

# DMSA Renal (Kidney) Scan

Parents and guardians can contribute to the success of this test and we invite you to participate. Please read the following information to learn about the test and how you can help.

## Fast Facts about DMSA Renal Scans

- ◆ The DMSA renal (*Ree-nul*) scan is a nuclear medicine test that gives detailed pictures of the kidneys and how they are working.
- ◆ Nuclear medicine tests work through the use of a small amount of radioactive material called a radioisotope (*RAY-dee-oh-EYE-so-tope*). The radioisotope is safe and will not hurt your child.
- ◆ The DMSA scan itself does not hurt, but an intravenous (IV) line is needed to give a tiny amount of the radioisotope before the test.
- ◆ Most children are able to lie perfectly still for the test; young children may even nap through the test.
- ◆ In rare cases, when a child is unable to stay still for the test, sedation medication may be needed to help him or her sleep during the test.
- ◆ When sedation medication is prescribed, there are important rules for eating and drinking that must be followed in the hours before the test. You can ask your child's nurse or physician about more information on rules for sedation.
- ◆ A supervising pediatric radiology doctor is always nearby when sedation medication is given.

## What is A DMSA Renal (Kidney) Scan?

The DMSA renal scan is a nuclear medicine test that gives doctors detailed pictures not only of how the kidneys look, but how they are working. DMSA (dimercapto succinic acid) is a short-lived radioisotope that goes directly to the kidneys once inside the body and only stays radioactive for a few hours up to a day. Using the DMSA and a special camera, nuclear medicine doctors can see the kidneys and diagnose problems at their earliest stages. Although a bit different from traditional X-Rays and CT or MRI scans, nuclear medicine tests using radioisotopes like DMSA have about the same amount of radiation as other radiology tests.

Before the test begins, a pediatric radiology nurse will place an intravenous (IV) line in your child's arm, hand or foot. A tiny amount of the DMSA will be given through the IV, based on your child's weight. Although the DMSA is completely safe and will not hurt your child, he or she might be a bit uncomfortable for a moment when the IV is first placed.



- ◆ The DMSA injection is given through the IV. It takes at least 2 hours for the DMSA to be absorbed by your child's kidneys.
- ◆ If your child is not having sedation, the IV will be removed after the DMSA injection.
- ◆ If your child is having sedation, the IV may stay in place until it is time for the DMSA scan and may be used to give your child the sedation medication.
- ◆ You and your child will be allowed to leave the department during the 2 hours after the DMSA injection. If he or she is not having sedation, you may feed your child during that time.
- ◆ If sedation medication has been prescribed for your child, please do not give him or her anything to eat or drink until after the scan.
- ◆ During the 2-hour wait time, we ask that you try to keep him or her awake so he or she will be tired and eager to nap when the pictures need to be taken.
- ◆ After about 2 hours, when the DMSA has been absorbed, detailed pictures will be taken of the size, shape and position of the kidneys. These pictures will give your doctor an idea of how well the kidneys are working, and can show areas of the kidneys that may be infected or scarred from a previous infection.

# DMSA Renal (Kidney) Scan cont'd

## Home Preparation

- ◆ No special preparation is needed, and your child may eat and drink as usual **unless sedation medication has been prescribed for your child.**
- ◆ Have your child wear comfortable, loose-fitting clothes on the day of the test.
- ◆ You may want to bring along a "comfort item" - such as a favorite stuffed animal or "blankie" - for your child to hold during the test.
- ◆ You can bring along a portable music or movie player to distract your child so that he or she can lie completely still during the pictures.
- ◆ For **toddlers and preschool-age children**, the best time to talk with your child is right before the test. On the day of the test, tell your child that he or she will be having some "pictures" taken, so the doctor can help him or her feel better. Most children this age are afraid of being separated from their parents. Let your child know that you will stay with him or her the whole time.
- ◆ **School-age children** have good imaginations and may frighten themselves by imagining something much worse than the actual test. The day before the test, tell your child that he or she is going to the hospital to have some pictures taken of his or her kidneys. Be honest and tell your child exactly what will happen. Let your child ask questions about the test.



## The Test

A pediatric radiology nurse will put in the IV and give the DMSA injection. You and your child may leave the department or stay in the radiology waiting area for the next 2 hours.

You will be given a specific time to return to the radiology department. When you return, you and your child will be taken to a nuclear medicine room. Inside the room will be a nuclear medicine technologist who will do the DMSA scan, a table, and a nuclear medicine camera. The lights will be dim inside the room.

- ◆ Your child will lie down on the table.
- ◆ The technologist may place a Velcro strap across your child's waist or use a papoose board to help him or her stay still.
- ◆ During the scan, the camera will either move over your child's body or stay in one position, but will not touch your child at any point. The scan itself does not hurt.
- ◆ The technologist will remain in the room for most of the test; you will be able to stay with your child the whole time.

- ◆ Each picture of the kidney takes about 8 minutes; all of the pictures will be done in about 60 minutes.
- ◆ If your child received sedation medication for relaxation or sleep, he or she will be taken to the recovery area to be watched until the medication wears off and he or she is awake again.

## After the Test

Once a nuclear medicine doctor approves the quality of the pictures, the test will be over. A report of your child's scan will be sent to the doctor who ordered it, usually within 48 hours. If there are any urgent results to report, your doctor will be contacted immediately.

- ◆ Please contact the doctor who ordered the scan for results.
- ◆ If your child did not receive sedation, no special follow-up care is necessary; he or she may resume normal activities and diet.

## A Parent's/Guardian's Role During the Test

We welcome your help and support during this test. Since there is no actual radiation involved at the time of taking the pictures, one parent or guardian is invited to be with your child in the scan room. Other adults and children must stay in the waiting area.

- ◆ If your child was prescribed sedation medication, you will be asked to sign a consent form before the sedation is given.
- ◆ Your most important role is to help your child stay calm and relaxed. The best way to help your child stay calm is for you to stay calm. It is important that your child stays still while the scan is being done.
- ◆ Let your child know that you will stay with him or her during the whole test.
- ◆ We encourage you to talk to your child and hold his or her hand during the test.
- ◆ During the placement of the IV, you can help by reassuring and calming your child. Please share with the staff any ways that they might also help in keeping your child calm.
- ◆ We welcome your questions, but please ask them either before or after the test.
- ◆ If your child was prescribed sedation medication, you should gather all of your belongings after the scan is finished so your child can be taken immediately to the recovery area.

## DMSA Renal (Kidney) Scan cont'd

### Special Needs and Patient Preparation

If your child has any special needs or health issues you feel the doctor or technologist performing the test needs to know about, please contact your radiology department before the test and ask to speak with a nurse. It is important to notify your study coordinator in advance about any special needs.

Before you come to the hospital, explain to your child what will happen in words that he or she can understand. Preparing your child beforehand, as well as comforting your child during the test, will help your child have a more positive experience. Sometimes it is difficult to know how to explain tests to children.

If you have any questions about ways to prepare or support your child, please contact your study coordinator.

