

Alfi Morris Beshay, MD, MSc, FRCP(C)
Internal Medicine & Cardiovascular Disease

Myocardial Perfusion Imaging – Patient Information Sheet

Definition

- A myocardial perfusion scan is a test that is used to look for major blockages to the blood supply of the heart commonly known as coronary artery disease.

Why is the test performed ?

- Chest pain or dyspnea on exertion (to check for coronary artery disease - narrowing of the arteries that feed the heart muscle). If your angina is becoming more severe or is happening more often.
- Multiple coronary risk factors including hypertension, diabetes, dyslipidemia, smoking or chronic kidney disease to rule out coronary artery disease.

How is the test performed ?

- This test has several parts. These parts can be done in one or two days. The following are the parts of the test, the order of these parts can change. Before every scan a radioactive tracer is injected.
 1. Rest Scan – A special camera takes pictures of your heart when you have been resting.
 2. Stress test – This part of the test is where your heart will be ‘stressed’. This may be done with exercise (on a treadmill or stationary bicycle) or by an IV drug infusion using medication (Adenosine, Dipyridamole, dobutamine) which increase the blood flow to the heart muscle.
 3. Stress Scan – A special camera takes pictures of your heart after it has been ‘stressed’.
- A needle (IV cannula) will be put into a vein in your arm, making it possible to inject the radioactive liquid required for the scans, and possibly medications for the stress test.
- The scanning part will require you to lie down on a bed. Your arms will preferably be raised above your head for the scans. Please inform the health professional before the scan if you are unable to raise your arms above your head.
- Pictures will then be taken by a gamma camera. This camera will slowly rotate around your chest taking pictures of your heart. Your heart may be monitored by an ECG during these scans. It is important to keep very still and to breathe normally for the entire scan. Each scan will take between 15 and 30 minutes.
- After the procedure, the small needle or IV cannula will be removed after the last scan is completed. You will be informed if you are required to come back the following day for anymore pictures.

How to prepare for the test ?

- Do not eat, smoke or drink alcohol for **at least 4 hours** before the test.
- Continue taking all your regular medications on the day of the test with small sip of water. **Diabetics** on insulin or oral hypoglycemics, patients on **beta-blockers** will be given special instructions at the time of scheduling regarding the use of these medications depending on the reasons to do the test. Please ensure that you received those instructions.
- Wear comfortable clothing (short or sweatpants with shirts or blouse) and walking or jogging shoes. Men are usually bare-chested during the test, while women often wear a bra or hospital gown. Do not apply lotions, oils, or powders on your chest, shoulder, or hip areas. Remove all your jewelry from your neck, arms and or wrist.
- Avoid caffeine for at **least 12 hours** before the test. This includes: tea and coffee, all sodas, even ones that are labeled caffeine-free, chocolates, certain pain relievers that contain caffeine.

How will the test feel ?

- During preparation of the electrode sites on your chest may produce a mild burning, inflation of blood pressure cuff may feel tight. The needle used to put in the IV may cause some pain.
- You will start walking on a treadmill or pedaling a stationary bicycle. The pace and incline of the treadmill (or the pedaling resistance) will slowly be increased.
- If medications are used instead of exercise, sometimes people experience flushing, chest or stomach discomfort, nausea, headache dizziness palpitations or low blood pressure. This can be relieved by medication. Some people experience no symptoms at all.
- Some people feel tremor (shakiness), palpitation or low blood pressure if the drug Dobutamine is used.

What the risks are ?

- This is a non-invasive test and has a very low risk. There is less than one in 10,000 risk of dying or having a heart attack during or immediately after the test. Some patients may have chest pain or may faint or collapse.
- A change in heart rhythm can occur during the test which is typically short lived and not serious in most cases in which it does occur.
- Rarely, bruising and/or infection from IV cannula site. This may require treatment with antibiotics.
- Radiation risk:

Special considerations

- You **must not have** a Myocardial Perfusion Scan if you are pregnant or there is any chance you might be pregnant.