

# PRESS RELEASE

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## RayStation 11B brings new features for adaptive workflows, brachytherapy, and radiation therapy with ions

*RaySearch Laboratories AB (publ) announces the launch of RayStation®\* 11B, the latest version of the company's advanced treatment planning system. The new version includes innovative new features as well as several general enhancements.*

A major feature of RayStation 11B is improved dose calculation accuracy on daily images for photon therapy. Daily cone beam CTs (CBCTs) give a better representation of the patient's anatomy at the time of treatment compared to a conventional CT, which is taken early in the process and used to plan the full treatment. To assess whether replanning is needed, it is important to be able to compute the dose based on the CBCT images. However, the quality of CBCT images is generally lower than for CT images and therefore not well suited for dose computation. To overcome this problem, RayStation 11B includes two new and advanced algorithms to create synthetic CTs, using the original CT and the daily CBCTs as input. This provides an increased dose computation accuracy, which is crucial for establishing a more reliable adaptive workflow in radiation therapy.

Another vital feature of RayStation 11B is the possibility to convert a physical dose to the biological equivalent dose EQD2. This is important to enhance planning and evaluation of combined treatments of different modalities with separate fractionation schemes. A valuable application field is the combination of brachytherapy, where high doses per fraction are used, with conventional photon therapy delivered over many fractions with relatively low doses per fraction.

Further, RayStation 11B is the first treatment planning system on the market to support evaluation of linear energy transfer (LET) for proton and other light ion plans. LET is a quantity that, in combination with the dose, provides information about the biological effect of the radiation. Areas of the body that receive high dose and high LET will experience more cell death, which is desirable in the tumor, but harmful to normal tissue.

A new versatile tool for fine-tuning the results of the initial treatment plan optimization has also been included in RayStation 11B. This further improves the quality of the treatment plan, and thereby the outcome for the patient.

Several improvements within machine learning, patient modeling, and photon and brachytherapy planning have also been added, many of which are based on user needs and wishes. In addition, the integration with oncology information system RayCare®\* has been further enhanced.

Johan Löf, founder and CEO, RaySearch, says: "Improvement for adaptive radiation therapy and enhanced tools for combined treatments are two essential features that push the frontiers of radiotherapy. The fact that RayStation 11B is the first treatment planning system on the market to support clinical evaluation of LET for proton and light ion plans is another good example of our mission to constantly keep bringing new and valuable benefits to both patients and clinicians."

### [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 (TPS) and the oncology information system (OIS) RayCare®\*. The most recent additions to the RaySearch product line are RayIntelligence® and RayCommand®. RayIntelligence is an oncology analytics system (OAS) which enables cancer clinics to collect, structure and analyze data. RayCommand, a treatment control system (TCS), is designed to link the treatment machine and the treatment planning and oncology information systems.

RaySearch software is used by over 2,600 clinics in more than 65 countries. The company was founded in 2000 as a spin-off from the Karolinska Institute in Stockholm and the share has been listed on Nasdaq Stockholm since 2003. More information is available at [raysearchlabs.com](http://raysearchlabs.com).

#### **About RayStation**

RayStation®\* is a flexible, innovative treatment planning system, chosen by many leading cancer centers worldwide. It combines unique features such as unmatched adaptive therapy capabilities, multi-criteria optimization, market-leading algorithms for treatment plan optimization for HDR brachytherapy and external beam therapy with photons, electrons, and protons, as well as helium and carbon ions. RayStation supports a wide range of treatment machines, providing one control center for all treatment planning needs and ensuring centers get greater value from existing equipment. RayStation also seamlessly integrates with RayCare®\*. By harmonizing the treatment planning, the care of cancer patients worldwide is improved.

#### **About RayCare**

The RayCare®\* oncology information system (OIS) is designed to support the many complex logistical challenges faced by today's oncology clinics. RayCare is closely integrated with RayStation®\* and provides seamless access to all the powerful planning tools in RayStation and RayCommand®. The system efficiently coordinates activities in radiation therapy and offers advanced features for clinical workflow automation, and adaptive radiation therapy. RayCare responds to the demand from clinics for a more user-friendly and workflow-oriented information system that can support the cancer care of the future.

*\*Subject to regulatory clearance in some markets.*

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