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Nuclear Medicine Kidney (Renal) Exam

An Introductory Guide For Patients And Their Families

You may be wondering why your doctor ordered this exam. You might have questions such as: What will the test be like? Is it safe? When will I know the results?

This brochure will help answer these and other questions. As always, talk with your doctor if you have concerns.

Why has my doctor ordered a nuclear medicine kidney exam?

This exam, also known as a renal exam, will give your doctor information about how your kidneys look and/or how they are working.

These scans may be used to:

- **detect certain medical problems** based on how the kidneys are functioning
- **monitor changes in the way the kidneys are working** in patients with certain conditions (for example, in people with high blood pressure or diabetes)
- **check a person's response to treatment** (for example, this test is commonly used after a kidney transplant to assess kidney function and see if the body is accepting the new organ)
- **see the kidney's approximate shape and size** without using surgery

This type of scan is especially useful in patients whose kidneys are not working normally. It can be helpful for patients who are sensitive to contrast media (a substance, sometimes called a dye, used in other imaging tests to help make certain structures or fluids within the body more visible).

The results of this test help doctors determine what, if any, condition you may have and/or what treatment would be best.

Millions of Americans have nuclear medicine imaging exams each year[1]

What is nuclear medicine?

Nuclear medicine is a type of medical imaging that uses small amounts of radioactive material (called tracers) to help find and/or treat a variety of diseases, including heart disease, kidney disease, many types of cancers and many other problems.

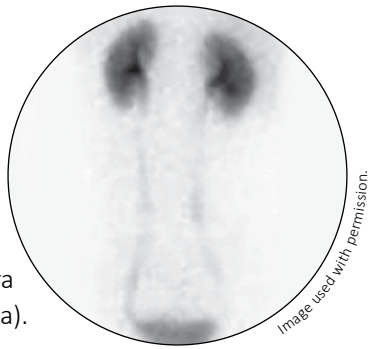
Unlike other imaging tests, nuclear medicine scans give doctors important information about how various parts of the body are working. Millions of Americans have nuclear medicine imaging exams each year.

1 Goethals P, Zimmermann R. Nuclear Medicine Market, Nuclear Medicine Procedures. In: Nuclear Medicine World Market Report and Directory. MEDrays Intell. June 2016: 45.

How does a nuclear medicine kidney scan work?

The exam is minimally invasive and generally painless, except for the injection. You will be given a small amount of radioactive material — called a tracer — to detect or rule out certain kidney diseases and other problems. The kidneys' main function is to filter unwanted materials from the blood. If the kidneys are working well, they will recognize this radioactive material as unwanted or foreign material and remove it from the blood.

The tracer is usually injected into a vein in your arm or hand. It quickly moves to, and collects in, your kidneys where it sends signals, or gamma rays, to a special camera (called a gamma camera).

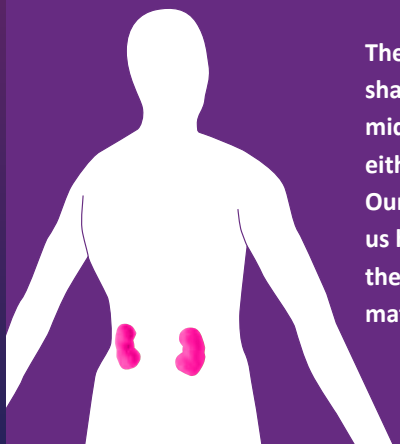


Normal adult scan

The camera then:

- **detects** the tracer
- **takes pictures** of your kidneys
- **records and stores** the information on a computer

This scan gives doctors important information about what your kidneys look like (the anatomy), as well as how well they are working to filter the blood (called kidney function).



The kidneys are bean-shaped organs near the middle of the back on either side of the spine. Our kidneys help keep us healthy by cleaning the blood of unwanted materials.

Are there any concerns with this test?

Don't let the words "nuclear" or "radioactivity" scare you. These tests are designed to expose you to the least amount of radiation possible.

If you are pregnant, trying to get pregnant or breast feeding, tell your doctor before having the test.

The drug or drugs that will be used during this procedure are prepared with exceptional care and have been approved by the U.S. Food and Drug Administration. However, there is always a chance that you may have a reaction to the drugs. It is important to tell your doctor or the person conducting the exam of any unusual reactions or feelings that you may have during or after the exam.

What will the procedure be like?

The test is done in a hospital or outpatient clinic that offers this type of imaging. Usually, a technologist with special training in nuclear medicine will conduct the test.

Do I need to prepare for the test?

In some cases, your doctor may order a blood test before the scan or ask you to stop taking certain medications that might interfere with the test.

You will need to drink some water before the test to stay hydrated.

What can I expect?

Here is a basic description of what you can expect. Keep in mind, this process may vary depending on the patient or where the test is performed.

Step 1. You may be asked to undress and wear a hospital gown. Leave your jewelry at home and be sure to remove any metal objects (for example, belts or change in your pockets).

Step 2. The technologist will help position you on the exam table. You will lie flat on your back. He or she may ask you to turn on your side or stomach during the exam.

Step 3. The technologist will then insert a tube called an intravenous (IV) line into a vein in your arm or hand. You will probably feel a slight prick. You may also be given additional drugs to improve the quality of the test.

The radiotracer is then injected (the specific type of tracer will depend on the study being done). Many patients feel a cold sensation in their arm when the tracer is first given.

Imaging begins as soon as the tracer is injected.

The camera will either be below or above you on the exam table. There's a chance that you will be moved inside a large machine with a round, doughnut-shaped hole in the middle (this allows the camera to rotate around your body). Tell the technologist if you are scared of enclosed spaces (claustrophobic). He or she can help make you more comfortable.

Step 4. During the test, you will need to remain as still as possible to prevent the images from blurring.

Step 5. At the end of the exam, the technologist will carefully remove your IV tube.

How long does the test take?

The entire test usually takes about one hour. It can take longer depending on the goal of the exam. The technologist will be with you throughout the exam.

Once the test is finished, you may be asked to wait for a short time while the doctor (a radiologist who is trained to read the images), checks to see whether additional pictures are needed.

Is there anything special that the patient needs to do after the test?

The radioactive tracer usually does not stay in the body for very long. Before your test, ask your doctor for specific instructions regarding resuming normal activities.

How do I get the results of this test?

When the test is over, the radiologist will review the images and send a written report to your doctor. Your doctor will then discuss the results with you. Be sure to ask your doctor what the test results mean and what you should do next.

Talking with your health team.

Be sure to talk with your health team if you have any concerns. Here are some questions you might want to ask your doctor.

- Why is this test being ordered?
- How long does the test take?
- What can I expect during the exam?
- Is it safe?
- Will this test be covered by my health insurance?
- When will I get the results?
- When will I be able to resume normal activities?

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Your examination has been scheduled for:

Location:_____

Doctor:_____

Phone:_____

Date: _____

Time:_____

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