

Who performs my exam?

At Dartmouth-Hitchcock, nuclear medicine technologists are board certified through the Nuclear Medicine Technology Certification Board and are registered with the American Registry of Radiologic Technology in Nuclear Medicine. They are also required to obtain a minimum of 24 continuing education credits in nuclear medicine every two years.

How do I find out my results?

After your scan is complete, the images are sent to a member of our radiology team. The nuclear medicine physician will interpret your results and may compare the images to your previous radiologic exams. For some types of studies, we may need you to bring in past radiology exams or scans. If past imaging was done at Dartmouth-Hitchcock, we will have them on file; however, if your previous scans or exams were done elsewhere, we will need to get the actual films or a CD with the images from your provider or have the images transferred to us by computer network. Typically, results of your nuclear medicine exam will be available to your physician the same day your study is done.

More information

- Ask your nuclear medicine technologist about any concerns you may have.
- RadiologyInfo.org is an excellent online source for information about imaging, exam types and radiation safety.
- The Society of Nuclear Medicine and Molecular Imaging offers the latest information about all aspects of nuclear medicine at www.snmmi.org.
- The American College of Radiology has a comprehensive site for radiation safety information at www.acr.org/safety.

Questions

If you have any questions about our services, please call the Dartmouth-Hitchcock Radiology Department at (603) 650-8445 and ask to speak to one of our nuclear medicine technologists. We will be happy to answer your questions to put you at ease before your appointment.



 **Dartmouth-Hitchcock**

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Nuclear Medicine

Information for Patients



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 **Dartmouth-Hitchcock**

What is nuclear medicine?

Nuclear medicine is a type of medical imaging that uses radioactive materials to diagnose or treat a variety of diseases, including many types of cancers, heart disease and other abnormalities within the body. These studies are highly sensitive and often provide information that we are not able to get from other types of scans. Most other imaging studies only show a picture of a certain part of the body. Instead, nuclear medicine studies show how well the organ or structure is functioning. Often, the radiologist is able to get the most complete information by looking at these scans in addition to images from X-rays, computed tomography (CT), ultrasound and magnetic resonance imaging (MRI).

What is involved in a nuclear medicine exam?

If you are scheduled to have a nuclear medicine procedure, you will need to receive a radioactive material called a radiotracer. The radiotracer sends out invisible energy known as gamma rays, which can be seen by gamma cameras and positron emission tomography (PET) scanners. Depending on the type of exam requested by your doctor and the radiologist, you may receive the radiotracer through an injection under your skin or through an intravenous needle. Or, you may swallow the radiotracer (which

can be a liquid or pill) or you may inhale it, like a gas. It can take anywhere from a few minutes to several days for the radiotracer to travel to the area of concern in your body. As a result, your imaging appointment may happen immediately after you receive the radiotracer or it may be scheduled for a few hours to several days later. These kinds of exams vary in length, depending on the type of study your doctor ordered. Some may take 20 minutes and others may require many hours or multiple visits over several days.

What happens during a nuclear medicine exam?

A nuclear medicine technologist will perform your exam. He or she may ask you to change for the exam if you are wearing clothing with metal buttons. The technologist will also ask you to remove any other metal you are wearing, such as belts and jewelry. When you are ready, the technologist will explain the imaging process, will ask you to lie flat on the imaging table, and will make sure you are as comfortable as possible for the exam. Once the technologist begins the exam, he or she will tell you when to hold still and whether you need to hold your breath or take deep breaths. The camera will not touch you while you are having the scan. It works together with a computer to measure the amount of radiotracer absorbed by your body. Those results produce special pictures offering details of the function of organs and other tissues in the body.

How do I prepare for my nuclear medicine exam?

When your nuclear medicine appointment is being set up, the scheduler will provide you with additional information and requirements related to medications, food, liquids and exercise prior to the exam. The scheduler will also remind you not to wear any metal and to leave your valuables at home. Prior to your exam you will receive a call reminding

you of your appointment time and any additional information you need to know.

Who should I speak to if I am concerned about radiation exposure?

The radiation exposure that you will receive from a nuclear medicine study mostly comes from the radiotracer material you will have in your body before the scan. The amount of radiation exposure you will receive varies, depending on the type of study you are having. After the exam, a portion of the radiotracer leaves the body by natural means. In some cases, drinking plenty of fluids to encourage frequent urination can help some radiotracers to pass through the body faster. If you have any concerns about your radiation exposure, you should first talk with the doctor who requested the exam.

Reducing your radiation risk

At Dartmouth-Hitchcock, we are committed to making sure that each patient receives the smallest radiation dose needed to gather the necessary information. All higher-dose radiographic equipment is tested on a monthly basis. This is a safety measure that goes beyond the annual testing required by the State of New Hampshire. We voluntarily adhere to the comprehensive and strict guidelines established by the American College of Radiology and the Joint Commission. Our staff diagnostic physicist makes sure that the equipment is performing as it should and assists in the equipment installations and the control of radiation hazards. Our radiation safety officer is responsible for the safety and protection of those using radiologic materials and keeps detailed records to ensure safety and compliance with local, state and federal laws.