BREAST MRI POLICIES

GENERAL COMMENTS

- Breast MRI is a supplement to mammography. Not all breast cancers are detectable by MRI.
- Breast MRI is more sensitive than mammography or ultrasound for detecting findings (e.g. findings are detected more often on MRI or are sometimes only detectable on MRI).
- However breast MRI is less specific than mammography and ultrasound (i.e. findings can be diagnosed as benign or malignant more readily with mammography and/or ultrasound compared to MRI and sometimes without the need for biopsy).
- Findings on breast MRI usually have to be further evaluated with diagnostic mammography and/or ultrasound if they were not performed prior to MRI.
- Breast MRI is usually more expensive than evaluation with mammography and ultrasound, and MRI does not always add useful information or change patient management.
- Screening breast MRI is generally performed alternating with screening mammography every 6 months rather than screening MRI and mammography being performed at the same time.
- Diagnostic breast MRI is generally performed after diagnostic evaluation with mammography and/or ultrasound has been performed.

UP TO DATE MAMMOGRAM REQUIREMENTS

- All patients 30 years old or older with an order for lesion detection protocol breast MRI (either screening or diagnostic MRI) must have up to date screening or diagnostic mammograms of both breasts (within the prior 8 months) available in PACS prior to scheduling the MRI. Mammograms can be unilateral in patients with a history of mastectomy of the opposite breast. Mammograms are not required if the patient has undergone bilateral mastectomies.
- If a radiologist approves a breast MRI without up to date mammography available, that radiologist is responsible for reading the MRI. Flag the examination for that radiologist and indicate the name of that radiologist on the tech worksheet.

PRIOR BREAST IMAGING BEFORE OBTAINING BREAST MRI

- All patients undergoing breast MRI should have prior breast examinations (including outside examinations) in PACS prior to the MRI examination being interpreted.
- If prior breast imaging is not already available in PACS and the patient does not bring outside imaging to the appointment, the Technologist should use the PowerShare Request sheet on Google Drive to obtain any outside examinations. PowerShare requests are often completed in 1-2 days compared to waiting for a disc with outside examinations to arrive. Most local institutions can share examinations via PowerShare. Contact a PACS administrator if you do not have access to the PowerShare Request sheet.

- Alternatively the Technologist can have the patient complete a release authorization form and fax the form to the File Room.

WHO IS ELIGIBLE FOR BREAST MRI WITHOUT RADIOLOGIST APPROVAL

- Assuming the patient has up to date mammography (see above section), the following indications do not require radiologist approval prior to scheduling MRI:
  - Patients with newly diagnosed or a personal history of breast cancer (IDC, ILC or DCIS), including patients who have undergone lumpectomy or unilateral/bilateral mastectomy.
  - Patients undergoing restaging for current breast cancer following neoadjuvant therapy.
  - Recent post-lumpectomy patients with positive surgical margins.
  - High-risk patients
    - Patients with ≥20% risk of breast cancer per risk models (e.g. Tyrer-Cuzick, Gail and BCSC models).
    - Patients with a genetic predisposition that places them at increased risk of breast cancer including BRCA1/2, PALB2, ATM, CDH1, BALD1 mutations and Cowden (PTEN) and Li-Fraumeni (TP53) syndromes.
    - Patients with a history of chest/mantle radiation received between 10-30 years of age. MRI should begin 8 years following completion of radiation (but no earlier than age 25).
  - Intermediate-risk patients
    - Patients with 15-20% risk of breast cancer per risk models.
    - Patients diagnosed with breast cancer before age 50.
    - Patients with heterogeneous or extremely dense breast tissue and breast cancer diagnosed at any age.
  - Patients who are undergoing supplemental screening MRI in addition to mammography due to heterogeneous or extremely dense breast tissue.
  - Patients with metastatic cancer likely of breast origin diagnosed by biopsy.
  - Patients in which breast MRI was recommended by a St Vincents radiologist on prior mammography and/or ultrasound. Recommendations by an outside radiologist requires St Vincents radiologist approval.
  - Patients in which diagnostic mammography and/or ultrasound performed at St Vincents or Optimal Imaging did not find a satisfactory explanation for breast symptoms (e.g. palpable lump, nipple discharge, focal pain or skin/nipple changes).
  - Evaluation solely for breast implant integrity (as implant integrity protocol without IV contrast).
- All indications for breast MRI not listed above require radiologist approval prior to being scheduled. If a patient does not have one of the listed indications, contact a radiologist to determine whether or not MRI can proceed (see section on which radiologist to contact).

BREAST MRI IN MASTECTOMY PATIENTS

- Mastectomy patients do not require radiologist approval prior to undergoing breast or chest wall MRI if the examination is for mastectomy bed surveillance (e.g. assessing for disease recurrence in an asymptomatic patient).
- If MRI is requested for a specific abnormality/concern (e.g. palpable mass, focal pain, skin retraction/changes), the evaluation should begin with chest ultrasound. Ultrasound often answers the clinical question, is cheaper and easier for the patient than MRI and uses fewer medical resources.
- The protocol, FOV and requisition used depend on the examination indication and the presence or absence of breast reconstruction(s):
  - Routine surveillance in an asymptomatic patient with bilateral mastectomies without reconstructions - Use MSK soft tissue tumor protocol limited to the anterior chest wall (both sides). Patient in the prone position. Use MRI chest without and with IV contrast requisition.
  - Routine surveillance in an asymptomatic patient with bilateral mastectomies with reconstruction(s) on one or both sides - Use lesion detection breast protocol with normal breast FOV. Patient in the prone position. Use MRI chest without and with IV contrast requisition.
  - Routine surveillance in an asymptomatic patient with mastectomy on one side (without or with reconstruction) and normal breast tissue on the other side - Use lesion detection breast protocol with normal breast FOV. Patient in the prone position. Use MRI chest without and with IV contrast requisition. At least one normal breast = regular breast MRI.
  - Specific abnormality/concern (e.g. palpable mass, focal pain, skin retraction/changes) on the side of a mastectomy without or with reconstruction (e.g. implant/flap) – Use MSK soft tissue tumor protocol with a smaller FOV centered on the mastectomy bed (or large enough to cover the entire reconstruction if present). Patient in the prone position. Use MRI chest without and with IV contrast requisition.

WHICH RADIOLOGIST TO CONTACT FOR BREAST MRI APPROVAL OR PROTOCOL QUESTIONS

- Questions about an upcoming examination should be directed to the radiologist who will be responsible for reading the MRI examination.
- Breast MRIs performed at Southside Hospital are read the next weekday by the Southside imaging radiologist.
- Breast MRIs performed at all other locations are read the next weekday by the Breast Center radiologist.

USE OF IV GADOLINIUM CONTRAST FOR BREAST MRI EXAMINATIONS

- Lesion detection protocol breast MRI requires IV contrast. Acute kidney injury (AKI) and GFR <30 mL/min are no longer considered contraindications to use of group 2 gadolinium IV administration (including Clariscan and Gadavist).
- Implant integrity protocol breast MRI is performed without IV contrast (unless the protocol is combined with the lesion detection protocol).
- Gadolinium IV contrast for breast MRI is never to be administered to a pregnant patient unless approved by a radiologist (regardless of how the exam is ordered). If IV contrast is approved by a radiologist, the order for the IV contrast should be signed back to that radiologist.
- A breastfeeding patient can undergo breast MRI with or without IV contrast, however she should pump both breasts immediately before the examination to decrease the amount of milk/fluid in both breasts.
- It is no longer recommended that breastfeeding patients discard (pump and dump) breast milk for 24 hours after receiving gadolinium IV contrast. However, a patient can still pump and dump for 24 hours if she wishes. An infant absorbs less than 0.004% of the dose of gadolinium IV contrast administered to the mother (i.e. the mother would have to receive 250 liters (66 gallons) of contrast for the infant to absorb 1 mL of contrast).

OFFICE NOTES / PATHOLOGY REPORTS PRIOR TO BREAST MRI

- Patients undergoing breast MRI must have a recent office note from the ordering clinician scanned into PACS. The Technologist should contact the ordering clinician's office to obtain this note.
- Patients with a history of recent biopsy or surgery at an outside facility also need the biopsy and pathology reports scanned into PACS.