



# Children's Imaging Guide: MRI



At Renown Health's X-ray & Imaging and the **David & Judy Hess Children's Imaging Center**, we provide comprehensive imaging services to our youngest patients. Our goal is to exceed your expectations and provide you with exceptional service and care.

## WHAT Is Magnetic Resonance Imaging (MRI)?

An MRI scan is a safe and painless test that uses a strong magnetic field and radio waves to create incredibly detailed images of organs, bones and tissues within the body.

## How Does it WORK?

During the examination, radio waves manipulate the magnetic position of atoms in the body, and send out signals as they realign. The signals are transmitted to a host computer that translates the signals into clear, cross-sectional, black-and-white pictures of the scanned area. They can also be converted into three-dimensional images.

## Why Are MRI Scans PERFORMED?

MRI scans are used to detect a variety of health conditions, including issues with the brain, spinal cord, bones and lungs. Because they produce more detailed images of the body than X-rays, CT scans or ultrasounds, MRI scans are particularly valuable for diagnosing problems with the eyes, ears, heart and circulatory system.

MRI's ability to highlight contrasts in soft tissue makes it helpful in deciphering problems with joints, cartilage, ligaments and tendons. It can also be used to identify infections and inflammatory conditions or to rule out health concerns such as tumors.

## What Happens During an MRI Scan?

An MRI technologist will position your child on the scanning bed. A receiver is placed over the part of your child's body that needs to be imaged. Because the MRI scanner makes loud pulsing or knocking sounds, earplugs are provided to protect your child's ears and a blanket is available if your child feels cold. A call button is easily accessible if your child feels uneasy during the test.

To obtain the highest quality MRI results, your child must remain completely still during the scan, which is why sedation is sometimes used — especially among infants and younger children. Sedation medication, which is administered through an intravenous (IV) line, is also used for patients experiencing extreme claustrophobia. If sedation is required, food and liquids will be stopped at a certain point before the MRI scan to allow your child's stomach to empty.

Your child may also be administered a contrast solution through an IV. It highlights certain areas of the body, such as blood vessels, so doctors can see them in more detail.

The inside of an MRI machine looks like a tunnel. The body part that will be scanned must be in the center of the scanner, so the technologist will move the scanner bed into the tunnel until it is appropriately positioned.

The technician will then take the images. MRI scans consist of several sequences, each lasting a few minutes, with breaks in between. The entire procedure takes anywhere from 20 to 90 minutes depending on the information required by the radiologist and your doctor. You'll be given a more specific time frame before the scan begins.

## What Happens AFTER an MRI Scan?

If sedation was used, your child may be moved to a recovery area. Otherwise you're free to go home and your child can resume normal activities.

## Sit Back, Relax and Enjoy the Show



With our new imaging technology — CINEMAVISION — you and your child can experience a MRI scan with less stress and worry.

An MRI scan can be scary and noisy for children. That's why Renown Health has a new technology called Cinemavision, designed to help soothe anxious patients and minimize claustrophobia that can disrupt exams.

With this technology our littlest patients can enjoy movies and musical entertainment during MRI exams — it's like watching a 42" TV screen from about 6 feet away. It also reduces noise and allows for two-way communication between our MRI technicians and you and your child, making for a more relaxing environment and quicker, more efficient scan.

CINEMAVISION IS CURRENTLY AVAILABLE AT:  
RENOWN X-RAY AND IMAGING – CENTER C  
75 PRINGLE WAY  
RENO, NV 89502

The radiologist will review the images and create a report of the findings and diagnosis, which will be given to the referring doctor who will then discuss the results with you. If the radiologist finds something that requires urgent attention, we will contact your child's doctor immediately.

## What Are the **RISKS**?

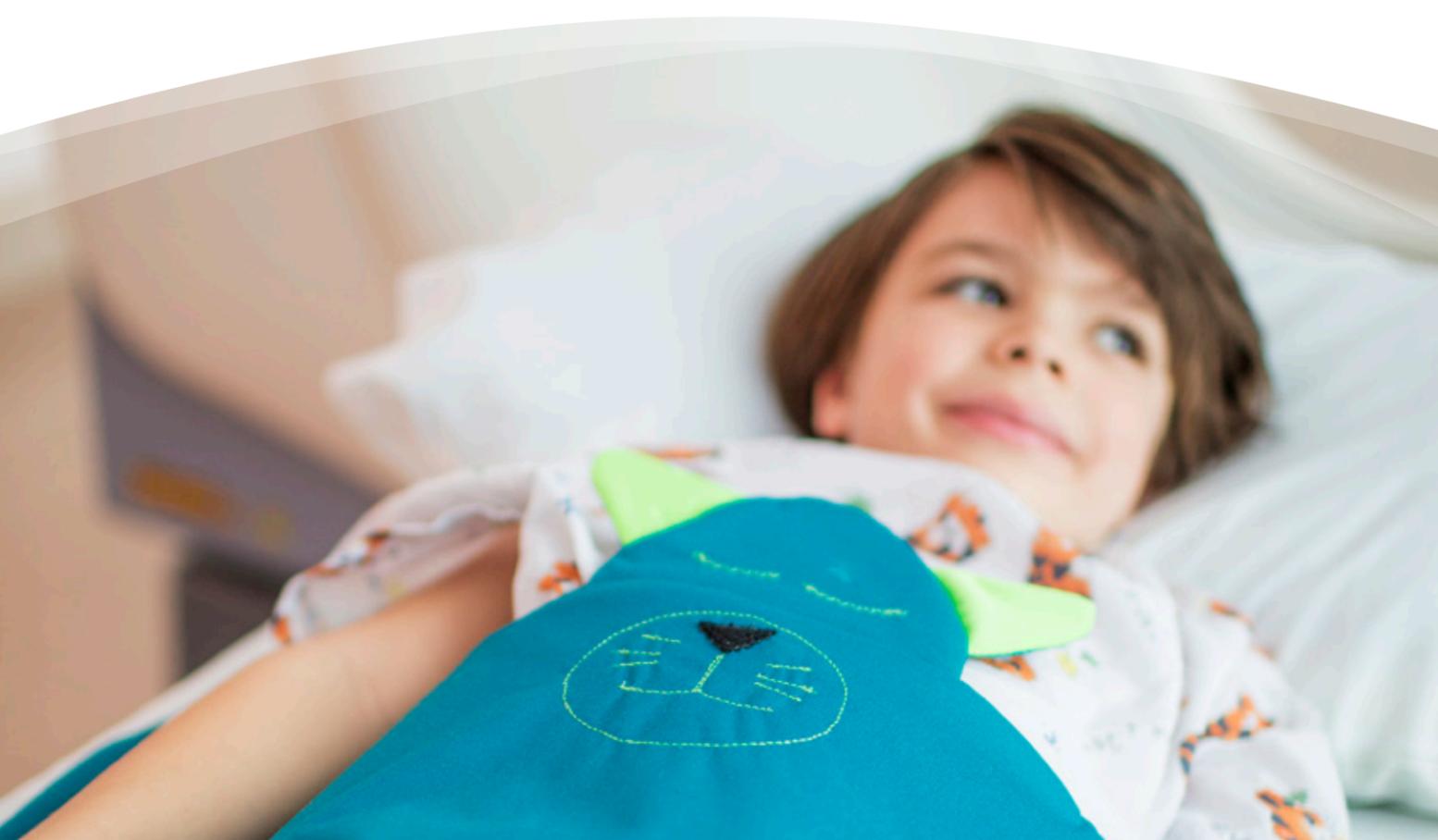
MRI scans are safe and easy. No health risks have been associated with the magnetic field or low-energy radio waves, since they function without radiation. The procedure can be repeated without side effects.

The contrast solution and sedation medication used in MRI tests is generally safe, but allergic reactions can occur. Talk to your child's doctor in advance about the benefits and risks involved in either case. And be sure to detail any allergies, medications and previous adverse drug reactions that pertain to your child. Medical staff prepared to handle an allergic reaction will be on hand.

Notify the radiologist and technician if your child has decreased kidney function before allowing IV contrast to be administered. If the kidneys are compromised it could cause rare complications.

## How Should I **PREPARE** My Child for an MRI Scan?

You can help your child prepare for an MRI by describing the test in simple terms. Explain why the scan is necessary, what part of the body will be examined and the importance of lying still. Tell your child that the equipment will probably make knocking and buzzing noises. If contrast solution or sedation is required, tell your child that the initial sting of the needle will be brief. Assure your child that you will be there throughout the exam. Talk to your doctor if you feel your child would benefit from a tour of the MRI room before the test.



## What Can I **EXPECT** the Day of My Child's MRI Scan?

The day of your child's exam, report to your scheduled location. Bring a favorite book or toy, comforting object, or electronic device to occupy your child during wait times. Electronic devices are not permitted in the MRI room, however. To help relax your child during the exam bring along a favorite movie for the MRI technician to play during the exam using our Cinemavision technology, which is available at Renown X-ray and Imaging – Center C.

Some patients take an oral sedative on the way to the scheduled location to relieve anxiety before the test. Talk to your referring doctor in advance if you think your child might require anti-anxiety medication.

Before the scan begins, the technician will have your child remove any objects containing metal — eyeglasses, jewelry or belts — as metallic objects often produce a bright or blank spot on the diagnostic film. Braces and dental fillings won't interfere with the scan. You'll also be asked questions to make sure your child doesn't have any internal metal clips from previous surgery or anything else that might cause a problem near a strong magnetic field.

Abdominal scans require your child to consume a contrast solution and, in some cases, refrain from eating or drinking 4-6 hours prior to the exam. It is important that you follow all instructions or the scan may need to be rescheduled.

MRIs are painless. So unless sedation is used or you're told otherwise, your child can immediately return to normal routines and diet. Most sedation will wear off within 1-2 hours, and any contrast material administered should pass through the body in about 24 hours.

Renown Health has five MRI locations for your convenience:

**David & Judy Hess Children's Imaging Center**  
1155 Mill St.  
Reno, NV 89502

**Renown X-ray and Imaging – McCabe**  
25 McCabe Dr.  
Reno, NV 89511

**Renown X-ray and Imaging – Center C**  
75 Pringle Way  
Center for Advanced Medicine C  
Reno, NV 89502

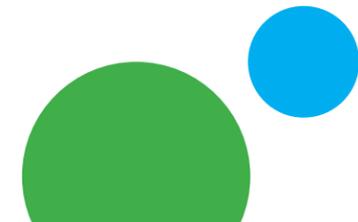
**Renown X-ray and Imaging – South Meadows**  
Medical Center  
10101 Double R Blvd.  
Reno, NV 89521

**Renown X-ray and Imaging – Kirman**  
75 Kirman Ave.  
Reno, NV 89502

**Renown X-ray and Imaging – Vista**  
910 Vista Blvd.  
Sparks, NV 89434

## If You Have **QUESTIONS**

If you have questions about MRI scans speak with your doctor. You can also talk to the MRI technician before the exam or contact **Children's Imaging** at **775-982-8100**.



***Renown***<sup>®</sup>  
*CHILDREN'S HOSPITAL*

775-982-8100

[renown.org/childrens](https://renown.org/childrens)