



American Society of Breast Disease Policy Statement The Use of Magnetic Resonance Imaging of the Breast (MRIB) for Screening of Women at High Risk of Breast Cancer

Mammography with clinical breast examination is the standard to screen women for breast cancer. The American Society of Breast Disease issued a policy statement regarding screening mammography on January 30, 2002, and we reaffirm this position. (1) It is recognized that there are limitations of mammography related to the physics of x-ray as applied to the breast.

The emergence of contrast-enhanced magnetic resonance imaging of the breast (MRIB) as a tool to screen women at high risk for breast cancer prompted the Consensus Committee of the American Society for Breast Disease to establish a sub-committee working group to review current publications and expert opinion on the screening of women at high risk for breast cancer with MRIB.

We conclude the following:

1. MRIB is an adjunct to mammography, clinical breast examination, and ultrasonography for breast cancer detection in women at high risk of breast cancer based on family history or BRCA mutations.
2. MRIB is not recommended for breast cancer screening in the general population.
3. Although published studies have evaluated yearly screening in conjunction with mammography, clinical breast examination, and in some cases, ultrasonography, the appropriate screening interval for MRIB is not yet determined.
4. At this time there are no data on the use of MRIB for breast cancer screening of women at high risk based on personal history of breast cancer, previous chest irradiation, lobular carcinoma in situ, atypical hyperplasia, or mutations other than BRCA.
5. Limitations of MRIB are related to technical, professional and biological factors as well as availability. Standards related to equipment, scanning protocols, interpretation, MRI-guided biopsies and MRI-guided needle localization are presently under development by the American College of Radiology and other societies. Implementation of these performance standards is expected to continually increase the importance of MRIB.
6. Women should be advised of the benefits and limitations of MRIB.
7. We support and encourage prospective clinical trials of MRIB for surveillance of women at high risk for breast cancer.



DISCUSSION

Current Use of MRIB

The current use of MRIB for the detection and evaluation of breast disease is discussed in recent reviews. (2-4) A published guideline statement of the Institute for Clinical Systems Improvement assigns Category C evidence for use of MRIB to:

1. Stage existing cancer
2. Detect occult breast cancer in women with axillary nodal metastasis
3. Distinguish postoperative scar from tumor recurrence
4. Screen women at high risk because of breast cancer gene mutation
5. Monitor response to neo-adjuvant chemotherapy
6. Evaluate the integrity of breast implants (5)

Limitations of Mammography

The sensitivity of mammography to detect malignancy is limited in women with radiographically dense breasts. Mammography may not detect malignancy in invasive lobular carcinoma and ductal carcinoma in situ without calcifications. Breast implants and silicone injections may limit the sensitivity of mammography to detect cancer. The sensitivity of screening mammography is reduced in women with hereditary breast cancer. (6,7) Five to 10% of women with breast cancer carry germline mutations. (6,8) Furthermore risks may exist due to radiation exposure in women with germline mutations. (2,6)

Defining High Risk

Several expert bodies have defined high risk, including the National Comprehensive Cancer Network, the American Society of Clinical Oncology, the Cancer Genetics Studies Consortium and the French National Ad Hoc Committee (9-12). The High-Risk Working Group of the American Cancer Society has recently published a comprehensive review of risk assessment in conjunction with their statement on breast cancer screening recommendations. (2) Statistical models are available to predict the likelihood of inherited breast cancer. (13-18)

MRIB for the Screening of High-Risk Women

Recent scientific studies report high sensitivity and improved detection using MRIB compared to mammography in the screening of women at high risk for breast cancer. (6,7, 19-35) Data are forthcoming from a meta-analysis of the International Breast MRI Consortium and other clinical trials.

Specificity is high in centers with experience and strict performance standards. Expertise to perform MRI-guided breast biopsy and MRI-guided needle localization presently exists in a few centers. (36-39) MRI-detected lesions may be localized by directed ultrasound. (40)



SUBCOMMITTEE ON SCREENING OF WOMEN AT HIGH RISK OF BREAST CANCER

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About the American Society of Breast Disease

The American Society of Breast Disease is the only medical society in the United States to bring together physicians and allied professionals committed to and advocating a multidisciplinary team approach to breast disease management, prevention, early detection, treatment, and research.

The Society advocates for improvements in breast health management in the United States. Founded in 1976, the Society sponsors education symposia, supports *The Breast Journal*, which is the official journal of the Society, and represents the United States to the World Society for Breast Health.

The ASBD is committed to strict adherence to guidelines of the Accreditation Council for Continuing Medical Education (ACCME) for all ASBD education programming and policy statements. Fair balance and candid exchange are central to ASBD programs and communications.

For more information about the Society, visit us on the web at www.asbd.org.

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