

MRI Urogram

What is an MRI Urogram?

MRI stands for Magnetic Resonance Imaging. The MRI machine uses a large magnet to take pictures of the inside of your child's body. MRI does NOT use radiation.

A magnetic resonance urogram (MRU) is an exam that takes pictures of the kidneys, ureters and bladder. This MRI exam produces pictures that visualize the structure and function of the urinary tract.

Why is this exam performed?

This exam is commonly used to look at the urinary tract system to:

- Find the cause of blood in the urine or pain
- Look for urinary tract blockages
- Understand systems that have not formed normally or have been surgically altered

What to expect

Because MRI uses a powerful magnet to create images, we must follow a strict safety process. To make sure your child is safe, we will ask you to answer a list of safety questions and will use a hand-held metal detector. If your child does not require medication to sleep for the exam (sedation), one parent or guardian may be with your child in the MRI suite. You will be asked to complete the same screening process as your child. It may be helpful to make plans for other siblings. For safety reasons, you will not be permitted to accompany your child if you are pregnant.

Preparing your child is key to the success of this study. To help prepare your child, our Child Life Specialists will help ease your child's fear and anxiety. Please let a staff member know if you are interested in a Child Life consultation at no additional cost. Your child will have the option to watch a movie with headphones during the exam.

Success for an MRI exam depends on a child's ability to lie still inside the MRI tunnel. The machine makes different types of noises as it takes pictures.

The MRI preparation video found on this page may be helpful in preparing your child:

<https://www.texaschildrens.org/departments/mri-magnetic-resonance-imaging>

For those children requiring medication to sleep for the test, we will follow the same safety processes outlined above and you will be able to stay with your child until he or she is off to sleep. Any child receiving sedation for the exam can:

- Eat food up to 8 hours before your arrival time.
- Drink milk, formula, and food thickener up to 6 hours before your arrival time.
- Breastfeed or given breast milk up to 4 hours before your arrival time.
- Only clear liquids up to 1 hour before your arrival time (water, Pedialyte, Sprite, 7-up, or apple juice). Orange juice is not a clear liquid.
- Take prescribed medications with a small sip of water (if needed) prior to arrival time unless otherwise specified.

If these instructions are not followed, the exam may be rescheduled or cancelled due to the risk posed to your child.

You will meet with a Nurse Practitioner and/or the doctor who will be providing the sedation medication. You will have the opportunity to ask questions, discuss risks, and will be asked to sign your consent.

Your child will be asked to change into a gown for the exam. A technologist will take your child and the accompanying adult to the procedure room where he or she will ask why the study is being done and will explain the exam to your child.

For this 60 minute exam:

- An intravenous line, also known as an IV, is required to give the contrast and medications. An IV is a tiny tube that is inserted into a vein. Your child might feel a pinch or poke when it goes in the vein, however we have ways to manage the pain associated with it.
- Your child will need to empty his or her bladder before preparations begin.

- Your child’s bladder will have a catheter (small tube) inserted for the exam to help control when he or she urinates. Our highly trained nurses will ensure the privacy and comfort of your child. It is important that your child remains still. We will give you suggestions on ways to distract your child in order to help keep them calm during this portion of the study.
- For females, we will position her legs in a “butterfly or frog position”. For males, we will have him lay on his back with his legs flat on the table.
- The nurse will apply numbing jelly on the urethral area (depending on age) and allow it to sit for a couple of minutes covered by gauze.
- With your child in the previously described position, the gauze (if used) will be removed. Using sterile technique, the technologist will clean the urethral area with cotton swabs soaked in a brown iodine-based cleaning agent. This will feel cold to your child, which is normal.
- The nurse will insert a small catheter into the bladder and tape the tube to your child’s leg. Your child might feel some pressure or the urge to urinate. Taking long, deep breaths will help.
- The patient will be given fluids for 1 hour through the IV with a clear solution known as normal saline.
- Your child will be asked to lie on his or her back on the table at the entrance to the camera “tunnel.” The technologist will place a “coil,” which is part of the camera, on the area to be imaged. The table will then be moved in to the “tunnel.”
- For the preparation, sedation (if given), and imaging, you should expect to be in the department approximately 2-4 hours.
- When the procedure is over, you will be given discharge instructions.

Your child may have discomfort, pink urine, or feel a burning sensation while urinating after the catheter is removed. This is normal and should be temporary. Some parents report a small amount of discharge in their child’s underwear or diaper. This is typically from the cleaning solution used prior to catheter insertion.

If your child received anesthesia

Your child may be sleepy and unsteady from the anesthetic for several hours. Your child may have a red face or be slightly swollen around the face and eyes. This should

improve within 24 hours. Your child may wake up feeling hungry. When he or she is wide awake, the recovery nurse will give clear liquids such as Pedialyte, apple juice, Sprite or water. If your child does not throw up during the next 30 minutes, he or she can eat normally.

To prevent accidents, closely monitor him or her for the next 24-48 hours. Walk with your child, holding hands even if he or she seems to walk without trouble. It is also important to help your child in the bathroom.

The sedative and the test may disrupt your child’s routine. You may notice a change in behavior for the rest of the day. Some children may become cranky. Some children sleep for hours. Others may stay up late because they slept for the test. Be patient. Things will be back to normal the next day.

When to seek help

Call 911 if your child has difficulty breathing and looks very pale or has blue lips or nails or a very high fever (greater than 103°F).

Call your child’s doctor if your child has any of the following:

- Blood in the urine, or pain
- Throws up more than three times
- Seems confused or dizzy the next day, is harder to wake up than usual
- Has a sore throat that gets worse or does not go away in two days
- Has a fever of over 101°F for more than 24 hours
- Develops any allergies such as hives, itching or a rash

Receiving your Urogram results

Call your doctor for a follow up appointment as instructed. You can also call the doctor who ordered the MRI for the results 24 to 48 hours after the test. If you have any additional questions or concerns, please don’t hesitate to call Radiology Nursing at 832-826-5371.

If you would like a CD of your child’s study, please call the film library at 832-822-1202. The Radiologist’s report will also be included on the CD.