



GUIDE



Cardiac Perfusion Scan (two day protocol)



The Ottawa Hospital | L'Hôpital
d'Ottawa



Disclaimer

This is general information developed by The Ottawa Hospital. It is not intended to replace the advice of a qualified health-care provider. Please consult your health-care provider who will be able to determine the appropriateness of the information for your specific situation.

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Your physician has requested a test called a cardiac perfusion scan. A cardiac perfusion scan measures the amount of blood in your heart muscle at rest and during exercise.

This procedure is normally performed over two separate days and requires some preparation. A complete description of the cardiac perfusion scan follows below.

Location

General Campus of The Ottawa Hospital, 501 Smyth Road
Nuclear Medicine located on the main floor.

Follow the signs to Nuclear Medicine Department from the main elevators.

Why it is done

A cardiac perfusion scan is done to:

1. Find the cause of unexplained chest pain or chest pain brought on by exercise.
2. Check for the location and amount of damage caused by a heart attack.
3. Identify coronary artery disease (CAD).
4. Help make treatment decisions for a person with CAD.
5. Check to see that the heart is getting enough blood after heart surgery or angioplasty.
6. Identify a congenital heart defect and determine how serious it is. These scans may also be done following surgery to correct a congenital heart defect.
7. To see if your heart is strong enough for you to have a surgical procedure.

How to prepare

Bring your green hospital and health insurance card to your appointment. You should bring a complete list of the medications that you are currently taking. Please wear, or bring with you, comfortable shoes and loose shorts or pants suitable for exercise. You will be asked to remove all jewelry before this test. Since there may be a few hours waiting time between imaging during this procedure, it may be beneficial to bring some reading material. Please bring a fatty meal or drink (e.g. 3% milk, can of Ensure, or high fat yogurt on both days, since the technologist will require you to eat a small amount of food before imaging your heart. (Further preparation details follow).

If you have any questions, please call the Nuclear Medicine department at 613-761-4831 option 8. If you must cancel, please provide 48 hours notice.

48 hours before your second appointment:

After consulting with your physician, please stop the following medications:

- Aminophylline, (Phyllocontin, Phyllocontin 350), Oxtriphylline, (Choledyl), Theophylline (Quibron-150, Uniphyll, Theodur, Pentoxifylline (Trental).
- If you are taking any **beta-blocker or calcium blocker medications, please ask your Doctor** if you can stop them 48 hours prior to your appointment.

24 hours before your second appointment:

- Do not take Viagra, Cialis, Aggrenox (Dipyridamole + Asa), Persantine
- Do not take any medication that contains caffeine or codeine such as: 222, 282, 292, Anacin, Asacol, Darvon, Dristan, Excedrine, Fiorinal, Lenotec 1, 2, 3, Midol, No Doz, Tylenol 1,2,3,4, Vanquish, Vivarin, Sinutab with codeine, appetite control pills.

- Do not take caffeinated or decaffeinated drinks or foods such as coffee, decaffeinated coffee, tea, carbonated drinks, chocolate, etc.
- Do not take: Imdur (Isosorbide mononitrate), Isordil (Isosorbide Dinitrate), NitroDur, Transderm, Minitran, Nitropaste, Nitrong.

4 hours before both appointments:

Do not eat or drink anything. Diabetic patients may have a plain dry toast and/or a small amount of juice. If you normally use nitroglycerine tablets or spray, you may continue to do so. Bring a complete list of the medications that you are currently taking.

Tell your physician if:

- You are allergic to any medications.
- You are pregnant.
- You are breastfeeding. If you are, feed your child formula but continue to express your milk and discard it for 24 hours following your last appointment. You may then resume normal breastfeeding.

How it is done

A cardiac perfusion scan is done in the nuclear medicine department. The test is done by a doctor and technologist specially trained in nuclear medicine.

There are two parts to this exam. The first part will take two hours and the second part three hours. A complete description of the two parts of this test is described below.

The first day: A technologist will place a needle into a vein in your arm and inject a small amount of radioactivity. You will then be asked to wait 30 to 40 minutes while the radioactivity

concentrates in the muscle of your heart. The technologist will then bring you into an imaging room and ask you to lie down on special table. You will then be asked to place your arms over your head. The technologist will then position a special camera very close to your chest. This camera will then rotate very slowly for 15 to 20 minutes while images are taken of your heart. Following these images, you will be required to return another day for the second part of the test.

The second day: A technologist will place a small flexible needle into a vein in your arm. You will then be asked to sit or lie on the examining table and you will be given a routine electrocardiogram (EKG), which takes about 5 to 10 minutes. If you are able to walk on a treadmill, you will be asked to do so. Your heart rate will be checked while you are walking with standard electrocardiography.

You will begin by walking slowly and easily. Every few minutes, the speed or incline of the treadmill may be increased. You will exercise until you need to stop or until you reach a suitable heart rate. At that point, a radioactive tracer is injected once again into the needle already in your arm. You will probably continue to exercise for an additional 30 to 60 seconds to circulate the radioactive tracer.

In some situations, patients may not be able to walk on the treadmill and will require an injection of a special medicine that will make your body think you are exercising. This medicine may give you a headache and feel a little dizzy, flushed, and nauseated. Another medication will be given to you to counteract the effects of this medication and you will feel better very quickly. Additional EKGs and blood pressure measurements are often taken. After the medicine takes effect (about 4 minutes), a small amount of radioactive tracer is

injected that will travel to your heart muscle. You will then be asked to wait in the waiting room for 30 to 40 minutes while the radioactivity concentrates in the muscle of your heart.

A technologist will then bring you into an imaging room and ask you to lie down on a table for more images. Before starting this portion of the study, the technologist will attach the electrodes on your chest to an ECG monitor. More images of your heart will now take place in the same manner as described above. Once all of your images have been completed and the technologist has verified them, you will be free to go home or return to your hospital room. You should not expect to experience any further side-effects from this procedure.

How it feels

The cardiac scanning test itself is painless.

- You may feel a brief stinging or burning sensation when the needle is inserted into the vein in your arm.
- You may be uncomfortable lying still for an extended period of time on the table during the scans.
- If medicine to simulate exercise is used, you may have symptoms of mild nausea, headache, dizziness, flushing, or chest pain (angina). These symptoms only last a few minutes.
- If you are asked to exercise, you may have chest pain, breathlessness, lightheadedness, aching in your leg muscles, and fatigue. Report these to the technologist. If the symptoms are severe, the exercise part of the test may be stopped.

Risks

Cardiac perfusion scans are usually safe and the amount of radioactivity used very small. The risk of exercise depends on the condition of your heart and your general level of health. The risks include:

- Fainting
- Chest pain
- An irregular heartbeat
- Heart attack

After the test

Call 911 or other emergency services immediately if you develop after leaving the hospital:

- Chest pain
- Trouble breathing

Results

A cardiac perfusion scan measures the amount of blood in your heart muscle at rest and during exercise. Test results are usually available within seven days.