

# IMAGING UPDATE

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## BREAST MRI

Grand Traverse Radiologists, PC is pleased to announce the addition of Breast MRI services at Munson Medical Center. Patients meeting the screening criteria will no longer have to travel out of the region for this service. Despite some of the limitations outlined below, there is compelling evidence that breast MRI has significant efficacy not only for screening high risk patients, but also for diagnostic breast MRI in patients with newly diagnosed breast cancer. Breast MRI should be considered as a supplement to mammography and breast ultrasound, not as a replacement to these modalities. Breast MRI will also expand our capabilities in breast interventional services.

## Background

Breast MRI was first performed on women with breast cancer in the late 1980's, and in recent years has been gaining more widespread use and media attention, particularly as a screening modality. Historically, patients had to travel out of this area for this service.



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Grand Traverse Radiologists, P.C.

## Limitations

It is important to recognize that although breast MRI is a highly sensitive exam, the specificity is quite variable. In addition, there is no scientific data yet available that breast MRI will increase patient survival.

A variety of studies have reported breast MRI sensitivity ranging between 88 to 100% and specificity between 37-97%. The major difficulty with the low specificity is that breast MRI may lead to increased benign biopsies, increased costs related to this technology, increased patient anxiety, and recent reports of an increased number of women selecting mastectomy as opposed to breast conservation therapy, even though the latter may indeed be in their best interest.

## Breast Screening Statistics

The following represents compiled data from published series of breast MRI screening of high risk women through 2003.

- Biopsies based on MRI findings were recommended 14% (7-18%) of the time.
- Of those who underwent a biopsy, breast cancer was found in 34% (24-89%) of the patients. This is similar to biopsies that have been performed for mammographic detected lesions.

- Breast cancer was found in 4% (2-7%) of high risk women who had a breast MRI screening, and this population of screened patients had mammographically occult cancer.
- Cancers that were detected by breast MRI and biopsied demonstrated invasive cancer in 67% of the patients and DCIS in 33% of the patients.

## Breast MRI Services at Munson Medical Center

Munson Medical Center has upgraded one of the three MRI units with hardware and software. In conjunction with Grand Traverse Radiologists, PC, patients meeting the criteria outlined below can now receive screening, diagnostic, and interventional breast MRI services. These services include:

- evaluation of breast implant integrity, as has been done over the past several years,
- screening for high risk women,
- diagnostic exams for select situations, and
- breast MRI interventional services.

## Interventional Breast MRI Services

Breast MRI interventional services utilize devices, software, and hardware that are MRI compatible, so that MRI guided percutaneous core biopsies and wire localizations for surgical excisional biopsy of suspicious lesions not able to be confirmed on mammograms or ultrasound, may now be performed with MRI guidance.

## Diagnostic Breast MRI Studies

There are a number of studies assessing diagnostic breast MRI for 1) evaluation of additional sites of cancer in the ipsilateral and contralateral breast in patients with newly diagnosed breast cancer, 2) evaluation of the extent of disease in newly diagnosed breast cancer patients who have extremely dense breast tissue, 3) the effectiveness of neoadjuvant chemotherapy, 4) the analysis for postoperative residual disease, and for 5) work-up of patients with metastatic breast cancer to axillary lymph nodes having a negative mammogram and negative breast ultrasound. We will be watching the results of these studies closely to ensure our screening and diagnostic criteria are appropriate given the evidence based study results in the field.

## Screening and Diagnostic Criteria

Our initial intention is to utilize breast MRI for referred patients that meet the following screening and diagnostic criteria currently recommended by the American Cancer Society and the current guidelines by the NCCN.

## Recommend Annual MRI Screening (Based on Evidence\*) American Cancer Society Guidelines

- BRCA mutation
- First-degree relative of BRCA carrier, but untested
- Lifetime risk 20–25% or greater, as defined by BRCAPRO or other models that are largely dependent on family history (Recommend Annual MRI Screening)
- Radiation to chest between age 10 and 30 years
- Li-Fraumeni syndrome and first-degree relatives
- Cowden and Bannayan-Riley-Ruvalcaba syndromes and first-degree relatives.

### NCCN guidelines Include:

**Screen:** Very High Risk  
**Staging:** Unknown primary  
Extent of Invasive cancer In dense breasts  
Optional: Stage 3B

Diagnostic breast MRI for women with known breast cancer, or other reasons, will be considered on a case by case basis at this time, utilizing the above criteria as a guide. As more evidence based studies are performed that demonstrate the effectiveness of breast MRI, the criteria list will be expanded so that patients will be well served by this technology.

It is important that when discussing these issues and addressing questions from patients, that patients understand while MRI of the breast is extremely sensitive, there are false negative findings (10-12%), and there are false positive findings (15-20%). As a result, patients may have a finding on MRI and up to 30-40% of these patients may receive a recommendation of biopsy or short term follow-up breast MRI in six months to evaluate findings that are probably benign.

We realize that the threat of breast cancer creates marked anxiety in today's society and we are excited to be able to offer this new service for patients. However, due to many considerations, we are initially only recommending patients for this technology that meet the above guidelines.

### Scheduling Breast MRI

Dedicated breast MRI schedulers will be available to arrange appointments for screening and diagnostic imaging for your patients, if they meet the criteria listed above or have breast implants to be evaluated.

Grand Traverse Radiologists, P.C. and Munson Medical Center are in the process of planning a high risk breast cancer clinic. Further details of this clinic and scheduling will be forthcoming in a separate newsletter.

### Radiologists Specializing in Breast MRI

The radiologists involved in breast MRI at Munson Medical Center include Dr. Daniel Boss, Dr. Deborah Crowe, Dr. Ryan Holmes, Dr. Jesse Johnson, Dr. Charles Weitz and Dr. Todd Wilson.

We look forward to offering a technology that we feel will improve service and care to your patients. If you have questions or concerns, as always, please don't hesitate to contact myself or one of my colleagues at 231.935.6400.

### BREAST MRI FAST FACTS

- Breast MRI Sensitivity: 88-100%
- Breast MRI Specificity: 37-97%
- Breast cancer discovered in 4% of high risk women undergoing screening MRI with negative mammogram
- 10-12% false negative MRI's
- Up to 30-40% of patients having an MRI may receive recommendation for biopsy or 6 month follow-up MRI

#### DIAGNOSTIC RADIOLOGY

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