

PRESS RELEASE

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WPE brings PBS aperture planning with Monte Carlo dose calculation to clinical use

The West German Proton Therapy Centre in Essen (WPE) has clinically introduced the Monte Carlo dose calculation method for proton pencil-beam scanning. The subsidiary of University Hospital Essen, WPE is a pioneering institute and was the first proton center in Europe to use RayStation for treatment planning.

WPE treated its first patients in 2013 and has used RayStation for all treatment planning since 2015. WPE has now become the European pioneer of Monte Carlo dose calculation in RayStation*, having recently treated the first patients planned with this method for dose calculation.

The Monte Carlo method enables superior prediction of the dose distribution for each patient. A key feature of RayStation's Monte Carlo dose engine is that it allows for plan optimization in pencil-beam scanning mode in conjunction with collimating patient-specific apertures. The addition of a brass aperture sharpens the lateral dose fall-off, yielding a highly conformal shaping of dose to the target volume.

Prof. Dr. Beate Timmermann, Director of the Clinic for Particle Therapy at WPE, says: "The combination of pencil beam scanning and apertures enhances our technical options to keep the high-dose regions away from critical structures. We opt for this technique in selected brain tumor cases where organs at risk are near the target volume."

Johan Löf, CEO of RaySearch, says: "WPE has a history of firsts and it is gratifying to see the first patient treatment using Monte Carlo dose calculation in Europe. Monte Carlo complements the precision of proton therapy, and the dose engine in RayStation strikes the optimal balance between accurate physics modeling and speed, making it highly effective in clinical workflows. RaySearch has a strong focus on proton therapy, and we aim to keep customers at the forefront by providing the leading functionality."

About WPE

The West German Proton Therapy Centre in Essen (WPE) is a leading institution for proton therapy in Germany and one of the most advanced proton therapy centers in the world. A team of specialists, including doctors, radiation therapists and medical physicists, work together to treat patients with sensitive or deeply located tumors that are either difficult or impossible to operate on. The treatment of children is also a particular specialty. WPE is a subsidiary of University Hospital Essen and thus part of the largest oncological center in Germany – the West German Cancer Centre (WTZ) – and benefits from the expertise of all oncology disciplines.

About RayStation

RayStation integrates all RaySearch's advanced treatment planning solutions into a flexible treatment planning system. It combines unique features such as multi-criteria optimization tools with full support for 4D adaptive radiation therapy. It also includes functionality such as RaySearch's market-leading algorithms for IMRT and VMAT optimization and highly accurate dose engines for photon, electron, proton and carbon ion therapy*. The system is built on the latest software architecture and features a graphical user interface with state-of-the-art usability.

About RaySearch

RaySearch Laboratories AB (publ) is a medical technology company that develops innovative software solutions for improved cancer treatment. RaySearch markets the RayStation treatment planning system to clinics all over the world and distributes products through licensing agreements with leading medical technology companies. The company recently launched the next-generation oncology information system, RayCare*, which comprises a new product area for RaySearch. RaySearch's software is used by over 2,600 clinics in more than 65 countries. The company was founded in 2000 as a spin-off from Karolinska Institute in Stockholm and the share has been listed on Nasdaq Stockholm since 2003.

To learn more about RaySearch, go to: www.raysearchlabs.com

* Subject to regulatory clearance in some markets.

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