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## **Breast MRI [1]**

**This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 07/2015**

A breast magnetic resonance imaging (MRI) test is a diagnostic examination. It uses magnetic fields to capture multiple images of the breast tissue. These images are combined to create detailed, computer-generated pictures of your breasts.

### **Reasons a person might need a breast MRI**

This test has many uses:

- To screen women who are at a high risk for breast cancer
- To diagnose and evaluate breast tumors; this test may better identify a small mass within a woman's breast than a mammogram or ultrasound, particularly for women with very dense, non-fatty breast tissue.
- To find out more about the stage of cancer, which is the size of the tumor and extent of the spread, after an initial breast cancer diagnosis
- To monitor the response of breast cancer to chemotherapy
- To evaluate the area where the cancerous breast tissue was removed as a part of follow-up care

- To learn if breast implants have torn or leaked, for women who have had their breast(s) reconstructed through implants after a mastectomy

## **Limitations of using breast MRI for cancer screening**

A breast MRI is not a replacement for [mammography](#) [3]. Although it is a highly effective test, a breast MRI occasionally may fail to find cancer that a mammogram detects. A breast MRI may also lead to a false positive result. This means that the test finds a mass or other change, but it turns out not to be cancer.

## **The medical team**

You may receive a breast MRI in a hospital facility or in an outpatient clinic. A radiologist or radiology technologist may perform the test. A radiologist is a medical doctor who performs and interprets imaging tests to diagnose disease. The radiology technologist is specially trained and certified to perform MRI scans but not interpret them.

## **Scheduling a breast MRI**

For best results, you may want to schedule your exam at certain times of your menstrual cycle. For example, if you are premenopausal, the MRI facility may ask you to schedule the procedure during days 7 through 10 of your cycle. Be sure to discuss this with your doctor.

## **Preparing for a breast MRI**

When you schedule your MRI, you will get detailed instructions on how to prepare. Here are some general suggestions:

- You may need to avoid eating for two or more hours before the examination.
- Tell your doctor about all medications you are taking, as well as any drug allergies or other medical conditions you have.
- Women should tell their doctors if there is any chance that they may be pregnant.
- Women who are breastfeeding should discuss the test with their doctor. Breast MRIs conducted while a woman is breastfeeding may not produce breast images that are clear enough for accurate interpretation. Women who are breastfeeding and get a breast MRI may want to stop breastfeeding for up to two days after the test. This is so that their bodies can eliminate the contrast material, which is a special dye used in the test. (See “Before the exam” below.)

- Tell your doctor and the technologist performing your breast MRI about any metal implants or metal fragments you have in your body. These can cause serious complications when exposed to the MRI's strong magnetic pull. People with most pacemakers, for example, cannot have an MRI.
- Consider asking whether you can bring music with you to the scan. Some facilities allow patients to listen to music through headphones during the examination, which can help you relax during the procedure.

Finally, you may be asked to sign a consent form. It states you understand the benefits and risks of the breast MRI and agree to have the test done. Talk with your doctor about any concerns you have about the procedure.

## **Before the exam**

When you arrive for your breast MRI, you will need to remove any jewelry or other metal objects you are wearing. You may need to change into a hospital gown.

You will be given a contrast material called gadolinium through an intravenous (IV) line. A nurse or doctor will insert a small needle into a vein in your arm or hand. This needle is connected to a tube. Saline solution will flow through the IV line until the contrast material is injected at a specific point during the examination.

The dye will travel through your bloodstream and help to create a clearer picture of your breasts. However, patients undergoing breast MRI for a ruptured implant will not need the contrast material. For some people, the contrast material causes allergic reactions. Or, it may cause complications in patients with kidney or liver problems. For these reasons, tell your doctor about any health conditions you may have.

A breast MRI is not painful. However, if you receive an IV, you may feel discomfort when the needle is inserted. The saline solution in the IV may cause a cool feeling at the injection site.

In addition, you will need to lie still for most of the scan, which could become uncomfortable. The loud sounds coming from the machine may also make you uncomfortable. You may be given earplugs or earphones to wear during the test.

If you are claustrophobic, meaning you have a fear of being in small spaces, tell the technologist before beginning the examination. The radiologist may be able to give you a medication to help you relax. Or, your primary care physician, surgeon, or oncologist may prescribe you a sedative that you can take in advance or bring with you to the MRI facility.

A technologist will help position you on a padded table specially designed for a breast MRI. You will lie face down on your stomach with your arms at your side and your head on a headrest. The

table has openings for your breasts so they may be scanned without being squeezed together.

## **During the procedure**

When you are in the correct position, the table will slide into the MRI machine. This machine, looks like a large donut with a narrow, tunnel-like opening. Some facilities have less confining “short-bore” or “open” MRI machines. These machines can accommodate larger people and help prevent claustrophobia.

The exam table will slide through the hole in the center of the machine. You will need to lay very still during the breast MRI's two-to-six imaging sequences. Each sequence will last up to 15 minutes. You will know that the machine is taking images because you will hear extremely loud tapping and knocking sounds. Your breasts may feel warm during the MRI. This is normal. You will be allowed to relax slightly between each imaging sequence but will need to maintain your body position as much as possible.

During the examination, the technologist will be in a nearby room, separated by a window. The technologist will be able to see you. And, you will be able to communicate at all times through an intercom system.

The breast imaging session will last between 30 to 60 minutes, and the whole appointment should last no more than 90 minutes. The technologist should be able to give you a time estimate before you begin.

When the procedure is complete, you may be asked to remain on the exam table while a radiologist reviews the images to determine if additional images are needed.

## **After the procedure**

You can expect to resume your normal activities, including driving, after the breast MRI exam, unless you were given a sedative.

A radiologist will review the images from your breast MRI and send a copy of the report to your doctor. Your doctor will discuss the results with you at a follow-up appointment.

## **Questions to ask the doctor**

Before having a breast MRI, consider asking your doctor the following questions:

- Do I need an order (prescription) to schedule the test?
- Does my insurance provider need to authorize this test beforehand?

- Who will perform the exam?
- What will happen during the breast MRI?
- How long will the procedure take?
- Can a friend or family member sit in the MRI room during my examination?
- What are the risks and benefits of having a breast MRI?
- Is the imaging facility [accredited](#) [4] to perform breast MRIs?
- When will I learn the results?
- Who will explain the results to me?
- What further tests may be necessary, depending on the results?

## More Information

[Tests and Procedures](#) [5]

[Magnetic Resonance Imaging—What to Expect](#) [6]

[Breast MRI for Early Detection of Breast Cancer](#) [7]

## Additional Resources

[RadiologyInfo: Breast MRI](#) [8]

[Mayo Clinic: Breast MRI](#) [9]

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## Links

[1] <http://www.cancer.net/navigating-cancer-care/diagnosing-cancer/tests-and-procedures/breast-mri>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancer.net/node/24584>

[4] [http://www.acr.org/accreditation/Breast-MRI/breast\\_mri\\_reqs.aspx](http://www.acr.org/accreditation/Breast-MRI/breast_mri_reqs.aspx)

[5] <http://www.cancer.net/node/24959>

[6] <http://www.cancer.net/node/24578>

[7] <http://www.cancer.net/node/24414>

[8] <http://www.radiologyinfo.org/en/info.cfm?pg=breastmr>

[9] <http://www.mayoclinic.org/tests-procedures/breast-mri/basics/definition/prc-20020473>