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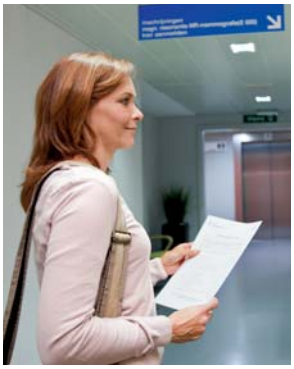
University Hospitals Leuven

Siemens International Reference Center MR Breast Care



Cooperation for early detection and reliable results

Siemens as our partner here at the hospital offers a wide range of breast care solutions, and we are therefore able to detect, diagnose, and treat breast cancer earlier, faster and with greater precision. This also helps us to fulfill the educational mandate we have as a university hospital and prepare our students for future challenges.

Professor Chantal Van Ongeval, MD

Radiologist,

University Hospitals Leuven, Belgium

University Hospitals Leuven, Belgium

Situated in the heart of Western Europe, the Catholic University Leuven has been a hub of knowledge for almost six centuries. Founded in 1425 it is the oldest existing Catholic university in the world.

As a large part of the university, with 1,995 beds and more than 8,800 employees, the University Hospitals Leuven is a network of hospitals on campuses at Gasthuisberg, Lubbeek, Pellenberg, Sint-Pieter, and Sint-Rafaël, making the network one of the largest in the country.

The infrastructure at the Gasthuisberg campus, where the breast care department is located, provides a fitting environment for high-quality imaging and full-service treatment.

Comprehensive patient care is available in the fields of prevention, diagnosis, treatments, and rehabilitation for outpatients as well as inpatients. Besides patient care and the focus on research, educating students is of great importance for the hospital.

In the interest of dedicated breast care, University Hospitals Leuven uses the latest imaging modalities from the fields of MR breast care, mammography and ultrasound. These breast care solutions are used to detect breast cancer early, provide reliable results, and offer great precision. The diagnostic clinic at Gasthuisberg campus is the contact point for about 50 women per day seeking clarity about breast discomfort or a routine breast examination. Here, they receive the best possible course of action and will be supported through their recovery.

University Hospitals Leuven

Clinical Results

Diagnostic breast MRI

Figure 1:
Contrast-media-enhanced dynamic breast scan.*

Figure 2:
Maximum intensity projection.

Figure 3:
Visualization of vascularization.

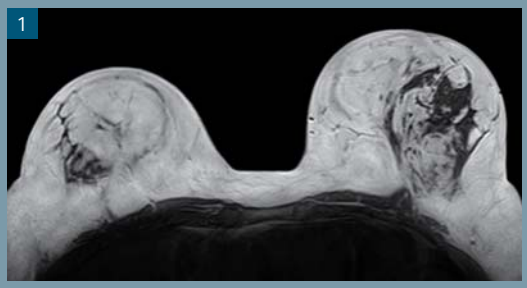
Figure 4:
MeanCurve describing contrast media uptake.

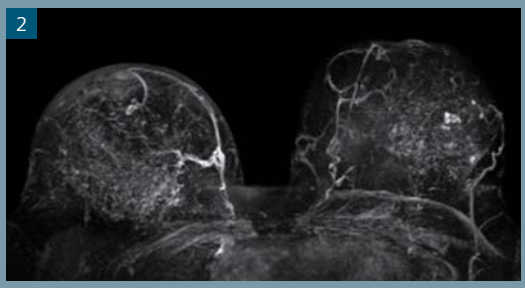
Figure 5:
High-resolution morphology imaging of breast tissue.

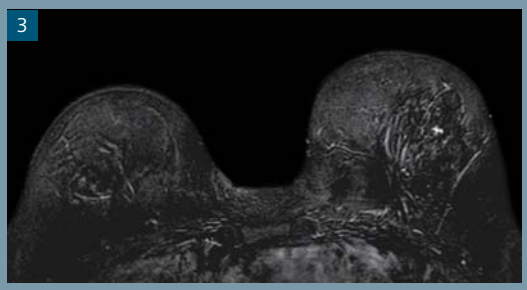
Interventional breast MRI including biopsy path planning

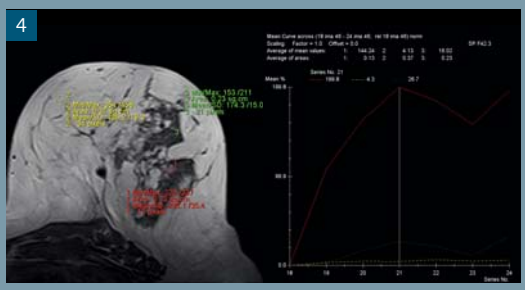
Figure 6:
syngo BreVis Biopsy.

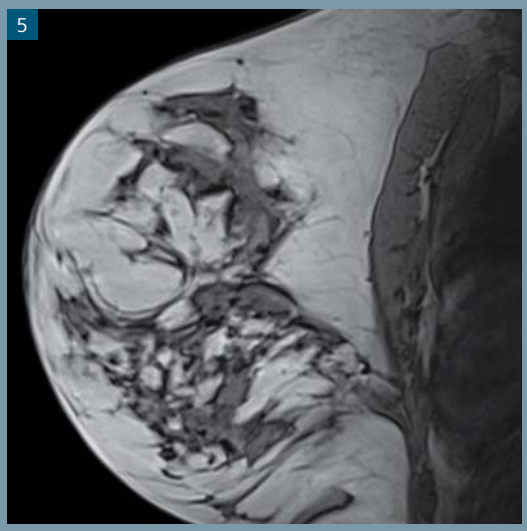
Figure 7:
Control scan during and after biopsy.

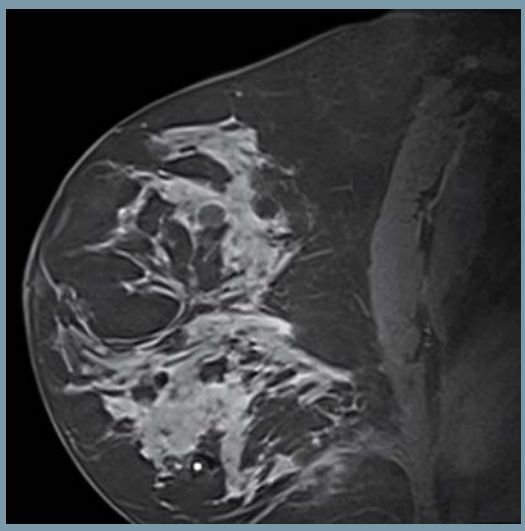


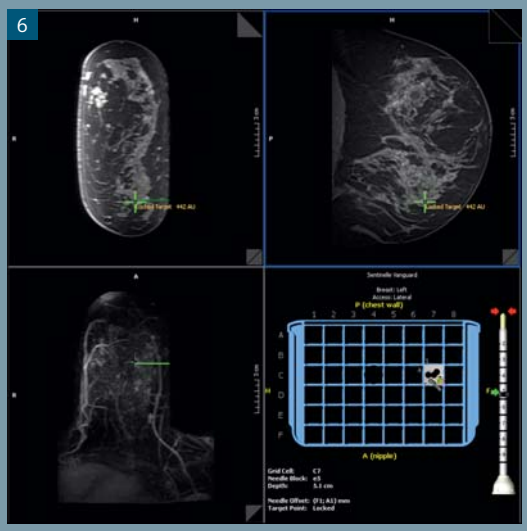


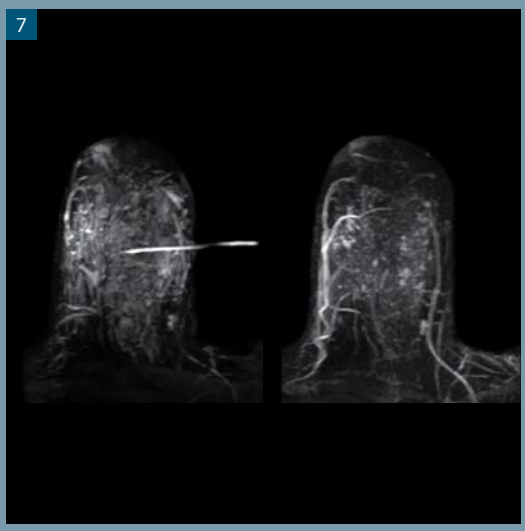






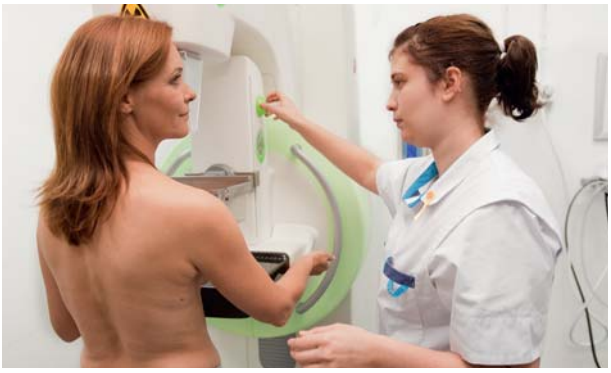


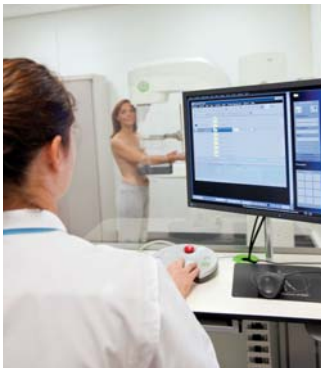




* A licensed physician may choose to use FDA-approved contrast agents in conjunction with an MRI exam, based on his/her medical opinion and discretion and in accordance with the instructions for use and indications for use supplied by the pharmaceutical manufacturer for the contrast agents.

The breast care department at University Hospitals Leuven uses various Siemens modalities for their daily work, for example MAMMOMAT Novation and MAMMOMAT Inspiration with Tomosynthesis.*





Targeted examinations for successful treatment

Breast cancer is a growing disease worldwide and the most commonly diagnosed disease among women. The disease occurs mostly in women, but men can get it, too. While it is still uncertain what exactly causes breast cancer, it is known that certain risk factors increase, the chance of getting cancer.

The breast care department at University Hospitals Leuven follows the footprints of breast cancer and focuses on the high quality of different investigation techniques such as mammography, ultrasound, magnetic resonance imaging (MRI) and biopsy techniques. "These techniques are the basis for the correct diagnosis of breast lesions," explains Professor Van Ongeval, head radiologist at the breast care department. Van Ongeval and her team examine about 50 patients per day, mainly using mammography and ultrasound. In addition, 20 MRI investigations per week are scheduled and several different biopsy interventions are processed.

Screening program offers first access

Very often, the first step for a woman to make an appointment for a breast checkup at University Hospitals Leuven is a letter inviting her to come to the breast care department for a free breast screening. This service is offered in line with the screening program – a program set up by the government to detect breast cancer before symptoms appear. As a certified local center, University Hospitals Leuven is taking over the first reading. The second and third readings are done in a central breast center. Professor Van Ongeval reports, "Every two years we devote one week for mammography screening, but never know how many women will show up."

Mammography as the norm

As most clinical institutions, University Hospitals Leuven uses mammography as the standard procedure for early detection and diagnosis of breast diseases. It is not only used as a checkup for patients who do not show any symptoms, but it is also used for patients currently experiencing cancer symptoms.

Professor Van Ongevals team works with three Siemens MAMMOMAT Inspiration systems and one Siemens MAMMOMAT Novation system that is installed in a mobile mammography unit. Two of their three MAMMOMAT Inspiration systems also offer Tomosynthesis*.

Ultrasound as an add-on

After the mammography has been performed a radiologist at University Hospitals Leuven reads the mammogram and decides whether a second examination with an ultrasound is necessary. Usually an ultrasound examination is used as an add-on to verify the mammogram result.

*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.



Magnetic resonance imaging (MRI) for breast imaging

The staff at University Hospitals Leuven uses magnetic resonance imaging when previous mammography and ultrasound scans have turned out to be suspicious. According to Professor Van Ongeval, "MR breast imaging is a good possibility for all patients. With MR you can see a lot more than with mammography or ultrasound." Van Ongeval and her team use MR breast imaging for high-risk patients, younger patients with dense tissue, and as a preparatory examination for patients who are going to have surgery. This helps them to see if a tumor is multifocal or bilateral. "It basically shows the whole extent of the disease,"* adds Van Ongeval.

Greater confidence with breast-care-dedicated equipment

University Hospitals Leuven has recently been equipped with the MAGNETOM Aera system, the first 70cm open-bore system at 1.5T with Tim 4G and Dot, and the Sentinelle Breast Coil – before that, the department used an older MRI system for the imaging of the breast.

"I am now able to work with MAGNETOM Aera whose images have a much higher resolution. The system also gives me the chance to add diffusion-weighted imaging to the examination, which is a great help, not only for cancer patients but also for patients receiving chemotherapy," Van Ongeval relates her experiences.

In conjunction, the breast care department uses the Sentinelle Breast Coil. This coil, which was especially designed for the field of breast care, provides the team with excellent image quality and optimal access for biopsy. MAGNETOM Aera with the Sentinelle Breast Coil enables improved interventional accuracy and shorter exam times through an optimized workflow.

MR breast-imaging software simplifies diagnosis and biopsies

In addition, University Hospitals Leuven choose not only to work with Siemens' hardware, but to work with Siemens' MR breast-imaging software *syngo* BreVis and *syngo* BreVis Biopsy.

For the breast care team the performance of the *syngo* BreVis application exceeded all their expectations. "It helps us a lot in evaluating all small and enhancing lesions, which are normally not seen that easily. We usually know the tumor, but for all the extra lesions and the follow-up examination we use *syngo* BreVis,"* explains Professor Van Ongeval.

syngo BreVis Biopsy has recently been added to the portfolio and adds to the success of *syngo* BreVis. With the support of the new software, Professor Van Ongeval is able to perform a fast and accurate MR biopsy by getting the target coordinates automatically calculated. "The whole procedure has a logical sequence and I was able to plan the procedure a lot more precisely than before,"* reports Professor Van Ongeval.

*The statements by Siemens' customers are based on results that were achieved in the customer's unique setting. Since there is no "typical" setting and many variables exist there can be no guarantee that other customers will achieve the same results.

Exchanging knowledge and experience

As a Siemens International Reference Center, University Hospitals Leuven now has the opportunity to share its clinical achievements and expertise with radiologists and interested parties from around the globe. Interested customers can visit the hospital to experience at first-hand what Siemens offers in the field of breast care and how these solutions are being put into clinical use.

Visits from around the world

As part of one of the largest hospitals in Belgium, the breast care team of Professor Van Ongeval is looking forward to welcoming various customers and sharing their experience with the systems as well as their research activities and results. With the deep knowledge of breast care examinations, Professor Van Ongevals' team is convinced that other radiologists will benefit from their knowledge as well as from the educational mandate they have for their medical students.

In addition to sharing clinical insights, visitors of University Hospitals Leuven will also have the chance to experience the daily challenges the staff is facing. Interested parties will be able to see how a patient is guided through the different types of breast care solutions, in order to receive high-quality images and the most reliable results.

On the pulse of our time

Siemens is committed to providing its customers with the highest quality in medical imaging. As a partner for clinical and performance excellence, Siemens not only accompanied the University Hospitals Leuven through the installation, but has been and will continue to be available for constant service and training needs. As Bernd Ohnesorge, CEO of Siemens Magnetic Resonance, explains, "Steady communication and exchange are vital to understand the clinical needs of our customers, who are the clinical experts, and experience at first-hand what patients are asking for. Only in cooperations with our customers are we able to design innovative products and set new trends in the market."

Professor Van Ongeval and her team see the cooperation with Siemens as a true advantage not only to the department, but also to the hospital and region. "As a cooperation partner, Siemens understands our clinical demands. With the offered breast care solutions, we are confident we have one of the most advanced solutions available on the market today."

Further information: Breast Care Solutions

Siemens' comprehensive solutions follow the complete continuum of breast care – from screening to diagnosis, therapy, and aftercare:

Seek

Early detection with mammography, CAD, ultrasound and magnetic resonance.

Find

Diagnostics with ultrasound, mammography, magnetic resonance, computed tomography, and molecular imaging.

Act

Therapy with molecular imaging, ultrasound, oncology care solutions, magnetic resonance, and tumor markers.

Follow

Aftercare with mammography, ultrasound, magnetic resonance, computed tomography, molecular Imaging, and tumor markers.

The cooperation of Siemens with University Hospitals Leuven allows us to advance innovation in MR imaging and diagnosis of the breast, through the combination of deep medical knowledge and technical expertise. These kinds of partnerships are crucial to understand the needs of patients, and therefore of our customers. This knowledge supports us in continuing to be the trend setter in MRI.

Bernd Ohnesorge, CEO
Magnetic Resonance
Siemens Healthcare
Erlangen, Germany

Siemens Healthcare, Magnetic Resonance

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, and on to treatment and aftercare. By optimizing clinical workflows for the most common diseases, Siemens also makes healthcare faster, better, and more cost-effective. With that in mind, Siemens offers a wide range of breast care solutions, all designed to help find answers, take the best possible course of action, and follow the patient through recovery.

As a Business Unit of Siemens Healthcare, Magnetic Resonance (MR) offers one of the most innovative and comprehensive imaging portfolios for users around the world – powered by Tim® 4G (Total imaging matrix) technology and Dot® (Day optimizing throughput). Together, these technologies redefine productivity in MRI for up-to 50%* more productivity. Furthermore, Siemens was the first to deliver 70 cm Open Bore systems for 1.5T and 3T field strength, and also offers one of the broadest ranges of clinical applications in the industry. In order to offer comprehensive breast care, Siemens MR provides its customers with dedicated solutions for breast imaging – the MRI scanner MAGNETOM Espree – Pink, the Sentinelle Breast Coil, as well as breast-care-optimized applications.

*Data on file. Results may vary.

Siemens Healthcare

Siemens International Reference Center MR Breast Care

If you are interested in visiting the Reference Center, please contact your local sales representative.

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Siemens Healthcare
Headquarters
Siemens Healthcare GmbH
Henkestr. 127
91052 Erlangen
Germany
Phone: +49 9131 84-0
siemens.com/healthcare

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