

## **Indications of the Magnetic Resonance Method in Breast Pathology**

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### **Abstract**

The high incidence of breast cancer is a known fact. The 5-year survival rate for women with correctly treated breast cancer is 90% around the world, and 50% in Romania, respectively. Correct diagnostic evaluation of the breasts allows for a competent therapeutic management. The primary diagnosis of breast cancer includes clinical examination of the breasts, breast ultrasound and mammography. Magnetic resonance imaging (MRI) examination is not a first line type of investigation, but targeted to selected patient groups. MRI exam is indicated in: screening of breast cancer in women at high risk for breast cancer, in cases with equivocal diagnosis or with contradictory diagnoses at mammography-ultrasound examinations, and in patients with mammographically dense breasts. Mammary MRI exam is the best imaging method in assessing the real dimensions of the initial tumour, in the detection of multifocal and multicentric lesions and of nodular axillary post-lumpectomy lesions. Also, MRI exam is recommended for preoperative breast cancer staging, for assessment of the breast operated on, and for evaluating chemotherapy. Preoperative MRI assessment of the breast reduces the number of surgical interventions required to obtain surgical negative resection margins, decreases breast cancer recurrence rates, and increases long-term life expectancy (survival). MRI is a potential method for monitoring early responses during neoadjuvant therapy, identifying chemoresistant tumours, and allowing guided re-excision, as well as identifying residual tumours after completion of the neoadjuvant therapy course. The exam is very useful in diagnosing mammary pathology in men and is recommended prior to augmentation or reconstructive breast surgery, to appreciate the integrity of the breast implant.

**Key words:** magnetic resonance imaging, breast