

Brampton Nuclear Services



Nuclear Cardiology Tests- Frequently Asked Questions (FAQs)

What is nuclear cardiology testing?

Nuclear cardiology tests safely take pictures of the heart. **Myocardial perfusion tests** are used to determine if you are at an increased risk for heart attack or if you may need heart surgery

During a nuclear cardiology test, a very small amount of radioactive tracer (radionuclide) is injected into a vein and is taken up by the heart. A very sensitive gamma camera then takes still pictures and movies of the heart with rest, exercise, or medication-induced stress testing

These cardiac images help to identify coronary heart disease, the severity of prior heart attacks, and the risk of future heart attacks. These highly accurate measurements of heart size and function and amount of heart muscle at risk of damage enable cardiologists to better prescribe medications and select further testing like a coronary angiogram, the need for angioplasty and bypass surgery, or devices to optimize treatment outcomes.

What is nuclear cardiology tests used to evaluate?

- The function of your heart: How well your heart pumps blood.
- The flow of blood to the heart muscle: Is there muscle damage from prior heart attack or other cause, and whether or not your arteries are narrowed or blocked from coronary artery disease.
- Whether chest discomfort, shortness of breath, or unusual fatigue is due to heart disease.
- Whether you have silent heart disease with one or more coronary risk factors (high blood pressure, smoking history, diabetes, kidney disease, family history of a parent or sibling with heart disease; post-menopausal, high cholesterol, low HDL (good) cholesterol, high triglycerides, obesity or prominent belly fat).
- What possible treatments are best for your heart:
 - Are medications needed for heart disease?
 - Is a heart catheterization advisable?
 - Will angioplasty, stents, and / or bypass surgery likely be helpful to improve clinical outcome?
- The effectiveness of lifestyle interventions (diet and exercise), medications and / or treatments like angioplasty, stents and bypass surgery to improve blood flow to the heart muscle.

Patient Preparation

2 days before the nuclear cardiology stress test:

1. Do hydrate your body by drinking extra glasses of water, unless you are advised by your doctor not to take extra fluids because of heart failure or kidney failure.

24 hours before the nuclear cardiology stress test:

1. Do not eat or drink anything that has caffeine, including coffee, tea, decaffeinated products, chocolate, cocoa, soda.
2. Do not take any over the counter medications that contain caffeine such as Excedrin, Anacin, diet pills and No Doz. Caffeine is sometimes included in unexpected places, so it is wise to read the labels of anything you eat or drink for 12 hours before the test.

Day of the nuclear cardiology stress test:

Please allow 4 to 5 hours for the entire test.

1. Do not smoke on the day of the test, as nicotine can interfere with the results of your test.

If your test is scheduled for first thing in the morning:

1. Do not have anything to eat or drink after midnight the night before the test.

If your test is scheduled in the afternoon:

1. Do not eat or drink anything for at least 4 hours before the test. If you must take medications, take them with water.

1. Should I take my medications the day of the test?

Check with your doctor about your medications. If you still have a question, call our clinic at 905-791-7358 during business hours.

Bring a list of all of your medications, including over-the-counter (OTC) medications and supplements that you routinely take, to the test appointment.

Also bring with you to the test any pills you do not take the day of your test.

If you have asthma: Your physician may tell you not to take theophylline (Theodur) for 24 - 48 hours before the test. Please bring your inhaler medication with you to the test.

If you have diabetes: If you take insulin to control your blood sugar, your physician may tell you to take only half of your usual morning dose and to eat a light meal 4 hours before the test. If you take pills to control your blood sugar, do not take your medication until after the test is complete. Bring your diabetes medications with you so you can take it when the test is complete. Do not take your diabetes medication and skip a meal before the test.

2. What should I wear for the test? Please wear comfortable clothes and walking or running shoes for the test.

3. How is the test performed? What should I expect to happen to me?

Before we start, you will be given a routine consent form to read and sign.

Then, the test is done in three stages:

1. Resting pictures of the heart
2. Stress test: Exercise and / or medication stress
3. Stress pictures of the heart

Resting pictures of the heart

- A highly trained health care professional will place an IV into a vein in your arm and inject a small amount of radioactive tracer. The tracer is not a dye or contrast and will not affect your kidney function. After the tracer is injected, you will wait about 15-60 minutes for the tracer to be taken up in the heart muscle.
- Then you will be asked to lie very still under a camera for about 15 minutes. The camera will rotate around your chest and the images will be recorded on the computer. The gamma camera does not produce radiation; it detects and makes pictures of your heart from tiny amounts of radiation in you.
- Following your rest study, our trained staff will place EKG leads on your chest and the EKG will be used to monitor your heart constantly during your exercise or medication "stress" test.
- Blood flow in your heart will be increased with either exercise or medication to dilate blood vessels in your heart.

Stress test: Exercise and / or medication stress

- Exercise treadmill test is usually preferred if you can exercise adequately without discomfort or difficulty. You will start walking on a treadmill. At regular intervals, the speed and / or angle of the treadmill will increase until you achieve the right heart rate or you develop symptoms like fatigue that limit your exercise. At peak heart rate, a second dose of radioactive tracer will be injected into the IV. Your heart rate, EKG and blood pressure will be monitored throughout the test. If you are unable to achieve an adequate heart rate with exercise, medication to dilate blood vessels in the heart may be given.
- Medication Stress Test - If you cannot exercise adequately, an infusion of a medication over approximately 10 seconds is given to dilate blood vessels in the heart which is followed by injection of a second dose of a radio tracer that allows measurement of blood flow in the heart muscle by the camera. The stress test protocol takes about one minute, and you will be observed for about 5 minutes before you leave the stress testing room. If you have any undesirable side effects (shortness of breath, flushing, abdominal discomfort, headache) of the stress medication, an antidote (cola, caffeinated coffee or theophylline) can be given which usually eliminates side effects in less than one minute.

Stress pictures of the heart

- After exercising, you will be asked to lie very still for about 15 minutes. The camera will record images that show blood flow into your heart muscle during exercise. The nuclear cardiologist interprets your study and sends a report to your doctor.

Who to contact: **Brampton Nuclear Services 28-470 Chrysler Drive, Brampton, ON L6S 0C1**
905-791-3458 www.bramptonnuclear.com