My patient is interested in supplemental screening for dense breasts. What type of test should she have?

Does she fit into any of these categories?

- **A** — Known BRCA or other genetic mutation that increases breast cancer risk
- **B** — First degree relative of someone with a known mutation
- **C** — History of radiation therapy to the chest between the ages of 10 and 30 (such as for Hodgkins' Disease)
- **D** — Personal history of breast cancer before age 50
- **E** — Personal history of breast cancer at any age with dense breasts

YES → ACR recommends annual breast MRI in addition to mammography. This should be scheduled as a complete breast MRI.

NO → Does she have other risk factors such as:

- **A** — History of a biopsy showing ADH, ALH or LCIS
- **B** — A first degree relative with a history of breast cancer
- **C** — Other relatives with breast, ovarian or other cancers
- **D** — No full-term pregnancies before age 30
- **E** — Menarche before age 12

YES → A breast cancer risk assessment may be helpful. A quick risk assessment can be performed using the NCI Breast Cancer Risk Assessment Tool. There are also more comprehensive risk assessment models such as the Tyrer-Cruzik model that may be more appropriate for patients with a family history of multiple cancers. If she has multiple relatives with cancer she may also wish to speak with a genetic counselor*.

https://bcrisktool.cancer.gov

https://ibis.ikonopedia.com

NO → Reassure her that her risk is only minimally elevated. Discuss that additional screening may identify additional cancers, but may also result in false positive findings and additional biopsies. If she is still interested in supplemental screening, Fast MRI would be recommended as the best additional test*.

* If she has a serious contraindication to MRI (allergy to gadolinium, aneurysm clip, etc.), contact a breast radiologist to discuss screening ultrasound.

Is her calculated risk >20%?

- **YES** → ACR recommends annual breast MRI in addition to mammography. This should be scheduled as a complete breast MRI.
- **NO** → A breast cancer risk assessment may be helpful. A quick risk assessment can be performed using the NCI Breast Cancer Risk Assessment Tool. There are also more comprehensive risk assessment models such as the Tyrer-Cruzik model that may be more appropriate for patients with a family history of multiple cancers. If she has multiple relatives with cancer she may also wish to speak with a genetic counselor*.

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*** To speak with a NSH genetic counselor, call 404-851-6284 or email genetics@northside.com.**

To speak with a radiologist, call the Physician Access Center at 404.649.6600.

NORTHSIDE HOSPITAL
RADIOLOGY SERVICES

BREAST DENSITY INFORMATION FOR HEALTH CARE PROVIDERS

The Georgia legislature recently passed a law mandating that patients with dense breast tissue identified on a mammogram be notified in their lay results letter with the following language:

" Your mammogram shows that your breast tissue is dense. Dense breast tissue is very common and not abnormal. However, dense breast tissue can make it more difficult to detect breast cancer through a mammogram. Also, dense breast tissue may increase your risk for breast cancer. This information about the result of your mammogram is given to you to increase your awareness. Use this information to talk to our health care provider about whether other supplemental tests in addition to your mammogram may be appropriate for you, based on your individual risk. A report of your result was sent to your ordering physician. If you are self-referred, a report of your results was sent to you in addition to this summary".

Northside Hospital diagnoses and treats more cases of breast cancer than any other community hospital in the country. Breast imaging studies are performed by registered technologists and interpreted by board-certified radiologists trained in breast imaging. The breast imaging program of Northside Hospital has developed this information sheet to address some of the most common questions that you will receive from patients. If you would like to discuss any of these topics in greater depth or if you have any additional questions, please feel free to contact one of our breast radiologists through the:

Northside Radiology Associates Physician Access Center

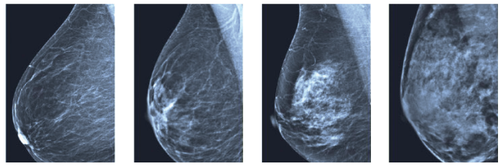
404.649.6600

Q: Why should I be concerned that I have dense breast tissue?

Dense breast tissue is a concern for two reasons. First, dense breast tissue can mask a cancer on mammography. Breasts are made up of a combination of fatty tissue, which appears dark on mammography, and dense fibroglandular tissue, which appears white on mammography. Cancers also look white on mammography, so they may not stand out against a background of tissue that already looks white in a woman with dense breasts.

Second, recent research has shown that having dense breast tissue can also be a risk factor for getting breast cancer, independent of family history and other risk factors. There is variability among the estimates of increased risk based on density alone. Overall, the risk seems to be in the range of 1.2 times increase over average risk for heterogeneously dense tissue and 2 times increase for extremely dense tissue. (For reference, the relative risk for a woman who has her first child after age 30 or has no children is 1.9 times that of a woman who has a child before age 30).

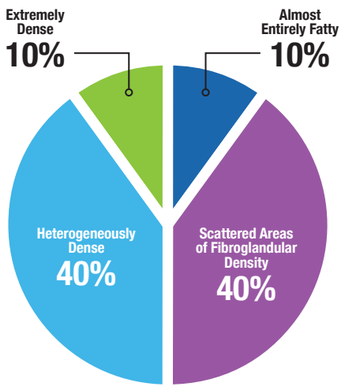
The 4 Categories of Breast Tissue Density



Almost entirely fatty | Scattered areas of fibroglandular density | Heterogeneously dense | Extremely dense

Breast density is divided into 4 categories based on the appearance of the breast tissue on a mammogram. Two categories – "almost entirely fatty" and " scattered areas of fibroglandular density"- are considered "fatty". Two categories – "heterogeneously dense" and "extremely dense" - are considered "dense". Most women fall into the "scattered areas of fibroglandular density" or "heterogeneously dense" categories.

Breast Density in the United States



Q: If my breasts are dense and can hide cancers, why do I need a mammogram?

Many cancers are still visible in dense breast tissue. In fact, many of the earliest cancers are only visible on mammography, not MRI or ultrasound. Studies have shown that the highest cancer detection rate is found with the combination of mammography and MRI. Any additional test that a woman considers should be in addition to, not instead of, mammography. The recommendation for annual screening mammography for all women starting at age 40 does not change with this law. High risk women may need to start screening even earlier.

Q: I would like to have additional screening. What type of test should I get?

Before considering additional tests, a woman should optimize the benefit that she receives from her mammogram. Digital Breast Tomosynthesis (also known as DBT and 3D mammography) has been shown to find up to 40% more cancers than traditional 2D mammography, and significantly decreases the percentage of patients who are recalled for additional imaging. Tomosynthesis can find additional cancer in women of all breast densities. Insurance companies are increasingly recognizing the benefit of tomosynthesis and many are now covering it. Even with 3D technology, some cancers can still be obscured, especially in women with extremely dense breast tissue.

For women with dense breast tissue who are interested in additional screening beyond mammography, MRI is the test that is most sensitive for finding additional cancers while minimizing false positives. A large randomized control trial (ACRIN 6666) showed that the combination of mammography and MRI provided the highest yield of cancer diagnoses. Adding ultrasound to this combination did not increase cancer yield and substantially increased false positives. The positive predictive value for cancers found based on biopsy recommendations was only 6.7% for ultrasound, vs 25-40% for mammography.

MRI has been recommended by the American College of Radiology, American Cancer Society, NCCN, and other organizations for many years as a supplement to yearly mammography for all women with a 20% or greater lifetime risk of breast cancer. This incudes women with genetic mutations that predispose to breast cancer, women with a history of chest irradiation (such as for Hodgkin's Disease) between the ages of 10 and 30, and other high risk populations. The American College of Radiology recently updated its guidelines to also recommend annual MRI for women with a personal history of breast cancer plus dense breasts and women with a personal history of breast cancer before age 50, regardless of breast density.

Although MRI has been shown to be a better supplemental test, its use has been limited in the past by cost and availability and it has not been widely recommended or covered by insurance for intermediate risk patients. Very recently, abbreviated or "Fast MRI" has been developed to provide a quicker, less costly type of MRI that can be used in patients whose only additional risk factor is dense tissue. Studies to date have shown that Fast MRI is similar to full-protocol (complete) breast MRI in screening sensitivity.

Q: Is Fast MRI covered by insurance?

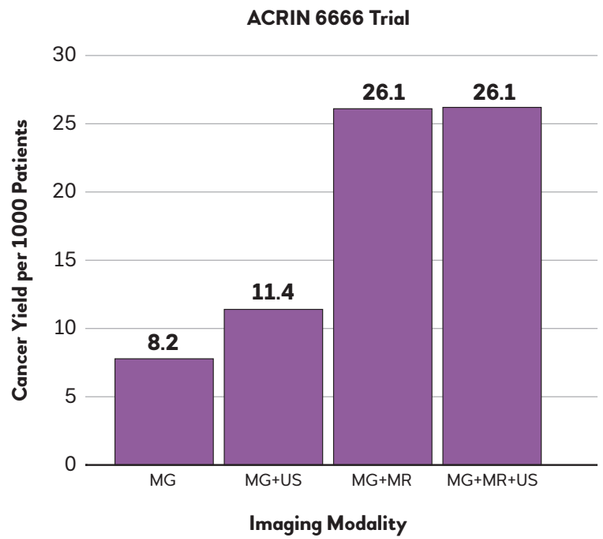
Complete MRI is often covered by insurance for high risk patients. Fast MRI is usually not covered but is offered at Northside Hospital at an affordable self pay price lower than the cost for a full breast ultrasound.

Q: How can I schedule a Fast MRI?

Contact the centralized scheduling office at 404.851.6577 to schedule. Patients will need an order from their physician for a Fast MRI.

Q: What about thermography?

Thermography has not been shown to be sensitive or specific for finding breast cancers. It is sometimes misleadingly marketed as an alternative to mammography. This claim is not supported by science and it is not legal to market thermography in this way. Thermography is not recommended.



Fast MRI is available at the following Northside Imaging locations:

Northside Atlanta Radiology	Northside Riverstone Imaging
Northside Midtown Imaging	Northside Alpharetta Imaging
Northside Dawson Imaging	Northside Medlock Medical Imaging
Northside Holly Springs Imaging	Northside Canton Outpatient Imaging
Northside Meridian Mark Imaging	Northside Hapeville Imaging
Northside Forsyth Radiology	Northside Marietta Imaging
Northside Sugar Hill Imaging	Northside Village Center Imaging

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To Reach a Radiologist, **Call 404.649.6600**
www.northsideradiology.com