Siemens Reference Center
Radiation Oncology
Radiologische Allianz Hamburg

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The Radiologische Allianz is a network of eleven radiology practices, two of which are specialized in radiation therapy. Spanning across the Hamburg metropolitan area in northern Germany, this privately operated network diagnoses and treats approximately 15,000 patients per year and enjoys an excellent national and international reputation due to its strong research activities, especially in the field of radiation therapy.

Radiologische Allianz has an outstanding record in the early detection and precise diagnosis of diseases, and has always been an early adopter of innovative techniques and procedures in oncology. This expertise in radiation oncology and a successful collaboration with Siemens Healthcare ensure diagnostic and therapeutic treatment at the most effective level. The physicians at Radiologische Allianz have made it their mission to offer personalized care in their daily routine. Therapy is planned individually and optimized for each patient and disease.

The site, inaugurated in 2013 as “Q21” in Hamburg-Barmbek, provides both radiology and radiation therapy services at the highest technological level. In combination with the other sites, including the molecular imaging department, Radiologische Allianz covers the entire spectrum of radiation oncology services.

“The integration of advanced imaging into our established radiation oncology workflows allows us to provide even more precise radiation treatments for our patients. With Dual Energy CT, we have now significantly improved RT planning efficiency for patients with metal implants.”

Prof. Dr. med. Florian Würschmidt,
Radiation Therapist, Radiologische Allianz
Siemens Healthcare

Siemens Healthcare is one of the world’s largest suppliers to the healthcare industry and a trendsetter in medical imaging, laboratory diagnostics, and medical information technology. Siemens offers its customers products and solutions for the entire range of patient care from a single source – from prevention and early detection to diagnosis, on to treatment and aftercare. By optimizing clinical workflows for the most threatening diseases, Siemens helps to make healthcare fast, excellent, and cost-effective.

Continuous interaction with expert radiologists, radiation oncologists, and medical oncologists worldwide enables Siemens Healthcare to gain a deep understanding of the clinical and economic requirements of oncology care. In the field of radiology, radiation therapy, and oncology, Siemens Healthcare drives the development and optimization of clinical processes for specific diseases, such as lung cancer. The goal is to develop workflows and solutions, utilizing the most advanced technologies, that will provide the best possible care for each individual patient along the entire continuum of diagnosis and treatment.

The Siemens Healthcare Clinical Competence Center Oncology is dedicated to advancing these concepts and developments in selected clinical partnerships – together with our customers.

“As a pioneer in Healthcare, Siemens Healthcare helps to advance human health. We understand the complex needs of the radiation oncology workflow. We work to enable radiation oncologists to gain a deeper understanding of a patient’s disease by our imaging and diagnostics solutions.”

Dr. Norbert Gaus,
CEO Customer Solutions Division,
Siemens Healthcare
Radiologische Allianz and Siemens Healthcare are strengthening their joint activities in a strategic partnership by establishing the Siemens Reference Center Radiation Oncology. The partnership is based on a mutual commitment to integrating advanced medical technology systems into the clinical radiation oncology routine in order to achieve the best possible care for all patients. The partners will facilitate knowledge-sharing with clinical trainings and fellowships as well as through an exchange of expertise during clinical workflow visits and clinical workshops.

The collaboration is aimed specifically at improving clinical workflows and establishing innovative concepts for diagnosis, therapy planning, and treatment in radiation oncology: for example, providing established imaging modalities for diagnosis, staging, and therapy planning, and employing syngo®.via* as an advanced post-processing tool. 4D imaging and Dual Energy CT take diagnostic imaging to a new level that allows a closer integration of radiology and radiation therapy.
Exchanging experience

by demonstrating state-of-the-art workflows and advanced medical technology

Experience the impact that state-of-the-art medical and IT technology can make on the quality and efficiency of radiation oncology care – from diagnosis and staging to radiation therapy and follow-up. Participate in a customer visit that will demonstrate the integrated use of the multimodality workflow in clinical routines. Our visitor program also emphasizes the use of information technology for RT planning and the inclusion of multimodal information by collaborating with various remote practices within the Radiologische Allianz network.

The visit program at the Radiologische Allianz “Q21” site will be tailored to the individual requirements of our guests. It is led by experienced clinical specialists who present a variety of topic areas, including:

**Metal artifact reduction with Dual Energy CT**
In addition to a demonstration of efficient CT procedure planning and elements like wing board, abdomen compression, vacuum mattresses, and table stiffness, you will be introduced to advanced metal artifact-reduced images, supported by Varian planning software, that generate significant time savings in the clinical workflow and improved dose-planning accuracy.

**Multimodal diagnosis and RT planning**
Experience an innovative multimodal approach with the integration of advanced imaging modalities such as PET/CT and MRI into the RT planning workflow across various partner sites within the network of the Radiologische Allianz. Data evaluation across the various Radiologische Allianz sites is also part of the demonstration.

**4D imaging**
The exact location of the target volume during treatment delivery is the key to the success of radiation therapy, especially for moving targets like lung tumors. During your visit, the 4D capabilities of the CT system will be demonstrated, with a strong focus on temporal maximum intensity projection (tMIP).

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*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 and the syngo via-based software options are not commercially available in all countries. Due to regulatory reasons its future availability cannot be guaranteed. Please contact your local Siemens organization for further details.
Sharing knowledge

and broadening in-depth expertise in radiation oncology in multi-modality clinical trainings and fellowships

The Siemens Reference Center Radiation Oncology is open to medical professionals from all over the world who are interested in advanced workflow concepts for the radiation oncology process. You will experience the contribution of the most sophisticated medical equipment from Siemens and see how it is integrated into clinical workflows to achieve perfect outcomes and a high patient throughput. You can learn how to optimally integrate advanced imaging into radiation therapy and how to efficiently operate a multi-site concept with radiology, nuclear medicine, and radiation therapy across a large metropolitan area like Hamburg.

Broad expertise in radiation oncology

The radiology, molecular imaging, and radiotherapy procedures at Radiologische Allianz have an outstanding international reputation. Among other achievements, Radiologische Allianz was the first clinical department worldwide to use Dual Energy CT for metal artifact reduction. The site has integrated the procedure into their RT workflow for the optimal care of patients with metal hip implants (TEP), spine fixation, and other body regions affected by metal implants. This ensures optimal RT dose planning, patient safety, and patient care while improving workflow efficiency.

Training offerings for advanced procedures

To enhance knowledge-sharing between radiation therapists and radiologists, the Siemens Reference Center Radiation Oncology will conduct fellowships and on-site trainings several times throughout the year to provide insight into a variety of standard and advanced procedures across the entire radiation oncology process. These trainings will be conducted at the Radiologische Allianz, and can be adapted to accommodate individual needs as required.

“Precision is the key to successful therapy planning and is the basis for excellent therapy results. Our Siemens equipment enables us to obtain images of highest quality and precision.”

Dr. Christian Giro, Radiation Therapist, Radiologische Allianz
Driving the development of new solutions through multimodality integration and workflow optimization

Radiologische Allianz and Siemens work together to improve established workflows and find new ways to optimize patient management while ensuring the best clinical outcomes. The partners are striving to overcome technical limitations such as challenges in the upload of complex imaging data that provides information beyond the standard morphology details. Another focus lies in optimizing RT workflows across the entire treatment process. Radiologische Allianz will serve as an advisor for Siemens by exploring how innovative technologies like Dual Energy CT and multi-modality post-processing software can be further improved, and by addressing the full array of complex requirements of radiation oncology, including imaging accuracy.

In order to achieve the best possible treatment for each individual patient, Radiologische Allianz uses fast, accurate, and workflow-driven technologies in radiation therapy.

Prof. Dr. med. Jörn Sandstede, Radiologist, Radiologische Allianz

**Medical technology at the Reference Center**

**SOMATOM® Definition AS Open**
- Single Source Dual Energy
- RT Pro Edition including temporal maximum intensity projection (tMIP)
- Multi-purpose table
- Open CT for all patients in shared use between radiology and radiation therapy

**MAGNETOM® Avanto (1.5 Tesla)**
- Dedicated workflow support for oncological procedures
- Excellent view of pathologies in abdomen imaging with a large FoV
- Accurate lesion imaging with high-resolution DWI

**MAGNETOM® Spectra (3 Tesla)**
- Excellent 3D imaging capabilities
- Uniform signal intensity in the entire abdomen
- High accuracy, resolution, and SNR with Tim 4G
- High reproducibility of examinations with Dot engines

**syngo®.via**
- syngo.CT Dual Energy
- Dual Energy Mono Energetic
- Multimodality reading with MM Oncology

Improved dose distribution planning with Dual Energy CT
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