Elekta's New Agility MLC Solution Poised to Revolutionize Beam Shaping of Radiation Therapy Cancer Treatments

CRAWLEY, England/PRNewswire/ -- Elekta announced today it has received clearance to CE mark Agility™*, a revolutionary beam-shaping device integrated into the head of a linear accelerator (linac). Patients and clinics will benefit from the speed and reliability of this new MLC design.
"According to WHO, cancer is a leading cause of death worldwide, and the incidence is expected to continue rising significantly," says Tomas Puusepp, President and CEO of Elekta. "To meet this increasing need, we have collaborated closely with leading hospitals and research institutions to develop a solution that can increase the throughput of patients while delivering outstanding precision. I'm proud to see that one of our largest projects ever is now ready to contribute to improving cancer care treatment."

He adds: "Modern cancer treatment is very complex and continues to be even more so. And it's vital to be able to shape a radiation beam with high precision to avoid harming surrounding tissue, while maintaining time efficiency. Agility is designed to meet these demands. When it reaches the market, hundreds of thousands of patients will benefit from this unique device every year."

Agility's leaf speeds are twice as fast as other MLCs commonly used within the industry. This means shorter treatment times for patients, while hospitals or clinics are able to treat patients more efficiently.

With twice as many leaves as a standard MLC, Agility will enable clinicians to sculpt delivered radiation doses to the unique contours of tumors with extreme precision. Clinicians can be confident that the leaves are producing the correct shape to deliver the prescribed treatment to the patient.

Reducing unwanted dose to healthy tissue or organs at risk is of primary importance. Consequently, Agility's leafbank is designed for extraordinarily low transmission.

"For our patients, the use of Agility with VMAT delivery will allow us to administer Stereotactic Body Radiation Therapy (SBRT) more quickly and efficiently than our current fixed-field approach," says Vivian Cosgrove, Ph.D., head of radiotherapy physics at St. James's University Hospital, Leeds, UK. "The speed of leaf movement possible with Agility will work in harmony with other technological developments – such as higher dose rate, Flattening Filter Free** (FFF) beams – so that further improvements can be made to SBRT deliveries."

Agility can be purchased as part of a new radiotherapy solution from Elekta, as well as an upgrade option to a large part of Elekta's installed base of linear accelerators.

This enables clinics to maximize the potential of their existing equipment.

Agility features include:

- 160 tungsten leaves, only 5mm thin, with a leaf speed of up to 6.5cm per second.
- High-performance reliability and precision using Elekta's novel Rubicon™ optical positioning system.
- Dedicated Integrity™ R3.0 software, Elekta's seventh generation digital control system, to precisely coordinate leaf movements with variable dose delivery rates and other treatment parameters.
- Integrated dynamic leaf guides streamline delivery and eliminate the need for "split fields" commonplace with other MLC systems.
- Large-field MLC will enable clinicians to shape radiation across fields of up to 40 x 40cm, providing a highly versatile single solution for a broad spectrum of therapies.

Watch the Agility video [1] and read more in the white paper: Agility, Intelligent design [2].

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[1] http://www.youtube.com/watch?v=p-IrnaPx6IA
[2] http://www.elekta.com/dms/elekta/elekta-assets/proof/Oncology/Physics/Other/WP-Agility---Intelligent-Design/WP%20Agility%20-%20Intelligent%20Design.pdf