PATIENT & CAREGIVER EDUCATION

About Magnetic Resonance Imaging (MRI) for Pediatric Patients

This resource will help you get ready for your MRI scan at MSK. In this resource, the words “you” and “your” refer to you or your child.

About your MRI

MRI is an imaging procedure that uses magnetic fields to make pictures of the inside of your body. MRI can be used to see the type, size, and location of tumors. This helps your healthcare provider plan your care and see how your treatment is working.

If you have a brain tumor, an MRI is used to look at your brain. Your surgeon will use the detailed pictures from your MRI to plan your surgery.

The MRI table is on a track that slides into the machine. The MRI machine is a long, donut-shaped magnet that is open at both ends.

The MRI scan will take about 1 hour.

You'll 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 use special headphones and goggles called Cinemavision during your MRI. You can use this to watch a movie or listen to music. If you want to do this, tell your nurse so they can arrange it.

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.

Child life services



MSK's Child Life Program helps support, teach, and empower young patients and their families throughout an illness. Our child life specialists (CLS) are experts in human growth and development. They help create strategies for coping with medical events, such as getting ready for your MRI.

You may be able to arrange for a CLS to be at your MRI. To request a CLS for your MRI, call 212-639-8285.

What to do before your MRI



If you have a programmable ventriculoperitoneal (VP) shunt, it's important that you know the shunt type and setting **before** your MRI. If you don't know, ask the doctor who placed your VP shunt. If you don't have this information before your MRI, you may not be able to have the MRI that day.

If you have a vagal nerve stimulator, tell your healthcare provider a week before your MRI. We'll need time to arrange to have the device turned off before the MRI and back on after the MRI.

A week before your MRI, tell your healthcare provider if you have metal or electronic devices in your body. These include:

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

These devices can interfere with the MRI scanners magnetic

field. This can make it unsafe for you to have an MRI scan.

If you're a female between the ages of 11 and 55, your healthcare provider will ask you if you're pregnant. You may have to take a pregnancy test.

Take devices off your skin

You may wear certain devices on your skin. Before your scan or procedure, device makers recommend you take off your:

- Continuous glucose monitor (CGM)
- Insulin pump

Talk with your healthcare provider about scheduling your appointment closer to the date you need to change your device. Make sure you have an extra device with you to put on after your scan or procedure.

You may not be sure how to manage your glucose while your device is off. If so, before your appointment, talk with the healthcare provider who manages your diabetes care.

About contrast dye

You may need to have contrast dye (also called contrast) during your MRI. Contrast is a special dye that makes it easier for your doctor to see differences in tumors. This will help us to get a clearer picture.

Your doctor or nurse will tell you if you're going to have an MRI with contrast. If you are, you'll get the contrast through an intravenous (IV) line in your hand or arm or a needle in your central line or implanted port (Mediport®).

Reactions to the contrast dye are rare. However, if you've had a reaction to contrast in the past, tell your doctor or nurse.

Note the time of your MRI

A staff member will call you 1 day before your MRI. If you're having your MRI on a Monday, they will call you on the Friday before. If you don't get a call by 4 p.m., please call 212-639-5948.

The staff member will tell you what time to arrive for your MRI. They will also remind you where to go. This will be one of the following locations at Memorial Hospital (MSK's main hospital):

- **Center for Image-Guided Intervention (CIGI)**
  1275 York Avenue (between East 67th and East 68th Streets)
  C elevator to the 2nd floor.
- **11th floor MRI Suite**
  1275 York Avenue (between East 67th and East 68th Streets)

B or C elevator to the 11th floor.

Use the space below to write your appointment date and time.

Date: _____
Time: _____

For people getting anesthesia

If your doctor told you that you would get anesthesia, follow the additional instructions below. Anesthesia is medication to make you sleepy during your MRI.

Arrange for someone to take you home

You must have a responsible care partner take you home after your procedure. A responsible care partner is someone who can help you get home safely. They should be able to contact your care team if they have any concerns. Make sure to plan this before the day of your procedure.

If you don't have a responsible care partner to take you home, call one of the agencies below. They'll send someone to go home with you. There's a charge for this service, and you'll need to provide transportation. It's OK to use a taxi or car service, but you still need a responsible care partner with you.

Agencies in New York	Agencies in New Jersey
VNS Health: 888-735-8913	Caring People: 877-227-4649
Caring People: 877-227-4649	

Instructions for eating and drinking before your procedure

Do not eat or drink anything after a certain time on the night before your MRI. Your nurse practitioner will tell you when this is. The exact time is based on your age and any other medical problems that you may have. Your nurse practitioner will talk with you about what you can and cannot eat before your MRI.

If you don't follow the instructions you are given, your MRI may be cancelled.

Write down your instructions here:

What to do the day of your MRI

Things to remember

- If you're having an MRI of the head, you can shower and wash your hair the morning of your MRI. This includes brain MRI and pituitary MRI. Do not use any hair products, such as hair spray or hair gel.
- Don't wear any metal objects. Take off all jewelry, including body piercings. 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.

- Leave valuable items at home if you do not need them. This includes extra credit cards, extra cash, and jewelry.
- 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.
- Plush toys, blankets, and other soft items are not allowed in the MRI room. They may heat up or burn in the machine. You can keep these items with you until it's time for your scan. You'll put them in a secure locker during your scan and get them once your scan is done.
- Please wear short sleeves. Long sleeves can pull on or remove your IV line.
- Visitors under the age of 18 must be with an adult at all times during the visit.
- If you're late for your MRI, we will do our best to fit you into the next open time slot. You may have to wait until the next opening.

What to bring

- An extra medicine patch, if you wear one.
- A case for your glasses, if you wear them.
- Your VP shunt information, including shunt type and setting, if you have one.

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.

A nurse will help you get ready on the 9 th floor. They will put in an IV or use your port if you have one.

You'll need to take a pregnancy test before the exam if you're:

- A female between the ages of 11 and 55.
- A female under 11 who has already started your period.

Pregnancy test results can take up to 1 hour. You can stay on the 9th floor while you wait for your results.

If you are 18 or older, you'll sign a waiver. This is a form that says you understand the exam and agree to it.

Next, a staff member will bring you to a changing room in

the MRI department on the 11th floor. They'll give you special pajamas to change into. You'll put your clothes and all 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 you do not need them.

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

To request a CLS for your MRI, call 212-639-8285.

Going into the MRI scan room

When it's time for your scan, the MRI technologist will bring you to the MRI room. You'll either walk into the MRI 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 machine makes a loud tapping noise during the scan. The technologist will offer you earplugs or earphones to listen to music. If you plan to use Cinemavision, they will give you the headphones and goggles.

Once you're comfortable on the MRI table, the technologist will slide it into the magnetic part of the machine. They will begin the scan. You will be able to speak with the technologist during the whole scan.

It's important that you lay still and breathe normally during your scan. The scan doesn't hurt, but some people have a hard time lying still on the MRI table. If you're having trouble lying still, tell the MRI technologist. 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.

The scan will take about 1 hour.

What to do after your MRI

When your MRI is finished, the MRI technologist will move the scanning table out of the machine. They will help you off the table. You can leave the MRI area after you get your things.

If you got anesthesia, a staff member will take you to the Post-Anesthesia Care Unit (PACU) or Pediatric Ambulatory Care Center (PACC). You will stay there until you're fully awake.

You can do all your normal activities after your MRI. You do not need to take any special care.

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

Getting your results

Your doctor will get a report with the results of your MRI. They will go over the results of your MRI with you. You can also find your results in the patient portal.

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)

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

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

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