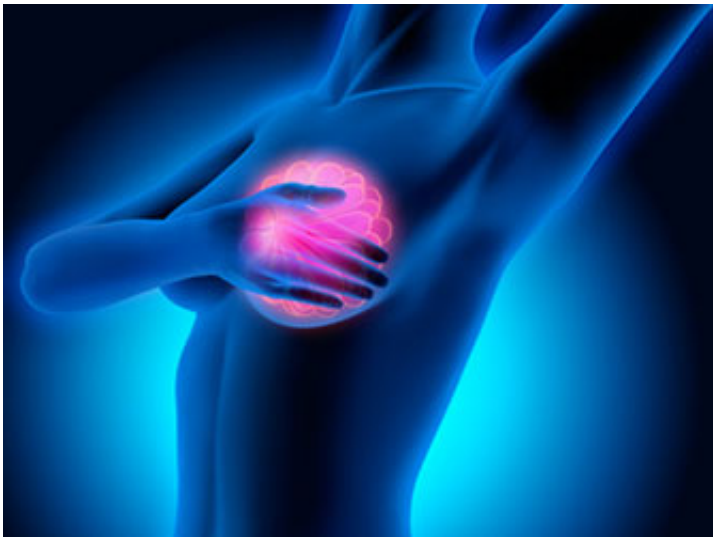


Ultra-fast detection of breast density using MRT helps determine breast cancer risks

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A high breast density is an independent risk factor for breast cancer. MRT is the safest method for breast cancer diagnosis and is now used for early diagnosis. Medical University Vienna researchers at the University Clinic for Radiology and Nuclear Medicine have now successfully developed a method for the exact measurement of breast density using magnetic resonance tomography (MRT) examinations with the Dixon sequence. With this, in addition to a better breast cancer diagnosis, a better assessment of the risk is also possible.

For the first time worldwide an objective measurement of [breast density](#), with fully automatic software and higher precision and reproducibility, has been detected with this method, and a prototype currently exists. "It works practically at the touch of a button and only takes a few minutes. There is also no need to provide contrast material", says Georg Wengert from the University Clinic for Radiology and Nuclear Medicine at Medical University Vienna, who is presenting the results at the largest European Congress of Radiologists, which is taking place in Vienna from 2 to 6 March 2016. The study was undertaken by the Molecular and Gender Imaging Working Group under the management of Thomas Helbich (University Clinic for Radiology and Nuclear Medicine) and the Computational Imaging Research (CIR) Laboratory developed the software under the management of Georg Langs (University Clinic for Radiology and Nuclear Medicine).

Breast density is divided into four categories according to the guidelines of the ACR (American College of Radiology): Ranging from A to D, the risk of getting [breast cancer](#) is considered to be four to six times higher for a higher breast density (C/heterogeneous and D/extremely dense). The density cannot be precisely measured using mammography and an ultrasound scan, and additionally a high breast density makes [diagnosis](#) more difficult.

That is why Medical University Vienna experts recommend increasing the use of MRT for risk assessment, diagnosis and [early diagnosis](#): "We are committed to better explaining to women that the use of mammography and ultrasound alone cannot detect all carcinomas. MRT really is the recommended method", says Wengert. The examination has a far better validity, and therefore helps to quickly introduce the right therapeutic steps.

Every year around 5,400 Austrians fall ill with breast

cancer

Breast cancer is the most common cancer in women, nearly one third will be confronted with this in their lives. According to statistics around 5,400 women became ill from breast cancer in Austria in 2011, and in the same year around 1,500 women died from this cancer.

Five research clusters at Medical University Vienna

In total, five research clusters have been established at Medical University Vienna. At Medical University Vienna the focus on key areas in fundamentals and clinical research has been increased. The research clusters cover medical imaging, cancer research/oncology, cardiovascular medicine, medical neuroscience and immunology. These results fall under the subject area of the cluster for medical imaging.

Provided by Medical University of Vienna

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