

Cardiac Stress MRI

What is a Cardiac Stress MRI?

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 cardiac stress MRI is an exam that takes pictures of your child's heart and connected blood vessels.

Why is this exam performed?

This exam allows a cardiologist and radiologist to see how the blood flows within the heart while your child is at rest and under stress. This test will show if the heart is receiving adequate blood supply.

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 (sedation) for the exam, 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>

This study will require your child to hold his or her breath during portions of the exam. Your child must be able to follow these commands to successfully complete the exam without sedation.

Caffeine and beta blockers (e.g. propranolol) should be withheld for 24-48 hours prior to the exam.

For those children requiring sedation 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 prior to your arrival time.
- Drink 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 60-120 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 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 into the “tunnel.”
- After several pictures have been taken, a stress medication will be administered. Your child will feel his or her heart beating faster, tightness in the chest, and may experience brief warmth and flushing of the face. These effects are brief and end shortly after the medication is given. The staff will closely monitor your child.
- Your child will need some time to recover from the medications given and vary depending on your child’s reaction.
- With preparation, imaging and recovery, you should plan to be in the department up to 4 hours (up to 5 hours if your child is sedated).
- When the procedure is over, you will be given discharge instructions.

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

Receiving your Cardiac Stress MRI 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.