

What are Nuclear Medicine Scans?

Nuclear medicine scans are a little like X-rays. They both create pictures of organs, but X-rays are not moving pictures. A nuclear medicine scan does more than show a problem spot in an organ. Because the picture on the screen shows movement, it helps us to see how well an organ is working. It can also show how blood flows through an organ.

How is it done?

A very small dose of radioactive material is injected into a vein through an IV (intravenous line), central line or VAD (vascular access device). All of these are tubes which lead into a vein. For some scans the material is swallowed or breathed in through a mask. The radioactive material is linked to other chemicals. These chemicals are chosen because the organ(s) we want to check will attract them. The damaged tissues will collect the radioactive material differently from healthy tissues.

The radioactive material gives off rays as it travels in the blood. A special camera records the rays as they move through the body. The camera records are fed into a computer, which puts them together to make a picture. Because the organs we want to study attract the chemicals with the radioactive material, we have a clear picture of these organs. The nuclear medicine specialist can read these pictures. S/he can see what and where the problems are in the organs.

Is this test safe?

Even though many pictures are taken over several hours, the body accepts less radiation than in most X-rays.

The dose of radioactive material is based on the weight of your child. We give the least possible dose. This passes out through the bowels or kidneys and quickly loses its radioactivity in the body.

What happens during the test?

The test is done in the Nuclear Medicine Department by a technologist. S/he puts your child on a special table. S/he fastens some Velcro straps around your child to hold him/her safely. These straps also help your child lie still. Holding still is important to how well the pictures turn out.

The technologist puts the IV into a vein. (This feels like a pinprick but lasts only a few seconds). The technologist gives the dose of radioactive material.

The technologist positions the special gamma camera over or under your child. This scans and records. This is just like having a picture taken - it does not hurt. Some children even fall asleep. The scanning takes from 15 minutes to a few hours. It depends on what part of the body is scanned. For some tests, your child may need to return hours or days later for another series of scans. More radioactive material is not needed for the second scans.

How to prepare for the test.

Some scans need special preparation. Please ask for the extra pamphlet for your child's type of scan. Follow the instructions carefully so that we can get the best possible pictures.

For all scans.

- Dress your child in comfortable clothes.
- Come prepared to stay with your child and help him/her lie very still. A good plan is to keep babies and toddlers awake before the scan so that they are tired. Bring a bottle of juice, milk or formula to help your child relax into sleep during the scan. Some children like to hold a special toy or blanket; some enjoy music, a story or a DVD. You will know best what to bring to soothe and relax your child during the scan.
- Most children manage the test well if they know what to expect. Please explain to your child what will happen. Describe what s/he will see and feel. Be calm and be honest. If you are not sure what to say, ask a child life specialist at the hospital to help

If your child is a patient in the hospital please bring his/her chart to the Nuclear Medicine Dept when your child comes for the test.

What are the side effects?

The small amount of radioactive material given to your child should not cause any concerns. To be safe we suggest that for 6-24 hours after the test you (and anyone else caring for your child) take the following steps:

- Wear disposable, waterproof gloves when handling your child's urine, stool or vomit. This includes diaper changes.
- Change sheets or clothing which has vomit, urine or stool smears on it. Wear disposable, waterproof gloves when you handle this. It can go into the regular laundry.

- Flush the toilet immediately after use.
- If you are pregnant, ask someone else to do most of the child care for the next 6-24 hours.
- At home, place diapers in the outside garbage. In the hospital, ask your nurse or caregiver where you can dispose of the diapers. The diapers must go into one of the hospital's red pails.
- If your child is having a special type of scan, that requires you to take other precautions, a staff member will provide more information.

Finding out the results.

The nuclear medicine doctor will read the pictures and write a report to the doctor who asked for the scan. This is the doctor who will discuss the findings with you. These should be available to inpatients in a few days. It can take two weeks for the results to reach your doctor's office in the mail.

At B.C.'s Children's Hospital we believe parents are our partners. If you have any concerns or issues you would like to discuss with us please note them. Talk with the doctor or nurse about them.

Arriving at the hospital.

- There is pay parking at the B.C.'s Children's Hospital. Please give yourself lots of time to find a space. The parking lots are always busy!
- You need to register at the Admitting Department before you come to the Radiology Department. You may need to wait for someone to help you there. You and your child will be more relaxed if you don't have to rush. Allow plenty time to get to your appointment.