



Niagara Health is pleased to provide you with general information about your upcoming exam.

WHAT IS NUCLEAR MEDICINE?

Nuclear medicine is a specialized area of medical imaging that uses small amounts of radioactive materials, called radiopharmaceuticals, to diagnose and treat various diseases. These materials are administered through injection, orally, or by inhalation and travel to specific organs, bones, or tissues, emitting gamma rays. Imaging equipment such as gamma cameras with SPECT (Single Photon Emission Computed Tomography) scanners detect these rays to create detailed images of the body's interior.

WHAT IS NUCLEAR MEDICINE USED FOR?

Nuclear medicine is used to diagnose and treat different health problems:

- **Diagnosis:** Checks blood flow in the heart, finds and monitors cancer, detects bone infections and tumors, evaluates kidney and liver functions, examines thyroid and parathyroid glands, diagnoses gastrointestinal bleeding, and assesses lung function.
- **Treatment:** Uses radioactive iodine for thyroid issues, targets and kills cancer cells, provides pain relief from bone cancer spread, employs radium therapy for prostate cancer bone metastases, and uses I-125 seeds to locate breast cancer lesions accurately. It provides vital information for early diagnosis and effective treatment.

HOW DO I PREPARE FOR MY NUCLEAR MEDICINE STUDY?

Preparation involves following specific instructions from your healthcare provider:

- Stop certain medications and fast for 4-12 hours as directed.
- Stay well-hydrated, wear comfortable clothing, and avoid jewelry.
- Inform your provider about any allergies, and if you are pregnant or breastfeeding.
- Arrive on time and be ready to sign a consent form for Cardiac exam and I-131 therapy.
- After the scan, drink plenty of fluids to help flush out the radioactive material.
- Consult your physician to determine if you should withhold your medications for certain types of exams

WHAT IF I COULD BE PREGNANT OR IF I AM BREASTFEEDING?

If you might be pregnant or are breastfeeding, inform your healthcare provider. Some nuclear medicine procedures

may not be recommended during pregnancy or breastfeeding due to potential risks. Your doctor may advise you to stop breastfeeding for a period after the procedure to ensure no radioactive material is passed to your baby, or you may have to discontinue breastfeeding permanently for certain types of exams.

WHAT SHOULD I BRING TO MY APPOINTMENT?

- Photo ID (e.g., driver's license or passport)
- Insurance card if applicable
- List of all medications with dosages
- Relevant medical records or previous imaging results

WHAT HAPPENS DURING THE TEST?

During a nuclear medicine test:

- You may need to change into a hospital gown.
- The procedure will be explained to you.
- A small amount of radioactive material is administered through injection, orally, or by inhalation.
- After a waiting period, you will lie still on a table while a special camera takes images, which can take from 20 minutes to two hours depending on the test.
- You may be advised to drink plenty of fluids afterward to help flush out the radioactive material. The procedure is generally painless, with slight discomfort from the injection or lying still.
- Ask the technologist for a travel letter if you plan to cross the border or fly, as the radioactivity from the procedure may set off security alarms.

ARE THE RADIOPHARMACEUTICALS SAFE? WHAT ARE THE SIDE EFFECTS?

Radiopharmaceuticals are generally safe, with minimal risk due to the small amount of radioactive material used. Radiation exposure is low, similar to X-rays or CT scans. Rare side effects include mild allergic reactions and discomfort at the injection site, which usually resolve quickly. Pregnant or breastfeeding women should inform their provider due to special precautions.

WHO REPORTS MY PICTURES? WHAT HAPPENS AFTER THE TEST?

A nuclear medicine physician, a radiologist specialized in interpreting nuclear medicine images, reports your pictures. After the test, the images are analyzed, and a detailed report is provided to your referring doctor, who will review the results with you and discuss any necessary follow-up steps or treatments.