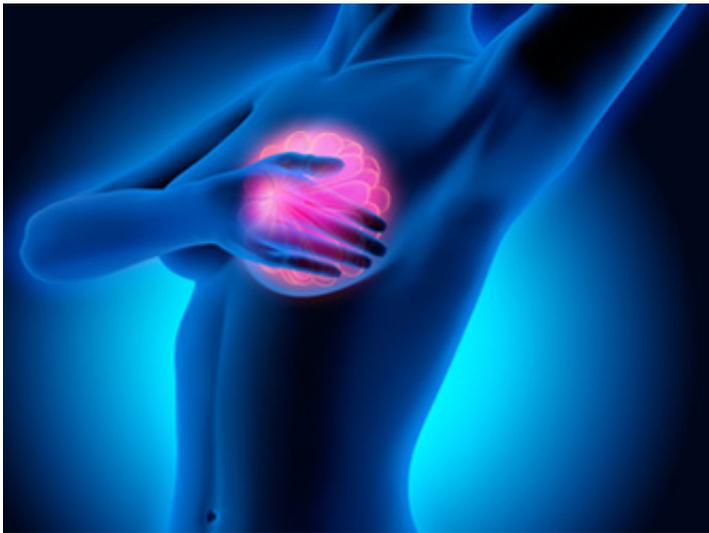


# 90 percent of all breast cancers can be detected with MRI

April 7 2015

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Breast cancer screening: 90 per cent of all cancers can be detected with MRI

Around 90 per cent of all breast cancers can be definitively diagnosed using magnetic resonance imaging (MRI). This compares to the combined methods of mammography and ultrasound which yielded a detection rate of just 37.5 per cent. This is the key finding of a study published in the highly respected *Journal of Clinical Oncology*. The study was carried out at the University Department of Radiology and Nuclear Medicine at the MedUni Vienna in cooperation with the University Department of Gynaecology and Obstetrics and the Clinical Institute of Pathology.

"In cases where there is even the slightest doubt, and especially in women at [increased risk](#), the obvious choice is MRI. Our study clearly shows the superiority of [magnetic resonance imaging](#) over mammography and breast ultrasound examinations," says Thomas Helbich, who led the study with Christopher Riedl. "The superiority of MRI is also completely independent of the patient's age, gene mutation status and breast density."

In 559 women at increased risk, a total of 1,365 screening examinations were carried out. There was one clear "winner": 90 per cent of all breast cancers can be clearly detected by MRI. The combination of MRI and mammography increased the detection rate by just five per cent. None of the cancers were detected by ultrasound alone. The results were similar for non-invasive cancers and for [benign breast lesions](#).

"An MRI scan carried out once a year is therefore the only alternative for high-risk patients who have a strong family history of [breast cancer](#) to the surgical removal of the breast and ovaries," says Helbich. "This is by no means 'over-diagnosis', but rather a necessity. Around 13,000 women in Austria are still at increased risk of breast cancer."

## **Call in favour of MRI and "Southern European ratios"**

The results of the study, says the MedUni Vienna expert, should encourage the increased use of MRI for breast screening too. Says Helbich: "In light of these results, it is our duty to make women more aware of the fact that the use of mammography and ultrasound cannot detect all types of cancer. MRI really is the method to be recommended."

Currently Austria has 15 MRI scanners per million inhabitants - putting

the country above the EU average (10 scanners / million inhabitants). If MRI is to be used more frequently, Italian or Greek ratios would be better: in these countries, there are 24 and 23 MRI scanners per million inhabitants respectively.

An [online tool](#) has been developed at the MedUni Vienna for the early detection of [breast](#) cancer risk.

**More information:** "Triple-Modality Screening Trial for Familial Breast Cancer Underlines the Importance of Magnetic Resonance Imaging and Questions the Role of Mammography and Ultrasound Regardless of Patient Mutation Status, Age, and Breast Density." *Clin Oncol.* 2015 Feb 23. pii: JCO.2014.56.8626.  
[jco.ascopubs.org/cgi/doi/10.1200/JCO.2014.56.8626](http://jco.ascopubs.org/cgi/doi/10.1200/JCO.2014.56.8626)

Provided by Medical University of Vienna

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