

# NUCLEAR MEDICINE

## **What is Nuclear Medicine?**

Nuclear Medicine is a safe, painless process in which small amounts of radioactive materials, called radiopharmaceuticals, is ingested by the patient. These radiopharmaceuticals are attracted to specific organs, bones, or tissues, which in turn are detected by special types of cameras. Nuclear Medicine imaging offers early detection and is used in the diagnosis, management, and treatment of serious disease, which may result in a more successful prognosis.

## **Common Uses**

Nuclear medicine images can assist the physician in diagnosing diseases. Tumors, infection, and other disorders can be detected by evaluating organ function.

Specifically, nuclear medicine can be used to:

- Scan lungs for respiratory and blood flow problems
- Identify inflammation or abnormal function of the gallbladder
- Evaluate bones for fracture, infection, arthritis or tumor
- Stage cancer by determining the presence or spread of cancer in various parts of the body
- Identify bleeding into the bowel
- Locate the presence of infection
- Measure thyroid function to detect an overactive or underactive thyroid
- Analyze kidney function.

## **Safety**

The amount of radiation in a typical nuclear imaging procedure is comparable with that received during a diagnostic x-ray, and the amount received in a typical treatment procedure is kept within safe limits.

Nuclear medicine has been used for more than five decades, and there are no known long-term adverse effects from such low-dose studies.

Please tell the technologist if you are or might be pregnant. In certain cases, you may not be able to have an exam and will need to discuss alternatives with your doctor.

## **Preparing for your Nuclear Medicine**

### **What should I expect BEFORE Nuclear Medicine?**

#### **Medications**

Restrictions for discontinuing medications depending on the exam and/or patient. Please check with your physician or the nuclear medicine department at the facility where your exam is scheduled prior to your appointment.

#### **Food and drink**

These exams are very specific; each requires different food and drink restrictions. Please be sure to ask your physician before the exam or call the Nuclear Medicine Department.

#### **When to arrive**

Please arrive 15 minutes prior to your scheduled exam.

#### **What to wear**

Wear comfortable clothing, preferably clothes with no zipper or buttons, such as a sweats. You may also be asked to remove jewelry, eyeglasses and any metal objects or clothing that might interfere with the images. Gowns are available if needed.

# NUCLEAR MEDICINE

## **What will I experience DURING Nuclear Medicine?**

### **Scanning**

You are given a small dose of radioactive material, usually intravenously but sometimes orally, that localizes in specific body organ systems. After you are given the dose of radioactive material, you will lie down on a scanning table. It is important that you remain still while the images are being recorded. Though nuclear imaging itself causes no pain, there may be some discomfort from having to remain still or to stay in one position during imaging. A camera positioned above and below you then measures and takes pictures of the radioactive material that is being given off from your body. The amount of radioactive material you are given is very small and the radioactivity wears off very quickly within a matter of a few hours.

Some exams, such as bone scan require you to receive the injection and return a few hours later for the imaging portion.

### **Length of Nuclear Medicine**

The exams average from 1-4 hours. Many times, the patient is injected with a radioisotope and then returns a few hours later for the imaging.

### **What should I expect AFTER Nuclear Medicine?**

You may resume your normal activities, diet, and medications unless instructed otherwise by the technologist or your doctor.

Through the natural process of radioactive decay, the small amount of radiotracer in your body will lose its radioactivity over time. It may also pass out of your body through your urine or stool during the first few hours or days following the test. You may be instructed to take special precautions after urinating, to flush the toilet twice and to wash your hands thoroughly. You should also drink plenty of water to help flush the radioactive material out of your body.

### **Nuclear Medicine Results**

We understand that quick results are important for our patients. Exams are typically read within 24 hours and results will be sent to your physician who will go over them with you.