

Clinical Indications for Contrast Breast MR:

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- **Lobular Cancer:** difficult to detect by mammography, this insidious cancer is commonly multi-focal/multi-centric (30%), or bilateral (10%) and a frequent cause of positive surgical margins.
- **Occult Breast Cancer:** About 0.3% of breast cancers present with malignant axillary nodes, but normal breast exams and mammograms. Hence, standard treatment has been mastectomy. MR can locate the primary in the most cases, allowing breast conservation surgery.
- **Close or positive surgical margins:** Inadequate margins are common ($\geq 50\%$) after lumpectomy, requiring additional surgery. MR can often locate residual or additional tumors. If routinely used pre-operatively, MR may decrease re-operation rates and improve surgical planning.
- **Post-operative scar vs. tumor recurrence:** At ≥ 6 months after surgery, "mature scar", which may simulate cancer morphologically, does not enhance. Recurrent tumor does enhance and usually has a malignant type enhancement curve that allows its detection.
- **High-Risk Screening: Breast Cancer Gene; Prior Lymphoma Treatment:** These women are at great risk for breast cancer. MR and ultrasound are useful adjuncts to mammography in these high-risk patients; but MR is not appropriate for general screening.
- **Neo-adjuvant chemotherapy or brachytherapy:** MR improves accuracy of tumor size classification & nodal staging as well as capably documenting therapeutic response and detection of possibly unsuspected multi-focal, multi-centric cancers.
- **Suspected multiple or bilateral cancers:** MR often detects multi-focal, multi-centric or bilateral cancers, and has a high negative predictive value; i.e., a negative MR significantly improves diagnostic confidence. Undiscovered contralateral tumors are detected in 3-6% of cases.
- **Implants and known or suspected cancer:** MR is not adversely affected by implants or silicone. This improves diagnostic confidence and allows US or MR guided needle biopsy when needed. Women with a history of liquid silicone injections can benefit from MR screening. MR is also the most reliable exam for assessment of implant rupture.
- **Problematic Mammogram:** In *carefully selected* cases MR may be helpful with equivocal or suspicious mammographic findings; detailed mammographic evaluation and ultrasound *must* be done first, however. The extent of *higher grades* of DCIS is often well seen with MR.

Important Note: MR, and ultrasound may not detect some *in situ* carcinomas and other low-grade, benign or malignant lesions and is, hence, an adjunct to mammography. We consider detection of *in situ* carcinomas to be primarily a mammographic issue. If you have questions on other indications, please call. [FHDI 1-04]