

### Nuclear Medicine Tests

**Note:** Women should always inform their Physician or Technologist if there is any possibility of pregnancy or if they are breastfeeding.

Test	Description	Patient Preparation	Test Duration
Biliary Gallbladder Scan	<p>A Biliary Gallbladder scan is an imaging procedure used to diagnose problems in the liver, gallbladder and bile ducts.</p> <p>This test is used to check for blockage of the bile ducts, presence of bile leaks and to determine the level of function of the gallbladder.</p>	<p>You will be required to fast for at least 4 hours prior to the test.</p> <p>Fasting means no eating, no drinking for at least 4 hours.</p>	<p>You will receive an injection and will have images taken for approximately 60 - 90 minutes.</p>
Bone Density Test (BMD)	<p>A Bone Density scan is done to measure the amount of minerals such as calcium in bone, to assess a person's risk of bone fractures and/or to check for bone loss.</p> <p>Patients who have been referred for a BMD scan are usually being screened for osteoporosis which is a common bone disease that makes bone fragile and easy to fracture.</p>	<p>You will be required to bring a list of current medications.</p> <p>No preparation is required for the Bone Density test.</p>	<p>The BMD takes 15 minutes.</p>
Bone Scan	<p>A Bone scan is a nuclear scanning test to find certain abnormalities in bone such as arthritis, infection or cancer in the bones.</p> <p>It can be used as a diagnostic tool as well as follow up to monitor if there has been any improvement or deterioration in bone abnormality after treatment.</p>	<p>No patient preparation is required for the Bone scan.</p>	<p>You will receive an initial injection followed by imaging.</p> <p>This part of the test takes 15 - 30 minutes.</p> <p>You will return for more imaging 2-3 hours after the injection.</p>

# Nuclear Medicine Tests and Patient Preparation

Diagnostic Services and Medical Diagnostic Unit



Test	Description	Patient Preparation	Test Duration
			The second part of the test takes 45 - 60 minutes.
Brain Scan	<p>This scan tests the blood supply and blood distribution to the brain and helps detect and evaluate abnormalities affecting the brain.</p> <p>There are two types of brain scans that your Physician can request. The duration of the scans vary.</p>	<p>No preparation is required for the Brain scan.</p> <p>You must be able to consent or have signed consent.</p>	<p>You will have an initial injection and then wait about an hour for imaging.</p> <p>Imaging takes approximately 30 minutes.</p> <p>The duration of the test is 2 hours.</p>
Cisternography (CSF) Scan	<p>This scan is used to assess normal and abnormal pathways of cerebral spinal fluid drainage. This fluid surrounds and protects the spinal cord and brain.</p>	<p>No special preparation required.</p> <p>You must be able to consent or have signed consent.</p>	<p>This scan procedure can last up to 4 days (you will return each day).</p> <p>Day 1: you will be injected into the spine. This injection takes 1 hour. Imaging will be done 4 - 6 hours post injection.</p> <p>You will return for more imaging at the following intervals:</p> <ul style="list-style-type: none"> <li>- 24 hours later</li> <li>- 48 hours later</li> <li>- 72 hours later</li> </ul> <p>Each imaging session will take approximately 45 minutes.</p>
C14 Urea Breath Test	<p>A C14 Urea Breath test is used to detect the presence of Helicobacter Pylori (H. pylori), a type of bacteria that may infect the stomach and is the main cause of ulcers.</p>	<p>You will be required to fast 6 hours prior to their test. Fasting means no eating or drinking for 6 hours. You should refrain from smoking while fasting.</p> <p>Medication restrictions are provided at time of booking. You will be asked to bring a list of current medications.</p>	<p>You will swallow a capsule and blow into a balloon 15 minutes later.</p> <p>The duration time for the C14 Urea Breath test is 30 minutes.</p>
Gallium Scan	<p>A Gallium scan is a test to look for swelling (inflammation), infection, or cancer in the body.</p>	<p>No special preparation required for undertaking a Gallium scan.</p>	<p>This is a two-day test.</p>

# Nuclear Medicine Tests and Patient Preparation

Diagnostic Services and Medical Diagnostic Unit



Test	Description	Patient Preparation	Test Duration
			<p>Day 1: You will receive an injection. The duration time for this will be approximately 15 minutes.</p> <p>Day 2: You will return 24-48 hours after your injection for imaging. The duration time for imaging will be approximately 60 minutes.</p>
Gastric Emptying Scan (Solid Scan)	The Gastric Emptying scan uses special radioactive material that allows Physicians to identify abnormalities related to the emptying of the stomach. There are two types of Gastric Emptying scans, Solid and Liquid; the preparation and duration of each scan varies.	<p><b>If you have an allergy to eggs, it is important to contact and call the Nuclear Medicine department prior to your appointment.</b></p> <p>You will be required to fast for at least 12 hours prior to their test (starting at 9:00 p.m. the night before the test). Fasting means no eating and drinking for at least 12 hours.</p> <p>You will be required to bring a list of current medications.</p>	<p>The duration time for the scan is 4.5 hours.</p> <p>After you arrive at the Nuclear Medicine department, you will be asked to eat a sandwich, scrambled eggs, toast with jam and a glass of water. The scrambled eggs will contain a very small amount of radioactive material.</p> <p>Next, a set of images will be taken. More images will be taken at 2 hours and 4 hours from the start of the test.</p>
Gastric Emptying Scan (Liquid Scan)	The Gastric Emptying scan uses special radioactive material that allows Physicians to identify abnormalities related to the emptying of the stomach. There are two types of Gastric Emptying scans, Solid and Liquid; the preparation and duration of each scan varies.	<p><b>If you have an allergy to eggs, it is important to contact and call the Nuclear Medicine department prior to your appointment.</b></p> <p>You will be required to fast for 4 hours prior to the test. Fasting means no eating and drinking for at least 4 hours.</p> <p>You will be asked to bring a list of current medications.</p>	<p>The scan will take approximately one hour.</p>

# Nuclear Medicine Tests and Patient Preparation

Diagnostic Services and Medical Diagnostic Unit



Test	Description	Patient Preparation	Test Duration
Gastrointestinal (GI) Bleeding Scan	This scan looks for bleeding within your abdomen and its exact location.	No preparation is required.	You will have blood drawn. The blood is labelled with a small amount of radioactive tracer and re-injected 30 minutes later followed by imaging.  The duration of the test is approximately 1.5 - 2.5 hours.
Liver Spleen Scan	A liver scan is a procedure used to examine the liver to identify certain conditions or to assess the function of the liver. It may also be used to follow the progress of treatment of certain conditions. This procedure is also referred to as a Liver Spleen scan because the spleen often is examined as well due to its proximity and close functional relationship to the liver.	No preparation is required.	You will receive an injection followed by imaging.  The scan will take approximately 60 minutes.
Lung Scan	A Lung scan is performed to examine the lungs for clots or other small tissue masses within the blood vessels of the lungs and to diagnose a different number of problems or abnormalities of the lungs and respiratory tract.  There are many conditions that can impact the health of your lungs: asthma, chronic obstructive pulmonary disease, tuberculosis, bronchitis, pleurisy, pneumonia, emphysema, pulmonary embolism (blood clots), etc.  Lung imaging involves two-phases: assessing ventilation (air flow in and out of the lungs)	No preparation is required.	An adult scan will take approximately 60 minutes.  A pediatric scan, quantitative lung scan will take approximately 30 minutes (one injection and one image).

# Nuclear Medicine Tests and Patient Preparation

Diagnostic Services and Medical Diagnostic Unit



Test	Description	Patient Preparation	Test Duration
	and assessing perfusion (blood flow to the lungs).		
Meckel's Diverticulum	A Meckel's Diverticulum is an abnormality in the small intestine that is present at birth. The Meckel's Diverticulum scan in Nuclear Medicine detects the abnormally-located gastric mucosa. Gastric mucosa is the mucous membrane layer of the stomach.	You must fast after midnight or a minimum of 4 hours before the test. Fasting means no eating and drinking for a minimum of 4 hours. For children, nothing by mouth 4 hours prior to test.	You will receive an injection and then images will be taken.  The test will take approximately 2 hours.
Iodine-123-meta-iodobenzylguanidine (mIBG) Study	An iodine-123-meta-iodobenzylguanidine (mIBG) study, is a Nuclear Medicine scan which is used for the localization of known or suspected neuroectodermally derived tumors, including pheochromocytoma, ganglioneuroma, ganglioneuroblastoma, paraganglioma, carcinoid tumor and neuroblastoma.	No preparation is required.	This is a two-day test. Day 1: You will drink a Lugol's solution before the injection. The test will take approximately 30 minutes. Day 2: You will return for imaging. Imaging will take approximately 1 hour.
Molecular Breast Imaging	Molecular Breast Imaging is used to detect breast cancer. It is a highly effective secondary diagnostic tool, particularly for women with dense breast tissue. MBI has distinct advantages over ultrasound, MRI and 3D mammography in detecting abnormalities in the breast tissue.	No preparation is required.	The test will take approximately 30 - 45 minutes.  A Technologist will fill out a questionnaire with you prior to the scan.
Octreoscan	The Octreoscan is used in Nuclear Medicine to detect neuroendocrine and carcinoid tumour cells which are hormone-producing tumours of the nervous system. It is used as diagnosis and to evaluate for tumour cells that have spread or metastasized.	Some medication may need to be stopped 3 weeks prior to the scan. You will be instructed by your physician on any medications you may need to discontinue.	This is a two-day test. Day 1: You will come to Nuclear Medicine for an injection. The appointment is approximately 30 minutes. Day 2: You will return for imaging. Imaging will take approximately 2 hours.
Parathyroid Scan	A Parathyroid scan is used in Nuclear Medicine to look at possible problems	No preparation is required.	This is a two-step test.

# Nuclear Medicine Tests and Patient Preparation

Diagnostic Services and Medical Diagnostic Unit



Test	Description	Patient Preparation	Test Duration
	involving the parathyroid gland(s). These are four small glands lying close to or embedded in the back surface of the thyroid gland, which is situated in the front of your neck.		<p>You will come into Nuclear Medicine for an injection and proceed with imaging which will take approximately 1 hour.</p> <p>You will then return to Nuclear Medicine 2-3 later for more imaging which will take approximately 1 hour.</p>
Renal (Kidney) Scan	<p>A Renal (Kidney) scan is a nuclear scanning test that is done to check kidney functions and/or appearance.</p> <p>A Renal with Lasix scan records how the kidneys, ureters and the bladder work together. A Renal scan with Captopril is used</p>	<p>You will be required to drink 1-2 glasses of water 30 minutes prior to your scheduled test.</p> <p>Check with your physician about discontinuing any medication prior to appointment.</p>	<p>You will be injected and images are taken.</p> <p>The test will take approximately 30 minutes.</p>
Renal (Kidney) Scan with Lasix (Adult)	to evaluate the presence of renal artery stenosis and renovascular hypertension. This scan is performed in order to rule out renal artery stenosis in patients with high blood pressure.	<p>You will be required to drink 1-2 glasses of water 30 minutes prior to your scheduled test.</p> <p>For infants (up to 2 years of age), please bring formula.</p>	<p>You will have an IV set up and receive an injection of radioactive tracer and Lasix through the IV followed by imaging.</p> <p>The scan will take approximately 1.5 - 2 hours</p>
Renal (Kidney) Scan – Renal study for scarring		No preparation is required.	<p>This is a two-step test</p> <p>You will be given an injection and then images will be taken. This takes approximately 15 minutes.</p> <p>You will return 3-4 hours later and more images will be taken. This will take approximately 45 minutes.</p>

# Nuclear Medicine Tests and Patient Preparation

Diagnostic Services and Medical Diagnostic Unit



Test	Description	Patient Preparation	Test Duration
Captopril Renal Scan		<p>You will be required to drink 1-2 glasses of water prior to your scheduled test.</p> <p>Some medications may need to be stopped 48 hours prior to the exam, such as ace inhibitors (e.g. Coversyl, Vasotec, Hydrochlorothiazide). You will be asked to bring a list of current medications.</p> <p><b>It is essential that you are well hydrated before the exam.</b></p>	The scan will take approximately 2 hours.
Salivary Scan	The Salivary scan tests the size, shape and function of the salivary glands. It can determine several different possible disease processes.	No preparation is required.	The scan will take approximately 1 hour.
Sentinel Node Scan	The Sentinel Node scan provides a "Road Map" showing the direction of lymphatic drainage from around the site of cancer. It demonstrates clearly and precisely the path of lymphatic drainage which allows the Surgeon to take out a specific node(s).	<p>You will be sent from same day surgery to the Nuclear Medicine department.</p> <p>The surgeon will provide additional instructions.</p>	The scan takes 30-60 minutes.
Thyroid Scan	Thyroid Scanning is used to determine how active the thyroid tissue is in manufacturing hormones as well as other diseases.	<p>You must fast for 2 hours prior to the scan. Fasting means, no eating and drinking for at least 2 hours.</p> <p>You will be required to discontinue anti-thyroid medications 5 days and thyroid hormone replacement medication must be discontinued for 4 days. Follow instructions from your physician regarding any changes to your medications.</p>	<p>This is a two-day test</p> <p>Day 1: A capsule is given and uptake is measured 4 hours later.</p> <p>Day 2: You will return for a second uptake and imaging which will take approximately 90 minutes.</p>

# Nuclear Medicine Tests and Patient Preparation

Diagnostic Services and Medical Diagnostic Unit



Test	Description	Patient Preparation	Test Duration
White Blood Cell Testing (with Indium)  <i>Note: this test is not booked on Fridays</i>	The White Blood Cell test is used to detect inflammatory processes in the body, such as infections.  <i>Please inform the office if you are on dialysis</i>	No preparation is required.	This is a two-day test. Day 1: You will have blood drawn usually in the morning (8:30 a.m). The blood is labelled with a small amount of radioactive tracer and is re-injected a couple of hours later. Day 2: You return for imaging. Imaging will take approximately 90 minutes.
White Blood Cell Testing (with Technetium)		No special preparation is required.  <i>If your White Blood Cell with Technetium test is deemed a one-day test, your Technologist will inform you on your first visit.</i>	One or two-day test (as determined).  You will have blood drawn usually in the morning (8:30 a.m). The blood is labelled with a small amount of radioactive tracer and is re-injected a couple of hours later. You will return approximately 3-4 hours later for imaging. Imaging takes approximately 60 minutes.  You may be asked to return for more imaging the next day.



## Nuclear Cardiology Tests

**Note:** Women should always inform their Physician or Technologist if there is any possibility of pregnancy or if they are breastfeeding.

Test	Description	Patient Preparation	Test Duration
Exercise Sestamibi Stress Test	<p>Myocardial Perfusion tests are used to determine how well blood is flowing to the heart muscle, if you are at an increased risk for a heart attack, or if you may need heart surgery.</p> <p>The Resting Myocardial Perfusion scan is a test done at rest to reveal areas of heart damage or acute reduction of heart muscle blood flow. The Rest and Exercise Myocardial Perfusion scans looks at the heart function at rest and after exercise. The Stress portion of the scan is completed with exercise using a treadmill.</p>	<ul style="list-style-type: none"> <li>No caffeine for 24 hours. That includes coffee, tea, herbal and decaf. No pop, energy drinks, chocolate, Tylenol Ultra or Tylenol 1, 2, and/or 3.</li> <li>Nothing to eat for at least 4 hours prior to the test (only water or juice).</li> <li>Follow physician instructions for ON/OFF medications.</li> <li>Bring all medications with you.</li> <li>Insulin diabetics must eat breakfast and take insulin 4+ hours prior to the test (do not take insulin if you have not eaten).</li> <li>Due to the length of the tests, you should bring lunch or plan to purchase food to eat during your break.</li> <li>Wear suitable clothing and shoes.</li> </ul>	<p>The test may span one or two days (as determined)</p> <p>Day 1:</p> <ul style="list-style-type: none"> <li>A Rest test will be performed as a first part of the test.</li> <li>You will be interviewed by a Technologist and will receive an injection.</li> <li>Images will be taken for approximately 15 - 30 minutes</li> <li>The second part is a Stress test. It will be completed either on the treadmill or using medication.</li> <li>The duration of both parts of the tests on Day 1 are approximately 4 - 6 hours.</li> </ul> <p>Day 2:</p> <ul style="list-style-type: none"> <li>If the test is performed over 2 days, one part of the test is done each day (Rest on Day 1 and Stress on Day 2).</li> </ul>
Persantine/Dobutamine Sestamibi Stress Test	<p>Myocardial Perfusion tests are used to determine how well blood is flowing to the heart muscle, if you are at an increased risk</p>	<ul style="list-style-type: none"> <li>No caffeine for 24 hours. That includes coffee, tea, herbal and decaf. No pop, energy drinks,</li> </ul>	<p>This is a one or two-day test (as determined).</p>

# Nuclear Medicine Tests and Patient Preparation

Diagnostic Services and Medical Diagnostic Unit



Test	Description	Patient Preparation	Test Duration
	<p>for heart attack, or if you may need heart surgery.</p> <p>The Resting Myocardial Perfusion scan is a test done at rest to reveal areas of heart damage or acute reduction of heart muscle blood flow. The Rest and Exercise Myocardial Perfusion scans looks at the heart function at rest and after exercise.</p> <p>The Persantine/Dobutamine Sestamibi Stress test is completed with medication to simulate the effect exercising has on your heart. This test is done when it is determined by the Physician or Technologist that the patient is unable to perform physical exercise during the test.</p>	<p>chocolate, Tylenol Ultra or Tylenol 1, 2, and/or 3.</p> <ul style="list-style-type: none"> <li>• Nothing to eat for at least 4 hours prior to their test (only water or juice).</li> <li>• Insulin diabetics must eat breakfast and take insulin 4+ hours prior to the test.</li> <li>• Follow physician instructions for any changes to your medications. Bring all medications with you.</li> <li>• Due to the length of the tests, you should bring lunch or plan to purchase food during your break.</li> <li>• Wear suitable clothing and shoes.</li> </ul>	<p>Day 1: A rest test will be performed as a first part of the test. You will be interviewed by a Technologist and will receive an injection. Images will be taken for approximately 15-30 minutes.</p> <p>The second part will be a stress test, which will be completed either on the treadmill or using medication. The duration of both tests on Day 1 are approximately 4-6 hours.</p> <p>Day 2: If the test is performed over 2 days, one part of the test is done each day (rest on Day 1 and stress on Day 2). The stress portion of the test takes approximately 3-4 hours.</p>
Thallium Test – Rest/Redistribution	A Thallium Rest or Stress/Redistribution test is done to determine what part of the heart has been damaged and what part of the heart functions properly following a myocardial heart attack.	<p>You will be required to fast for 4 hours. Fasting means no eating or drinking for at least 4 hours prior to their test.</p> <p>Follow physician instructions for any changes to your medications.</p>	<p>You will receive an injection followed by images lasting approximately 45 minutes. You will be able to eat a light lunch.</p> <p>You will return to return 3.5 hours later for more imaging. The second set of imaging will take approximately 30 minutes.</p>
Thallium Test – Stress/Redistribution		<ul style="list-style-type: none"> <li>• No caffeine for 24 hours. That includes coffee, tea, herbal and decaf. No pop, energy drinks, chocolate, Tylenol Ultra or Tylenol 1, 2, and/or 3.</li> </ul>	<p>You will be interviewed before proceeding to the stress test.</p> <p>During the stress test you will receive an injection. The first part of the test will last approximately 2</p>

# Nuclear Medicine Tests and Patient Preparation

Diagnostic Services and Medical Diagnostic Unit



Test	Description	Patient Preparation	Test Duration
		<ul style="list-style-type: none"> <li>Nothing to eat for at least 4 hours prior to their test (only water or juice).</li> <li>Insulin diabetics must eat breakfast and take insulin 4+ hours prior to the test.</li> <li>Follow physician instruction about any changes to your medications. Bring all medications with you.</li> </ul>	<p>hours. You will be able to eat a light lunch.</p> <p>You will return 3.5 hours after the initial injection for additional imaging. This will take 30 minutes.</p>
RNA (MUGA) Exercise	<p>The RNA (Radionuclide Angiogram) scan is an often-useful non-invasive tool for assessing the function of the heart. It produces a moving image of the beating heart, and from this image several important features can be determined about the health of the cardiac ventricles (the heart's major pumping chambers).</p> <p>There are two types of RNA tests that may be ordered by your Physician, a Resting RNA or a Resting and Exercise RNA. The Exercise RNA test is performed to assist the doctor in assessing the heart's function during exercise after comparing it to the heart's function at rest.</p>	<ul style="list-style-type: none"> <li>No caffeine for 24 hours. That includes coffee, tea, herbal and decaf. No pop, energy drinks, chocolate, Tylenol Ultra or Tylenol 1, 2, and/or 3.</li> <li>Nothing to eat for at least 4 hours prior to their test (only water or juice).</li> <li>Insulin diabetics must eat breakfast and take insulin 4+ hours prior to the test.</li> <li>Follow physician instructions for any changes to your medications. Bring all medications with you.</li> <li>Due to the length of the tests, you should bring lunch or plan to purchase food during your break.</li> <li>Wear suitable clothing and shoes.</li> </ul>	<p>You will be given two injections 20 minutes apart followed by imaging at rest.</p> <p>You will start the exercise portion of the test by pedaling on a stationary bike while images are taken.</p> <p>The length of the test is approximately 3 hours.</p>
RNA (MUGA) Test – Resting	<p>The RNA (Radionuclide Angiogram) scan is an often-useful non-invasive tool for assessing the function of the heart. The RNA scan produces a moving image of the beating heart, and from this image several important features can be determined</p>	<p>No preparation is required.</p>	<p>You will receive an injection followed by imaging. The test will take approximately 1.5 hours.</p>

# Nuclear Medicine Tests and Patient Preparation

Diagnostic Services and Medical Diagnostic Unit



Test	Description	Patient Preparation	Test Duration
	<p>about the health of the cardiac ventricles (the heart's major pumping chambers).</p> <p>There are two types of RNA tests that may be ordered by your Physician, a Resting RNA or a Resting and Exercise RNA. A Resting RNA is performed to evaluate how your heart functions at rest.</p>		

### Positron Emission Topography (PET) Tests

Test	Description	Patient Preparation	Test Duration
FDG PET Scan	<p>A FDG-PET (Fluorodeoxyglucose Positron Emission Tomography) scan is used to detect metabolically active malignant lesions including lung cancer, colorectal cancer, lymphoma, melanoma, breast cancer, ovarian cancer, brain cancer and multiple myeloma.</p> <p>It may also be used to stage and monitor the response to therapy.</p>	<p>Women should always inform their Physician or Technologist if there is any possibility of pregnancy or if they are breastfeeding.</p> <p>You are required to fast for 4 hours before the test. Fasting means nothing to eat or drink for at least 4 hours prior to their test.</p> <p>Follow any instructions provided by your physician.</p>	<p>You will receive an injection followed by imaging.</p> <p>The length of the test is approximately 2 hours.</p>
FDG – Viability Scan	<p>Positron Emission Tomography (PET) Cardiology Viability imaging determines how much heart muscle has been damaged by heart disease or a heart attack and to confirm heart damage indicated by other tests.</p>	<p>Women should always inform their Physician or Technologist if there is any possibility of pregnancy or if they are breastfeeding.</p> <p>Patients are required to fast for 6 hours before the test. Fasting means nothing to eat or drink for at least 6 hours prior to their test.</p> <p>Follow any instructions provided by your physician.</p>	<p>You will receive an injection followed by imaging.</p> <p>The length of the test is approximately 4 hours.</p>