NUCLEAR MEDICINE
Instructions and PREP

Cardiolite Study (Cardiac Nuclear Stress Test) or Thallium tests:

This is the where the patient is exercising on a treadmill. EKG leads and an IV will be placed on the patient. The patient will exercise for as long as possible and then the Cardiolite or Thallium material is injected. The treadmill is stopped, and the patient is allowed to rest while their blood pressure is monitored. The Cardiolite appointments are about 1 hour in length (including treadmill) and a resting appointment will be done on another day.

The Thallium appointments consist of a 1 hour appointment (stress), a 3 to 4 hour delay and another 1 hour appointment (resting) for a maximum total of 6 hours. There is no additional next day resting appointment.

For patients that the ordering physician feels cannot walk on the treadmill a pharmacologic stress agent may be used (Persantine is one of these agents). The duration of these exams are similar to the above appointments but can be variable so please consult with the schedulers when making an appointment.

PREP: Nothing to eat or drink 1 hour before appointment.
   No Alcohol or smoking 4 hours before appointment
   No Caffeine 24 hours before appointment.
   No bananas or potassium (vitamin K) supplements 48 hours prior (for Thallium exams).
   Wear two piece, loose fitting clothing, walking shoes, for women jogging bras preferred.

*If taking nitroglycerin (Imdur, Isordil) or beta blocker medication (Tenormin, Atenolol, Toprol, Lopressor, Indural, etc) they may be asked to stop this medication 48 hours before the test. They should speak to their physician.

For Persantine exams only:
*If patient has asthma or is on Aminophylline speak to ordering physician as they may need to stop this medication 24 hours prior to the appointment

Resting Exam:

This is the second part of the Cardiolite/Persantine studies. The patient will get an injection, then return anywhere from 45 min to 2 hours later for the scan. The scan takes approximately 30 minutes. This is scheduled the next day or within a few days of both the Cardiolite or Persantine exams.

PREP: Nothing to eat or drink 1 hour before appointment.

Note Patient will be asked to eat something fatty after the injection and prior to the scan. The Nuclear Medicine Technologist will explain this prior to your resting appointment.
VQ SCAN- This is a combination of perfusion and ventilation lung scans:

The patient breathes oxygen through a nebulizer and we obtain pictures that can show how different parts of the patient’s lungs are utilizing oxygen. Then the patient is injected with a small amount of radioactive material that goes to the lungs. This shows whether or not there is any blockage in the blood supply to the lungs (pulmonary embolism).

**PREP:** None

A recent chest x-ray (within the last 24 hours?) will be needed if not already done.

**Gastric Emptying w/solids:**

The patient eats an egg salad sandwich and then they are scanned for up to 4 hours (in shifts) from start to finish. We image until 90% of the material has emptied the stomach or 4 hours maximum.

**PREP:** Nothing to eat or drink 6 hours prior (diabetics need to call for special instructions)

**Dacroscintogram:**

This scan is looking at the tear ducts, and the contrast is administered in an eye drop form.

**PREP:** None

**HIDA Scan-Cholescintgram:**

This is a 2-hour test from start to finish, specifically looking at the gallbladder. A small amount of slightly radioactive material is given. It then goes through the liver into the gallbladder (if they still have one), to look for any blockage in the ductile system from the liver to the gallbladder and from the gallbladder to the intestines.

**PREP:** At 8 or 9 pm the night prior to the exam, eat a small fatty meal. Ex: 6oz regular ice cream, 8oz whole milk, a couple strips of bacon, or a donut. Nothing else to eat or drink after this until the exam is done.

* Diabetics need to call for special instructions
**Thyroid uptake and scan 6&24**

A pill (sometimes 2) containing a small amount of radioactive iodine is swallowed in the morning. The material will go through the body and be concentrated in the thyroid gland. We can then get information about how hard the thyroid gland is working as well as images of the gland. Patient may eat after the pill has been taken.

**PREP:** No seafood or sushi for 24 hours prior to exam and during exam.
   No kelp pills for 2 weeks prior to exam or during exam.
   No thyroid medications for 2 weeks prior (ordering physician consultation is needed) or during exam

**Parathyroid scan or sestamibi parathyroid scan:**

Patient receives an injection of a slightly radioactive material that will concentrate around the thyroid and some parathyroid tissue; there is then 60 minutes of scanning. The patient leaves and returns 2 hours later for a 20 minute scan,

**PREP:** No restrictions.
   Patient can stay on thyroid medications.

**Liver/Spleen Scan:**

The patient receives an injection and is then scanned for approximately 45 minutes

**PREP:** None

**MUGA Scan or Red Blood Cell Scan for the Heart-Also called Ejection fraction:**

Two separate injections will be given. The first injection is a material, which will prepare the red blood cells for “labeling.” The second injection is the slightly radioactive material, which will label the red blood cells. We then can follow the blood anywhere it goes. We can see how effectively the heart pumps the blood and whether or not the heart is weakened.

**PREP:** None

**GI Bleed/Red Tag Blood Cell:**

Two separate injections will be given. The first injection is a material, which will prepare the red blood cells for “labeling.” The second injection is the slightly radioactive material, which will label the red blood cells. We then can follow the blood anywhere it goes. We can see and where blood is leaking from the intestines.

**PREP:** None
**Hemangioma/Red Blood Cell Scan:**

Two separate injections will be given. The first injection is a material, which will prepare the red blood cells for “labeling.” The second injection is the slightly radioactive material, which will label the red blood cells. There is a 2 to 3 hour delay and then up to 1 hour of scanning focused around the liver.

**PREP:** None

**Meckels Diverticulum:**

The patient receives an injection of a small amount of radioactive material and is then scanned for up to 60 minutes.

*PREP: usually none; however, sometimes there is premedication required. Please consult with ordering physician.*

**Renal Scan with ACE Inhibitor:**

The patient will be given a blood pressure medication (A.C.E. inhibitor). A small amount of radioactive material will then be given. The material will allow us to image the kidneys. The images will take approximately 30 minutes. The entire procedure will take about 1 ½ hours.

**PREP:** stop taking A.C.E. inhibitors (specific class of blood pressure medicine) 3 days prior to exam. Consult with ordering physician about stopping blood pressure medicines.

**Renogram (Renal scan with Lasix):**

A small amount of radioactive material will then be given. The material will allow us to image the kidneys. The images will take approximately 30 minutes. A diuretic (lasix) will be given during the exam to stimulate the kidneys to empty.

**PREP:** Patient needs to be well hydrated

**Renogram (Renal scan without Lasix):**

A small amount of radioactive material will then be given. The material will allow us to image the kidneys. The images will take approximately 30 minutes.

**PREP:** Patient needs to be well hydrated

**Renal w/DMSA:**

A small amount of radioactive material will then be given. The material will allow us to image the kidneys; there is a 2 hour delay, then the patient returns for a 45 min scan.

**PREP:** None
**Bone Scans:**

A small amount of radioactive material will be injected into an arm vein. The injection will take approximately 15 minutes, and then there is a 3-hour delay in which the patient may leave the hospital. At this point they need to drink 4-8 oz glasses of fluid before returning for their scan. The scan takes about one hour.

**PREP:** None

**Bone Spect:**

A small amount of radioactive material will be injected into an arm vein. The injection will take approximately 15 minutes, and then there is a 3-hour delay in which the patient may leave the hospital. At this point they need to drink 4-8 oz glasses of fluid before returning for their scan. The scan takes about 1.5 hours.

**PREP:** None