

# WHAT IS NUCLEAR MEDICINE?

**NUCLEAR MEDICINE** is a type of medical imaging that uses small amounts of radioactive material to diagnose a variety of diseases, including many types of cancers, and other abnormalities within the body.

Nuclear medicine imaging procedures provide valuable information to help physicians diagnose a variety of medical conditions. These imaging scans use radioactive materials called radiotracers. These tracers accumulate in the specific areas of the body, where they give off energy in the form of gamma rays. This energy is detected by a device called a gamma camera. This camera works with a computer to measure the amount of radiotracer being absorbed by the body, and will produce special pictures with details of both the structure and function of organs and tissues.

## WHY IS IT DONE?

Physicians use nuclear medicine imaging to visualize the structure and function of organ tissue, bone, or systems of the body. These studies can be used to diagnose:

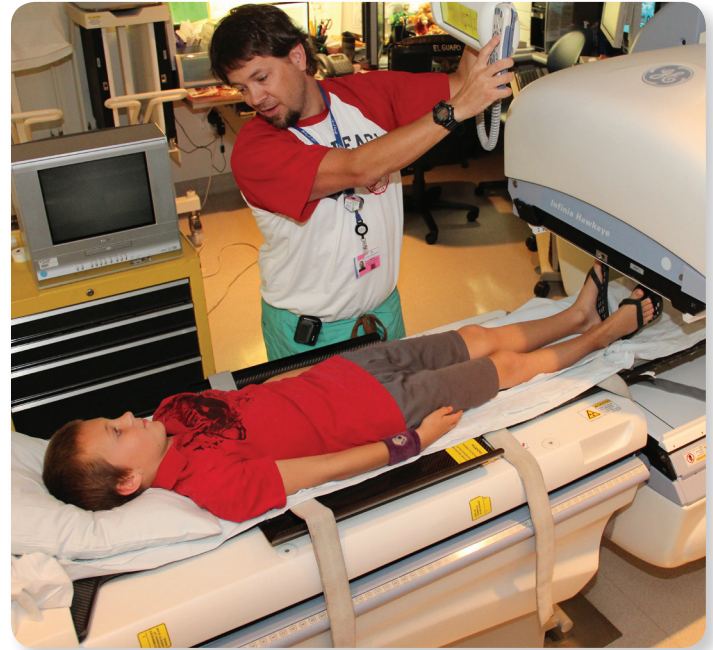
- urinary blockage in the kidney
- backflow of urine from the bladder into the kidney
- gastrointestinal bleeding
- locate the presence of infection, tumors, or cancer

## PREPARATION

Children should wear comfortable, loose-fitting clothing. They may be given a gown to wear during the procedure. Jewelry and other metallic accessories should be left at home if possible, or removed prior to the exam.

Please inform your physician of any medications your child is taking as well as vitamins and herbal supplements, and if he or she has any allergies. Also, inform your doctor of any recent illnesses or other medical conditions.

Examinations that require longer imaging times may require sedation. If your child's exam is scheduled with sedation, fasting may be required. A nurse will contact you 1-2 days before the procedure to provide instructions for preparing your



child. Sedation medicines are usually given through an IV and will help your child to stay calm and still while the images are taken. If you would like to speak with a nurse about sedation procedures please call 801.662.1870.

## PROCEDURE

There are three main ways to deliver radiotracer medicines into the body; intravenous, oral, or through a catheter inserted into the bladder. The method will be determined by what your doctor is looking for.

Once the medicine has been given, the technologist will position your child on the exam table. A special camera will be placed next to your child and will begin taking pictures. It is important for your child to remain still in order to obtain the highest quality images.

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# WHAT IS NUCLEAR MEDICINE?

## PROCEDURE CONTINUED

When the exam is complete the technologist will help your child off the table; if sedation was used, your child will be moved to our recovery area where he or she will be monitored by a nurse until the effects from the sedation have worn off.

Nuclear medicine procedures are rarely associated with significant discomfort. With some studies, an IV is required and a catheter may be placed into the bladder. This may cause temporary discomfort. Parents are encouraged to stay with their children to help them remain calm and still. Comfort items such as pacifiers, blankets or favorite DVD are also very helpful. A television with children's programming is available in the scanning room.

In most cases the small amount of radiotracer in your child's body will lose its radioactivity within 24 hours. Your child should drink plenty of water to help flush the remaining material from his or her body. Unless your physician tells you otherwise, your child may resume normal activities after the nuclear medicine scan.

## BENEFITS AND RISKS?

The information provided by nuclear medicine test is unique and often unattainable using other imaging procedures. For many diseases, nuclear medicine scans provide the most useful information to help doctors make a diagnosis or determine the appropriate treatment.

Because the doses of radiotracers given are small, radiation exposure is minimal. Therefore, the radiation risk is very low when compared to the benefits of the procedure. For more information about radiation safety during imaging procedures visit [www.imagecently.com](http://www.imagecently.com)

Allergic reactions to radiopharmaceuticals may occur but are rare and are usually mild. You should inform your child's doctor or the nuclear medicine technologist if your child has any allergies, or has experienced problems during a previous nuclear medicine exam.

## GETTING THE RESULTS

The images will be reviewed and interpreted by a pediatric radiologist. A report will be sent to your child's doctor who will discuss and explain the test results with you. Results are usually available within 24 hours.

If you have questions about why this test is needed, please speak with your doctor. If you have questions about what happens during a nuclear medicine exam you may speak with one of our Child Life Specialists or the technologist before the exam.

For more information about Primary Children's Imaging Department please visit [www.primarychildrens.org/imaging](http://www.primarychildrens.org/imaging)



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