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siemens.com/mri-in-rt

MAGNETOM RT Pro edition

The time is now for MR in RT.

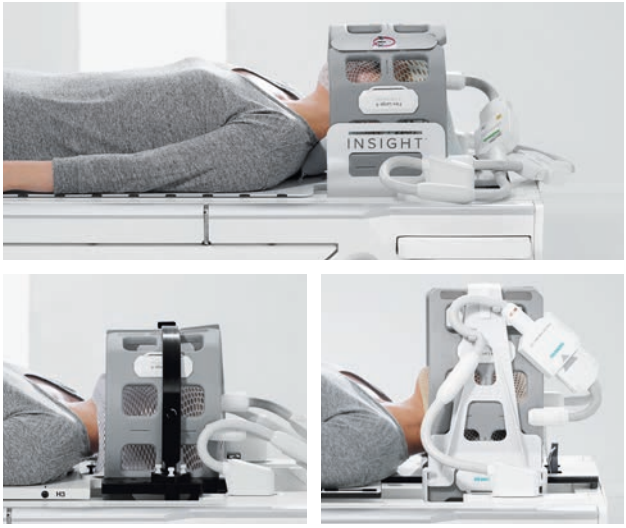
From 2006 to 2013, the utilization of MR images in radiotherapy treatment planning has **increased from 6% to 21% of all cases**[1]. This is due to the fact that MRI's excellent soft-tissue contrast, exact information on the tumor extent, and information about functional parameters can add substantial clinical value to the therapy process. The MAGNETOM RT Pro edition is a comprehensive package including hardware and software tailored to the needs of radiation oncology.

Easily scan patients in the treatment position

MRI Scanner

The top-of-the-line 70 cm Open Bore systems MAGNETOM Aera 1.5T and MAGNETOM Skyra 3T are the sound basis for MR in RT. Excellent patient access, a large Field of View, and trendsetting imaging applications enabled by the core technologies Tim 4G and Dot make the difference. The optional Tim Dockable Table improves your process efficiency by enabling the preparation of a patient outside the MR exam room.

RT Positioning Packages



To help ensure accurate and reproducible patient positioning, Siemens has partnered with Qfix, CIVCO Medical Solutions and Orfit Industries, leading vendors for RT patient positioning solutions. Patients can be immobilized with thermoplastic masks to assure that imaging is performed in exactly the same position for simulation and treatment.

Coils

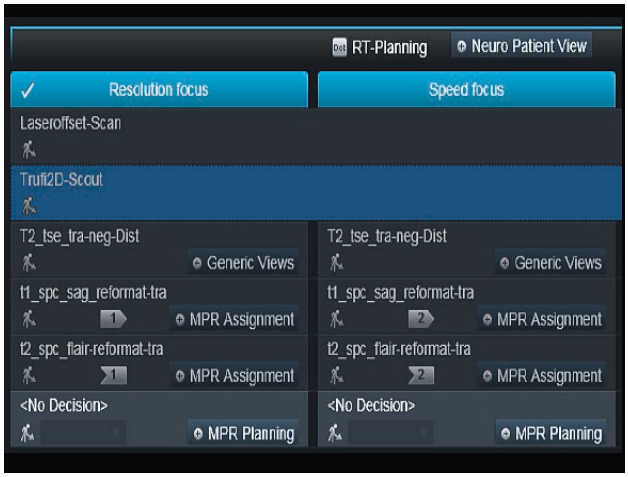
The MAGNETOM RT Pro edition is equipped with a set of additional Flex coils and a Body coil with an extended cable for more flexible positioning of the coils. This ensures excellent signal-to-noise ratio for brain, head & neck, and body (pelvic) imaging when immobilization devices are in place.

MR Compatible Laser Bridge

The optional LAP DORADOnova MR3T Laser Bridge is an external laser system supporting virtual simulation at the MR with red or green laser lights. For high accuracy the marked position is shifted to the center of the scanner when using the RT Dot Engine, so there is no need to use the laser of the MR scanner in addition.

Consistently rely on intuitive workflows and spatial integrity

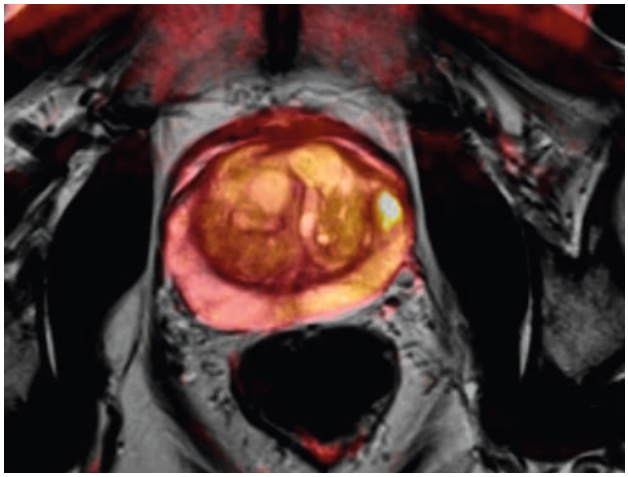
RT Dot Engine



Designed to enable consistent data acquisition and geometric integrity, the RT Dot Engine supports the user in the acquisition of suitable RT planning images, which can be further processed in external RT applications. It contains features like automatic distortion correction, laser quality assurance, and automatic axial image reconstruction.

Instructions to perform quality assurance with the commercially available ACR MRI accreditation phantom can be downloaded. www.siemens.com/mr-rt-qa

Applications



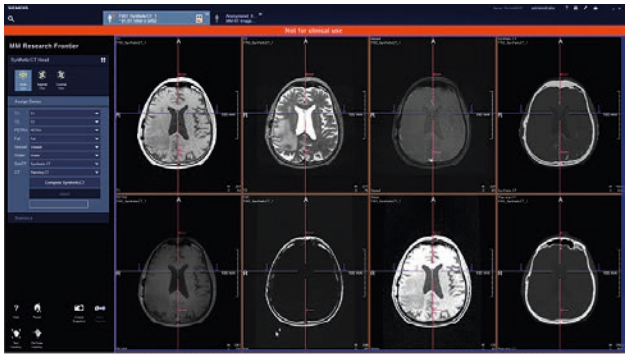
Siemens offers a variety of optional imaging applications which are tailored to address some of the main challenges in radiation oncology. Techniques like BLADE, Advanced WARP[2], Siemens-unique FREEZEit and RESOLVE help to maintain geometric integrity of the acquired data and to deal with typical sources of image artifacts.

Effectively establish multi-modality image viewing and precise contouring

Post-processing

syngo.via RT Image Suite[3] is a dedicated RT software solution enabling advanced multi-modality image viewing, registration and target contouring. For monitoring and therapy control, *syngo*.MR OncoCare is the tool to visualize functional changes at an earlier stage in order to evaluate treatment response.

MR only – syntheticCT on *syngo*.via Frontier[4]



The syntheticCT prototype aims at creating a "CT-like" image from an MR acquisition, enabling an MR-only treatment-planning workflow. In addition to the operational simplification, another potential benefit would be the reduction of the overall systematic error, as no CT-to-MR image registration is necessary anymore. *syngo*.via Frontier enables easy access to post-processing prototypes for clinical evaluation and publication purposes. The results can be further processed, for example with *syngo*.via RT Image Suite, for visualization, contouring, and further dosimetric evaluation.

[1] IMV 2014 Radiation Therapy Market Summary Report

[2] The MRI restrictions (if any) of the metal implant must be considered prior to patient undergoing MRI exam. MR imaging of patients with metallic implants brings specific risks. However, certain implants are approved by the governing regulatory bodies to be MR conditionally safe. For such implants, the previously mentioned warning may not be applicable. Please contact the implant manufacturer for the specific conditional information. The conditions for MR safety are the responsibility of the implant manufacturer, not of Siemens.

[3] This product is pending 510(k) clearance, and is not yet commercially available in the United States.
syngo.via can be used as a standalone device or together with a variety of *syngo*.via-based software options, which are medical devices in their own right. *syngo*.via is not yet commercially available in all countries. Due to regulatory reasons, its future availability cannot be guaranteed. Please contact your local Siemens organization for further information.

[4] For research use only, not for clinical use.

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