



Pediatric Magnetic Resonance Imaging (MRI)

Important Information for Patients and Caregivers



Introduction to MRI

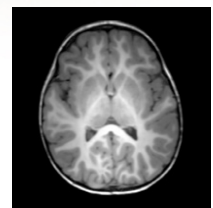
A magnetic resonance imaging (MRI) exam is a way for doctors to see what is happening with bones, tissues, and organs inside the body without radiation. MRI is done using a magnetic field, radio waves, and a computer.

MRI may create images that other imaging methods, like computed tomography (CT), X-ray, or ultrasound, are unable to create.

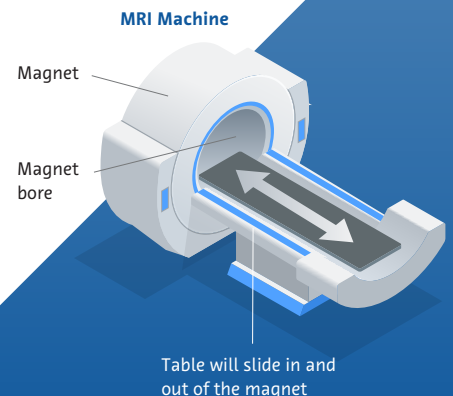
MRI scans are usually done at an imaging facility or department. During the MRI, the patient is placed on a table surrounded by a large magnet. The magnet has a hole in the center where the table slides in and out. If a child is prescribed an MRI, preparation and basic knowledge of the exam may ease concerns to help the scan go smoothly.

This brochure gives information that may help prepare for the MRI. Staff at the imaging facility can also answer questions about the exam.

This brochure is not intended to give or replace medical advice from your healthcare provider. Please consult your healthcare provider for your or your child's specific needs.



Example of unenhanced MRI scan



About the MRI Procedure

Before the MRI

When scheduling the MRI, a prescription for the MRI from the child's doctor must be given to the imaging facility.

To create usable images, MRI patients must not move during the MRI. So, the child's doctor may choose to give the patient medicine called a sedative that will help the child sleep during the exam.

There is more information about sedatives in the "MRI and Sedation" section of this brochure. If the child will get a sedative, the staff will ask for his or her medical history before the day of the exam. Other tests may also be ordered to clear the child for the sedative. **Tell staff about any illness or allergy the child has when scheduling the MRI.**

The staff may have requirements for the child before they can give a sedative, like no food or drink. **Make sure to follow the directions so the MRI can be done safely and on time.**

The MRI magnet creates a strong magnetic field during the scan. So, **some metal and electronic objects are not allowed in the MRI room during the exam.** These objects must be removed from anyone entering the MRI room during the exam.

When scheduling the MRI, tell the staff if the child or his or her caregiver has a:

- Pacemaker
- Artificial heart valve
- Implanted drug infusion port
- Intrauterine device (IUD)
- Any pins, metallic implants, aneurysm clips, or metal fragments from previous injury or surgery

There is more information about metal in the "MRI Equipment and Metal" section of this piece.

On the day of the MRI, **remember to bring important documents** like the MRI prescription and child's insurance information. The facility may ask that the patient arrive a few hours early to fill out paperwork. Make sure to follow the directions given by the staff.

The exam will be handled by an MRI technologist and a radiologist. A technologist is a person who has been trained to run an exam and use the MRI equipment. A radiologist is a doctor that reads MRI scans. At some sites, a nurse or another doctor may also help.

MRI Equipment and Metal

Since metal is not allowed in the MRI room, the child may need to change into a hospital gown.

If a caregiver is able to go in the room with the child during the MRI, the staff will help take off and put away unsafe metal objects, like:

- Jewelry, watches, eyeglasses, hairpins, and clothing with zippers or snaps
- Keys, coins, credit cards, dentures with metal, hearing aids, or cell phones

The imaging facility may have a locker to safely store metal items. The technologist may also ask about metal implants or other devices that cannot go in the MRI room. These items may need attention before or after the MRI.

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MRI and Sedation

If the child will get a sedative, the staff will prepare before the day of the exam by getting the child's medical history, ordering other exams if needed, and asking certain questions.

On the day of the exam, the sedative can be given in different ways: orally, through the rectum, or through an IV. MRI-safe equipment may be placed on the patient to check vital signs during the MRI.

Help the child follow food and drink instructions from imaging staff before the exam.

MRI and Contrast

The child's doctor may request that the child receive an injection of a contrast agent before the MRI. Contrast agents show radiologists more details of certain parts of the body.

There are some risks linked to contrast agents. The MRI technologist will ask questions about the child before the MRI to make sure he or she can receive a contrast agent.

Talk about safety considerations with the child's doctor.

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During the MRI

When it is time for the MRI to start, an adult may be allowed in the exam room with the child during set-up. Normally, other children or siblings are not allowed. Pregnant women are not allowed in the exam room.

The technologist will help the child get comfortable on the table that slides into the magnet. The inside of the magnet is open on both ends, and is usually well lit. Sometimes, there are headphones the child can use to listen to music once inside the tube, or even a screen to play videos.

Once the child is ready, the table will slide into the MRI machine so the exam can begin. At this time, the technologist may allow a caregiver to stay in the room with the child, or ask the caregiver to wait in a waiting area.

During the procedure, the child can be seen and monitored in the machine. If the child will be awake for the exam, he or she will be able to see out, and if old enough, talk to the caregiver or technologist using an intercom.

Once the MRI begins, all the child needs to do is lie still. At times, the MRI machine will make loud knocking sounds. The sounds come from the magnets inside the machine as they move. They are a normal part of the procedure. If the sounds make the child

upset, headphones should help him or her relax. Ear plugs may also be given to the caregiver or child to help block the noise. The length of the MRI varies, but should take around 30–60 minutes. The technologist can tell the caregiver ahead of time how long the scan should take.

After the MRI

Once the MRI is done, the table will slide out of the magnet and the child will be helped off of the table. If the child was sedated, he or she may be taken to a recovery room to lie down until he or she wakes up. The child may be required to stay in the recovery room for a set amount of time (for example, one hour). Side effects of sedation usually last only a little while.

Side effects may include feeling tired for the rest of the day. The caregiver should ask the doctor about the specifics of sedation. When the child is ready for release, the caregiver can get any metal personal items that were stored, and help redress the child if he or she wore a hospital gown for the MRI. The imaging facility may have forms to follow or sign before the child can leave.

After the exam, a radiologist will review the images created during the MRI. The radiologist will send the child's doctor a report about what he or she saw, and the doctor will follow up to talk about the results with the child's caregiver.

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