow in the Department of Radiation Oncology at Medical College of Wisconsin.

Several additional presentations described the potential for MR-linac and adaptive therapy to enable dose painting – the precise delivery of varying doses of radiation to specific regions within a tumor in order to account for differences in cell type, location and density from one part of the tumor to another.

“The data presented at this conference support the potential of MR-linac as a key development in the future of radiation therapy and we are encouraged by the Consortium’s progress,” said Kevin Brown, Elekta’s Global Vice President of Scientific Research. “The use of integrated, MR imaging to improve radiation therapy is a topic of widespread interest within the community, and Elekta’s MR-linac is poised to deliver an advanced and intuitive treatment experience with the potential to significantly improve patient outcomes and our clinical customer experience.”

Elekta’s MR-linac is a work in progress and not available for sale or distribution.

###

For further information, please contact:

Gert van Santen, Group Vice President Corporate Communications, Elekta AB
Tel: +31 653 561 242, e-mail: gert.vansanten@elekta.com
Time zone: CET: Central European Time

Tobias Bülow, Director Financial Communication, Elekta AB
Tel: +46 722 215 017, email: tobias.bulow@elekta.com
Time zone: CET: Central European Time



The above information is such that Elekta AB (publ) shall make public in accordance with the Securities Market Act and/or the Financial Instruments Trading Act. The information was published at 10:00 CET on September 29, 2016.

About Elekta

Elekta is a human care company pioneering significant innovations and clinical solutions for treating cancer and brain disorders. The company develops sophisticated, state-of-the-art tools and treatment planning systems for radiation therapy, radiosurgery and brachytherapy, as well as workflow enhancing software systems across the spectrum of cancer care. Stretching the boundaries of science and technology, providing intelligent and resource-efficient solutions that offer confidence to both health care providers and patients, Elekta aims to improve, prolong and even save patient lives.

Today, Elekta solutions in oncology and neurosurgery are used in over 6,000 hospitals worldwide. Elekta employs around 3,600 employees globally. The corporate headquarters is located in Stockholm, Sweden, and the company is listed on NASDAQ Stockholm. Website: www.elekta.com.