

Q&A: Myocardial Perfusion Imaging (MPI)



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Radiology Consultants Associated is pleased to offer Myocardial Perfusion Imaging and Exercise Stress Testing at our new Sunpark Plaza location.

Q: What is Myocardial Perfusion Imaging (MPI)?

A: Myocardial Perfusion Imaging is a nuclear medicine test which is performed in conjunction with exercise or pharmacologic stress testing. A radiotracer (Myoview) is administered during stress and rest, followed by images of cardiac perfusion obtained with a gamma camera.

Q: How does Myoview differ from Thallium?

A: Thallium and Myoview are radiotracers which are used to assess myocardial perfusion. Thallium-201 is the original cardiac perfusion radiotracer utilized for non-invasive evaluation of coronary artery disease. Myoview (tetrofosmin) is a 99m-technetium labeled cardiac perfusion tracer. The physical characteristics of 99m-technetium are optimal for today's gamma camera. Both Myoview and Thallium scans offer similar clinical information for you to best manage your patient's care.

Q: How can MPI help manage my patients?

A: Myocardial perfusion scans provide incremental, statistically-significant information over and above the exercise stress test results and clinical data in certain subsets of patients. MPI results evaluate:

- Extent and severity of Coronary Artery Disease (CAD).
- Cardiac function – Left Ventricular Ejection Fraction (LVEF).
- Risk stratification of patients into low, moderate and high risk.

Q: Who can most benefit from an MPI scan?

A:

- Evaluation of chest pain syndrome in patients without known coronary artery disease. Patients with intermediate pre-test clinical probability of CAD are best evaluated with MPI scans.
- Risk assessment of patients with known CAD. As well as patients with chest pain syndrome and high pre-test probability of CAD.
- Asymptomatic patients with high clinical risk (Framingham) of CAD.
- Indeterminate results on an exercise stress test.
- Resting ECG abnormalities: LBBB, WPW, paced rhythm or patients with significant resting ST segment abnormalities.
- Pre-operative cardiac assessment of patients undergoing high risk surgery.
- Asymptomatic patients with elevated coronary calcium score: Agatston score ≥ 400 .



[More information...](#)

Q: Who should undergo pharmacologic MPI stress test with Persantine (dipyridamole)?

- A:**
- Patients who cannot walk or otherwise have poor exercise tolerance.
 - Resting EKG Left Bundle Branch Block and paced rhythm.

Q: Are there any contraindications to Persantine stress tests?

A: Patients with reactive airway disease, hypotension and high degree AV blocks since Persantine can result in an exacerbation of these conditions.

Q: Do I need to make adjustments to my patients' medications prior to their examination?

A: Unless clinically contraindicated, or you are assessing the effects of medical therapy, Beta-blockers and Calcium-channel blockers should ideally be discontinued for 24 hours before and during the day of the stress test, which will maximize the sensitivity of the examination.

β-Blockers	Calcium-Channel Blockers
Acebutolol: (Monitan, Rhotral, Sectral) Atenolol: (Tenormin) Bisoprolol: (Monacor) Carvedilol: (Coreg) Labetolol: (Normodyne) Metoprolol: (Lopressor, Toprol XL, Lopressor SR)	Nadolol: (Corgard) Oxprenolol: (Trasicor) Pindolol: (Visken) Propranolol: (Inderal) Sotalol: (Sotacor) Timolol: (Blocadren)

All medications (Tylenol#3, Anacin, etc.), food products and beverages (soft drinks, coffee, tea and chocolates) containing methylxanthines (theophylline and caffeine), should be stopped 24 hours before all stress tests. Methylxanthines inhibit the effects of Persantine and would result in a non-diagnostic pharmacologic stress test. The internal medicine specialist who performs the stress tests occasionally may need to convert a routine or exercise MPI stress test into a pharmacologic stress test. Your patient would need to re-book if methylxanthines have not been discontinued.

Q: Are Myocardial Perfusion scans covered by Alberta Health Care?

A: Yes, myocardial perfusion scans are fully covered by Alberta Health Care.

Q: Who can refer patients for these procedures?

A: Any physician can order a myocardial perfusion stress test.

Q: How do I order these tests?

A: **Simply call our central booking line at 403.777.3000** to schedule the exam time that works best for your patient. Then fax the completed Cardiac Assessment Requisition to our Sunpark Plaza location at 403.777.3148.

Our Call Centre Coordinators are well versed in these procedures and should be able to address any questions you may have. However, if they encounter a question they do not have an answer to, they will have a nuclear medicine radiologist return your call to ensure that you have all of the information you require.

To maximize the results of these procedures, please ensure that you include results of resting ECGs, complete medication list, copy of previous Stress Tests, Angiograms and applicable laboratory results (cholesterol and glucose levels).

Your patient will be assessed by an internal medicine specialist before the stress test. Your patient's stress test will be supervised by the internist. If clinically necessary, a routine stress test may be converted to an exercise or pharmacologic myocardial perfusion stress test at the discretion of the internal medicine specialist.



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125, 40 Sunpark Plaza SE
 Calgary, AB T2X 3X7
Central Booking: 403.777.3000
Toll Free: 1.866.611.2665

