

Myocardial Perfusion Imaging

MISSION STATEMENT

To act as a model institution to alleviate the suffering of patients with cancer through the application of modern methods of curative and palliative therapy irrespective of their ability to pay, the education of health care professionals and the public and perform research into the causes and treatment of cancer.



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WHAT IS A MYOCARDIAL PERFUSION IMAGING?

Myocardial perfusion imaging (MPI) is a non-invasive procedure used to assess for significant coronary artery stenosis. With improved diagnostic accuracy over regular stress tests, abnormal perfusion scans are highly indicative of coronary artery disease.

PURPOSE OF MPI

This diagnostic and prognostic study determines the degree and location of compromised blood flow to the heart muscle as well as its pumping function and the existence of scarred cardiac tissue.

MPI is used to determine the need for invasive procedures, to avoid unwarranted hospital admissions or discharges, and to assess the long-term prognosis.

CANDIDATES FOR MPI

MPI is indicated in patients with known or suspected coronary artery disease, including those who have had cardiac events or may be at risk.

Examples of higher risk populations include diabetics, those with long standing hypertension and postmenopausal women. In addition to the more commonly known symptoms of chest pain and shortness of breath, several of the lesser-known symptoms of heart disease may include nausea, fatigue, and pain in the arm, back, neck or jaw.

PROCEDURE DESCRIPTION

MPI is performed during stress and again at rest while monitoring for blood pressure and heart rhythm via electrocardiogram. The procedure is generally performed by walking on a treadmill but for those who cannot exercise, a pharmacological test is performed by using adenosine or dobutamine. The choice of agent depends upon several factors, and this will be carefully evaluated by our physicians. A small dose of a radiopharmaceutical is injected into the bloodstream at maximum exercise. Patients then wait approximately 20-

60 minutes prior to scanning using a gamma camera (SPECT technology).

Injection and scanning are also performed at rest, usually on a separate day.

TECHNOLOGICAL CAPABILITIES

The radioactive tracer distributes in proportion to blood flow, with greater concentration where there is better blood flow. The gamma camera further improves diagnostic accuracy because SPECT images are reformatted to identify affected areas of the heart.

PATIENT INSTRUCTIONS

- To ensure accurate results, do not take caffeine (tea, coffee, soda), chocolate, theophylline, or dipyridamole for 24 hours prior to the test.
- Take a light breakfast early in the morning before coming to the hospital.
- The test may be performed in two phases: after exercise and again during rest. Completing both phases may take two to five hours and can be completed in one or two days.
- Wear loose-fitting, comfortable clothing suitable for exercise.
- Women who suspect they may be pregnant or are nursing should inform our doctors.
- Depending on the purpose of the test, one or more cardiac medications (nitrates, beta blockers like metoprolol, carvedilol, and atenolol, calcium channel blockers like diltiazem or verapamil) may need to be stopped for 24-48 hours before the test. Please check with your cardiologist before the test.