Memorial Sloan Kettering Cancer Center

PATIENT & CAREGIVER EDUCATION

About Breast Magnetic Resonance Imaging (MRI)

This information will help you get ready for your breast magnetic resonance imaging (MRI) procedure at MSK.

Metal and electronic devices can disrupt the MRI scanner's magnetic field. If you have metal or electronic devices or objects in your body, tell the person doing your MRI. It may not be safe for you to have an MRI. If an MRI isn't safe for you, your doctor will order a different imaging test.



If you have any of the devices listed below, call 646-227-2323.

- Pacemaker
- Automatic implantable cardioverter-defibrillator (AICD)
- Breast tissue expander
- Aneurysm clip

If an MRI isn't safe for you, your doctor will order a different test. If you have any other questions about your MRI, call your doctor's office.

About your breast MRI

MRI is an imaging procedure that uses strong magnetic fields to take pictures of your breast tissue.

MRI can be used to:

- Find cancer cells.
- See the type, size, and location of breast tumors.
- Help your healthcare provider plan your care and see how your breast cancer treatment is working.

The MRI table is on a track that slides into the machine. The machine is like a long tunnel that is open at both ends. Most MRI scans take about 30 to 45 minutes.

You'll lay face down on the MRI table during your breast MRI (see Figure 1). Your breasts will fit into cushioned holes in the table (see Figure 2).



Figure 1. Lay face down on the MRI table

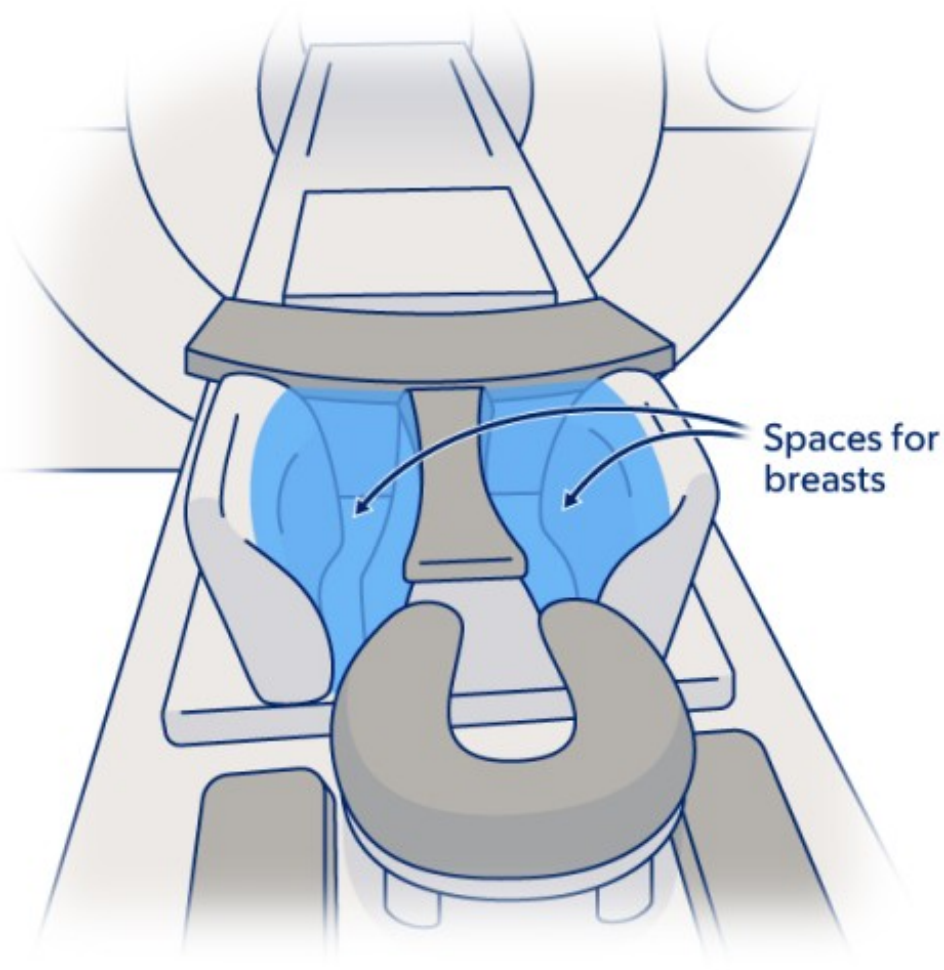


Figure 2. Cushioned holes in the MRI table for breasts

You will need to lay still inside the MRI machine during your scan. The machine will make loud noises during your scan. Talk with your healthcare provider if this may make you uncomfortable, anxious, cause pain, or if you have claustrophobia. They can help plan ways to help you feel more comfortable during your MRI.

You can also use breathing exercises before or during your scan to help you feel more comfortable. Read the “Exercises to Help You Relax for Your MRI” section of this resource for more information.

Things you may get the day of your breast MRI

Contrast

You may need to get contrast the day of your MRI. Contrast is a special dye that helps make the images from your scan clearer. For MRI scans, contrast goes into your bloodstream.

If you're getting contrast, you'll get it through a catheter (thin, flexible tube) in your vein. If you have a central venous catheter (CVC), your nurse will use it to give you contrast if they can. Not everyone can get contrast through their CVC.

Examples of CVCs include:

- An implanted port (sometimes called a mediport or port-a-cath).
- A tunneled chest catheter (sometimes called a Hickman™ catheter).
- A peripherally inserted central catheter (PICC) line.

If you don't have a CVC or can't get contrast through your CVC, you'll get contrast through an intravenous (IV) line. Your nurse will place the IV line in one of your veins, usually in your arm or hand.

Tell your healthcare provider if you have had a reaction to MRI contrast before. You may get medicine to lower your risk of having another allergic reaction. If you do, you'll get a resource called *Preventing An Allergic Reaction to Contrast Dye* (www.mskcc.org/pe/allergic-reaction-contrast).

Contrast will leave your body through your urine (pee) within 24 hours (1 day).

What to do before your breast MRI

Take devices off your skin

If you wear one of these devices on your skin, you may need to take it off before your MRI:

- Most medicine patches
- Continuous glucose monitor (CGM)
- Insulin pump

If you change your device, talk with your healthcare provider about scheduling your appointment closer to the date you need to change it. Make sure you have an extra device or medicine patch with you to put on after your MRI.

If you have a medical implant or device, ask the healthcare provider who put it in for the exact name and manufacturer. If you don't have this information, you may need to reschedule your MRI.

Breastfeeding and pregnancy

Your healthcare provider will ask you if you're pregnant or think you may be pregnant. If you are pregnant, your doctor may choose not to give you contrast. If you think you may be pregnant, we will do a urine pregnancy test before your MRI with contrast.

It's safe to continue breastfeeding after your MRI with contrast. A very small amount of contrast will end up in your breastmilk if you are breastfeeding. This may change the taste of breastmilk slightly for a short time.

If you have any concerns, you can choose to stop breastfeeding for 12 to 24 hours after your scan. You should still express (pump) milk and throw it away during that time. During this time, you can feed the baby with formula or milk that was expressed before the scan.

After 12 to 24 hours, you can start breastfeeding again on your normal schedule.

If you have questions, talk to your doctor about your options. You can also talk

to the radiologist on the day of your MRI.

What to do the day of your breast MRI

Things to remember

- Know the time and location of your MRI. You can check the patient portal or call your doctor's office to confirm. Please note the arrival time for your appointment on the patient portal.
- If you wear a medication patch on your skin, bring an extra one with you.
- Leave any valuables at home if they are not needed. This includes credit cards and jewelry. Jewelry can make the images from your scan harder to read. Certain metals can also heat up and cause burns during your scan. Tell a member of your care team if you cannot remove your jewelry before the day of your scan.
- Eat a meal before your MRI.
- You may be taking medication for anxiety or to help you relax during your MRI. If you are, take the medication 30 to 60 minutes before your MRI.
- If you're wearing nail polish with metal in it, tell a radiology staff member when you check in. This is because the metal in the nail polish may make the images from your scan hard to read. You'll need to put your hands in a different position during your scan.

What to expect when you arrive

Many staff members will ask you to say and spell your name and birth date. This is for your safety. People with the same or similar names may be having a procedure on the same day.

When it's time for your procedure, you will get a hospital gown and non-skid socks to wear.

A staff member will bring you to the exam room. You'll take off your clothes and change into a hospital gown before going into the scanning area. This is because some clothes have metal fibers that may cause skin burns and make the

images from your scan unclear.

You will need to take off your bra if you are wearing one. You may also need to take off your underwear. Your care team can give you more information.

You'll place your clothing and all of your items (phone, jewelry, coins, glasses, bags) into a secure locker. Even a small amount of metal can fly into the magnet. Leave any valuables at home if they are not needed.

If you're getting contrast, a nurse will inject the contrast into your vein through a catheter.

Going into the procedure room

When it's time for your procedure, you'll remove your hearing aids, glasses, and dentures, if you have them. You'll either walk into the procedure room or a staff member will bring you there on a stretcher.

Inside the MRI scan room

A member of your care team will help you onto the MRI table. The technologist will place a frame or padded covering over the part of your body that is being scanned. It has coils that capture images of your body during your scan. Your healthcare provider will use these images to plan your care.

The machine makes loud noises during the scan. Your technologist will give you earplugs or headphones to listen to music to protect your ears. You can ask for both if you are very sensitive to noise. If you wear a device on your skin, you'll need to remove it if you haven't already been removed.

Once you're comfortable on the MRI table, your technologist will slide it into the magnetic part of the machine. They will begin the scan. Most of your body will be inside the tunnel during the scan. You'll be able to speak with your technologist during the entire scan.

It is important that you lay still and breathe normally during your scan. You can use the conscious breathing exercises to help you relax. **Remember, do not use deep breathing during the scan.** It can cause your body to move too much.

Most MRI scans will take 30 to 45 minutes.

What to do after your breast MRI

If you had glucagon for your MRI, you will be given snacks to eat. You will need to eat these snacks after your MRI. This will help keep your blood sugar within a safe range.

If you had contrast, it will leave your body through your urine within 24 hours.

When your MRI is finished, you'll be helped off the table. You can leave after you get your belongings. There are no restrictions after your MRI. No special care is needed.

Getting your results

Your radiologist will send a report of your MRI to your doctor. Your doctor will use the results of your MRI to help plan your care.

Contact information

If you have any questions or concerns about your MRI, call the site where your scan is scheduled. You can reach a staff member Monday through Friday from 8 a.m. to 6 p.m. at the following locations:

MSK Manhattan sites

Main Campus (1275 York Avenue) 212-639-8200	**Breast & Imaging Center (66th Street)** 646-888-5314

MSK regional sites

Basking Ridge 908-542-3200	**Bergen** 201-775-7133
Commack 631-623-4066 631-212-6173	**Monmouth** 848-225-6453
Nassau 516-559-1004	**Westchester** 914-367-7307 914-367-7036

After 6 p.m. on weekdays, during the weekend, or on a holiday, call 212-639-2000 for help.

Breathing exercises to help you relax for your MRI

You can use breathing exercises before or during your scan to help you feel more comfortable. Exercises that use little to no movement, such as conscious breathing, are safe to use during your scan. Other exercises, such as deep breathing, cause more movement and should not be done during your scan.

Deep breathing exercises to use before your MRI only

Do not use deep breathing during your MRI. It can cause your body to move too much while you're in the MRI machine.

You can practice deep breathing by following these steps:

1. Place 1 hand on your stomach, just above your belly button. If you're right-handed, use your right hand. If you're left-handed, use your left hand.
2. Breathe out fully through your mouth.
3. If you can, close your eyes and breathe in slowly and deeply through your nose. Feel your stomach push up on your hand. Imagine that air is filling your whole body from the bottom up.
4. Pause for a couple seconds. Then, breathe out slowly through your mouth or nose. Try to breathe out fully. Imagine the air leaving your lungs, mouth, or nose.
5. As you breathe out, allow your body to relax and go limp—like a rag doll.

Repeat this exercise 5 to 10 times.

Exercises to help you relax for your MRI

Here are some things you can do before your MRI to help with claustrophobia, anxiety, or both.

- *Acupressure for Stress and Anxiety* (www.mskcc.org/pe/acupressure-anxiety)

- *Body Scan Meditation* (www.msk.org/body-scan)
- *Breathing Exercises to Prepare for Procedures* (www.msk.org/breathing-for-procedures)
- *Managing Anxiety about Medical Scans and Procedures* (www.msk.org/managing-anxiety-procedures)
- *Guided Imagery Meadow Meditation* (www.msk.org/guided-imagery-meadow)
- Guided Imagery Meditation to Promote Comfort and Wellness (www.msk.org/guided-imagery-comfort)
- *Managing Anxiety* (www.mskcc.org/pe/anxiety)
- *Managing Scanxiety During Your Cancer Treatment* (www.mskcc.org/pe/managing-scanxiety)
- *Mindful Breathing Meditation* (www.msk.org/mindful-breathing)
- *Mindful Movement Meditation* (www.msk.org/mindful-movement)
- *Relaxation Exercises to Practice Before and During Your MRI* (www.mskcc.org/pe/relaxation-mri)

For more resources, visit www.mskcc.org/pe to search our virtual library.

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