

INFORMATION AND RESOURCES FOR PATIENTS

CURRENT BREAST SCREENING RECOMMENDATIONS:

ALL WOMEN, especially black women and those of Ashkenazi Jewish descent, should be evaluation for breast cancer by age 25, and no later than age 30, so that those at higher risk can be identified and can benefit from supplemental screening.

- **Average Risk Patients:** Screening mammograms annually begin at age 40
- **Intermediate Risk Patients (15-20% Lifetime Risk of breast cancer):** Screening mammograms annually beginning at age 40, not earlier than age 30; consider Abbreviated MRI if heterogeneously dense breast tissue, every 2-3 years, staggered months from the mammogram
 - History of atypia or LCIS/ALH (lobular neoplasia) – 1-2% breast cancer risk per year; consider supplemental surveillance with MRI, especially if other risk factors are present
- **High Risk Patients (>20-25% Lifetime Risk of breast cancer):**
 - Strong family history: Screening mammogram beginning 10 years prior to age of diagnosis in first-degree relative or age 30; High Risk Screening Breast MRI (without and with contrast) every 1-3 years, staggered 6 months from the mammogram
 - High risk gene mutation:
 - BRCA1+: annual MRI screening beginning age 25-30 with mammograms beginning age 40 (mammogram screening delayed due to increased sensitivity to radiation)
 - BRCA2+: annual mammograms alternating with annual MRI screening beginning at age 30
 - CHEK2, PALB2, ATM+ or pathogenic variants: MRI age 30-35 followed by annual mammograms alternating with MRI screening annually beginning at age 40.
 - History of chest or mantle radiation: Begin screening mammograms age 25 or 8 years after radiation treatment, whichever is later, with MRI screening annually beginning age 30.
 - History of breast cancer before age 50 or history of breast cancer with dense breasts: add supplemental breast MRI annually, staggered 6 months from mammogram.
- **Extremely Dense breast tissue:** If average risk, consider supplemental Abbreviated MRI (screening breast ultrasound only if patient is unable to undergo MRI); if intermediate or high risk, consider full protocol High Risk Screening MRI.
- **Heterogeneously Dense breast tissue:** If average risk, consider supplemental Abbreviated MRI; if intermediate or high risk, consider full protocol Screening MRI.

Abbreviated Breast MRI Screening (without and with contrast)
(recommended for extremely dense breast tissue, consider if heterogeneously dense breast tissue, available for all breast tissue)

density as added screening tool; not currently covered by insurance, available with cash pay).

Diagnostic recommendations:

Diagnostic Mammogram is recommended for an abnormal screening mammogram, focal symptoms or breast findings on physical exam, follow-up of probably benign lesion, recent breast cancer (<3 years after lumpectomy), male patient over age 25:

- Palpable lump or thickening
- Localized area of pain (not general breast pain, which may be screening mammogram)
- Skin or nipple changes with dimpling / retraction
- Nipple discharge that occurs by itself without squeezing (bloody, black or clear)
- Follow-up for probably benign finding
- Follow-up for previous cancer lumpectomy within past 3 years
- Male patient over 25

Ultrasound: as needed with Diagnostic Mammogram for female patients over 30 years old.

Ultrasound Only if female under 30 or male patient under 25, with rare need for diagnostic mammogram per radiologist.

Ultrasound Only may be performed on patients with suspected abscess.

Diagnostic Breast MRI (without and with contrast):

Recommended for recent cancer diagnosis, follow-up lumpectomy with dense breasts, mastectomy with symptoms, persistent focal symptoms with recent negative mammogram/ultrasound.

Implants:

- Silicone Implants: MRI for silicone implant integrity (without contrast) recommended for suspected implant rupture as well as interval surveillance after 6 years from surgery.
- Saline Implants: No MRI is needed as there is usually a clinical appearance of rupture/decompression; ultrasound could be performed prior to mammogram for saline implants if uncertain.

Supplemental Screening Options:

Cancer Detection By Screening Method with Risks & Benefits and up-to-date references

from DenseBreast-Info.org:

<https://densebreast-info.org/screening-technologies/cancer-detection-by-screening-method/>

(LINK)

The best supplemental screening exam is contrast-enhanced MRI (requires an i.v. and may be difficult for claustrophobic patients), which is far superior to ultrasound, contrast-enhanced mammography, and molecular breast imaging ⁵.

US transmission tomography or optoacoustic imaging might enhance US screening. Diffusion-weighted MR imaging (DWI) is of interest due to the lack of gadolinium-based contrast. Liquid biopsy, which aims to detect circulating tumor debris or markers in the bloodstream, is in its infancy but might be a viable, non-imaging screening alternative at some point in the future. Finally, artificial intelligence and machine learning have the potential to help with many aspects of screening.