

Consensus Statement on the Use of Magnetic Resonance Imaging in Breast Oncology

(This document replaces the previous official statement of September 21, 2004 -- The Use of Magnetic Resonance Imaging in Breast Oncology.)

Magnetic Resonance Imaging (MRI) of the breast has been used increasingly for the detection and evaluation of breast cancer since its approval by the FDA over 10 years ago. Multiple studies comparing the results of breast MRI with pathological outcomes show that breast MRI is sensitive (identifying at least 95% of invasive cancers), but that specificity varies widely (30-90%), with frequent false-positive results due to evolving technology and variable interpretation. For this reason, breast MRI may help guide the breast evaluation as indicated below. However, breast MRI findings may not be substituted for histological tissue diagnosis, especially when the patient and her surgeon are considering breast conservation. The decision to use breast MRI as an adjunct to the evaluation of breast cancer should be made by the physician and the patient after joint consideration of the benefits as well as the risks, such as frequent false-positive results. Well-prepared (informed) patients suffer less distress when false-positive findings necessitate additional biopsies or prolong the pre-surgical workup.

Breast MRI requires a high field system, a dedicated breast surface coil (breast images taken in a body scanner are inadequate) and intravenous contrast. Breast MRI should be performed by a dedicated team, including radiologists experienced in all three breast imaging modalities (mammography, ultrasound (US) and MRI), and in image-guided biopsy techniques. Focal MRI lesions which are confirmed on US are amenable to US-core biopsy, but MRI-guided wire localization or core biopsy is essential for biopsy of lesions found only on MRI.

Breast MRI should not replace mammography for yearly screening examination. While no prospective randomized trials have studied the role of breast MRI for breast cancer screening, or for the evaluation of patients with proven breast cancers, the reported clinical experience with breast MRI is growing rapidly. Based on a review of current studies, the American Society of Breast Surgeons supports the addition of breast MRI to physical examination, mammography and US in the following settings:

1. Axillary node metastasis from a suspected occult primary breast cancer. Breast MRI can aid the treating physician in locating the primary tumor.
2. For determining ipsilateral tumor extent or the presence of contralateral disease, in patients with a proven breast cancer, such as those with invasive lobular carcinoma, or when dense breast tissue precludes an accurate mammographic assessment. Emerging evidence also support MRI detection of early contralateral breast cancers that may be missed by physical exam or mammography.
3. To monitor response to neoadjuvant hormonal therapy or chemotherapy. Pre- and post-treatment MRI can help identify those patients who are candidates for breast conservation, and assist in determining the extent of resection required.
4. As part of breast cancer screening for patients at very high risk for developing breast cancer, especially those with suspected or proven deleterious mutations of BRCA 1/2, patients with a

history of radiation therapy to the chest wall and others with 20% or greater lifetime risk of breast cancer.

5. For the further evaluation of suspicious clinical findings or imaging results which remain indeterminate after complete mammographic and sonographic evaluations combined with a thorough physical examination.

References

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Board of Directors

The American Society of Breast Surgeons