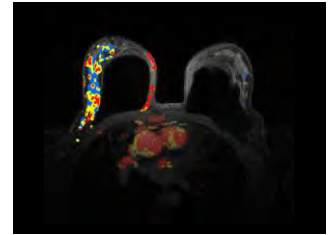


# BREAST MRI

## CLINICAL BENEFITS AND EVALUATION



### WHO benefits most from Breast MRI?

- **Women at high risk for developing breast cancer.**
  - Gene mutation carriers (BRCA 1 & 2)
  - 1<sup>st</sup> degree relative of BRCA carrier, but untested
  - 20-25% lifetime risk due to family history
  - Radiation to chest between ages 10-30 years
- **Women with a metastatic axillary node adenocarcinoma with an unknown primary.**
  - Rare <1% breast cancers
  - Typically from ipsilateral breast and not identified on clinical breast exam or mammography
- **Follow up during chemotherapy: used to monitor neoadjuvant chemotherapy response on locally advanced breast cancer.**
- **For women as contralateral screening with newly diagnosed breast cancer.**
  - MRI may detect synchronous incidental occult breast cancer
  - Most studies report rates of 4-6%
- **To perform pre-operative staging for breast carcinoma.**
  - Determine extent of tumor (avoid positive surgical margins)
  - Determine lymph node, chest wall and pectoralis muscle involvement
  - Multifocal (within the same quadrant) vs multicentric (within different quadrants)
  - MRI is more sensitive than mammography and ultrasound in determining the extent of known carcinoma
  - Median prevalence of detection of additional foci of cancer in the ipsilateral breast is 16%
  - Especially important for young patients, in patients with dense or moderately dense breasts and patients with infiltrating lobular carcinoma (difficult to detect on mammography)
- **Women with a personal history of breast cancer.**
  - Patients are at an elevated risk and early detection of second cancers is known to decrease mortality
  - Ordered at the discretion of the clinician and patient in young patients, dense breasts mammographically occult cancer or suspected recurrence
- **Problem solving for mammography and ultrasound equivocal cases.**
- **Women with positive margins following an initial attempt at breast conservation to detect residual disease.**

### WHY evaluate the breasts with MRI?

- To detect breast cancer that is occult on mammography and ultrasound.
- MRI is the most sensitive modality for breast cancer detection with a specificity of 94 to nearly 100 percent.
- Mammography is less sensitive, but more specific for breast cancer.
- MRI visualizes tumor angiogenesis with preferential uptake of Gadolinium by breast carcinoma.

**Breast MRI is performed at the DIS Metairie and Covington facilities**



DIAGNOSTIC IMAGING SERVICES