

St. Luke's Imaging Services Patient/Family Information  
**Myocardial Perfusion Scan**  
**(CARDIAC PERFUSION/CARDIOLITE STUDY)**

## What is a Myocardial Perfusion Scan?

The myocardial perfusion scan is an image of the blood supply to the heart muscle. Myocardial perfusion scans can detect areas of inadequate blood supply to the heart muscle. This helps your doctor diagnose the presence and extent of coronary artery disease, the type of disease that causes heart attacks.

The scan is made by injecting a small amount of radioactive tracer (cardiolite) into a vein. The tracer circulates in the blood and accumulates in the heart muscle. The amount of tracer taken up by the heart muscle depends on the blood supply. The greater the blood supply, the greater the amount of the tracer in the heart muscle. Radiation from the tracer is detected by a specialized gamma camera. With the help of a computer, images of the heart can be constructed. These images show the distribution of blood to the heart muscle. From these images, the flow of blood in the coronary arteries can be determined.

The radiation exposure from the study is quite minimal and causes no risk to your health.

This test may include exercise on the treadmill. Exercise increases the blood flow through normal coronary arteries, but not through partially or totally blocked coronary arteries. If you are unable to walk on the treadmill due to physical limitations, your doctor may ask that the procedure be done using an intravenous medication which stimulates your heart to produce the same effect as exercise.

## Special Note

If you are nursing or if you think you may be pregnant, tell your doctor before the examination. If you have a history of asthma, be sure to communicate this to your physician.

## Preparation

Please bring your medication list with you to your exam.

You should not smoke or eat anything for two hours before the procedure. You should have no caffeine for 12 hours before your appointment.

**Please note: "no caffeine" includes decaffeinated products, chocolate, tea and cola. If you are diabetic or hypoglycemic, ask your doctor for special instructions.**

Your doctor may decide to temporarily discontinue certain medicines before the stress examination. If you are taking heart medication, your doctor may want to see how well your heart works without it. Some medicines may affect the results. If you will be exercising on the treadmill, wear or bring with you comfortable street clothes, a pair of walking shoes and socks.

## What Happens During the Test?

When you are scheduled for your myocardial perfusion study, you should allow approximately two hours for each day you are scheduled.

**Step 1:** A dose of radioactive tracer is injected in a vein in your arm. The tracer travels throughout the body and concentrates in the heart, behaving like the nutrients normally used in the heart. Rest imaging begins 40 minutes after the injection and lasts approximately 20 minutes.

**Step 2:** To exercise your heart on the second day, one of three possible methods will be used depending on your doctor's order.

**Treadmill:** You will walk on the treadmill to reach a predetermined heart rate. During treadmill exercise you may experience shortness of breath, fatigue or chest discomfort. Tell the doctor, nurse or technologist if you have any symptoms. It is important to reach a maximum heart rate. Stress imaging begins shortly after the treadmill stress and lasts 10-15 minutes.

**Adenosine Infusion:** A medication called Adenoscan will be given through your IV for six minutes. During this time, you may experience shortness of breath, chest discomfort and/or a warm flushed feeling. Tell the doctor, nurse or technologist if you feel any symptoms, they should be gone two to three minutes after stopping the medication.

Stress imaging begins 40 minutes after the medication is given and lasts 10-15 minutes.

**Dobutamine Infusion:** A medication called Dobutamine will be given through your IV to reach a predetermined heart rate. During this time you may experience shortness of breath and feel your heart racing. Inform the doctor, nurse or technologist of any symptoms you feel. Patients who are regularly taking beta-blocker medication (i.e., Lopressor, Tenormin, etc.) should not take them for 24 hours before the exam. This should be discussed with your doctor. Stress imaging begins 40 minutes after the medication is given and lasts 10-15 minutes.

During the "exercise phase" you will be monitored with electrocardiogram (ECG), blood pressure and oxygen monitors. Your doctor can stop the procedure at any time if more medical attention is needed.

## After the Test

You may go back to your usual diet and activity the scan is finished. A nuclear medicine doctor will interpret the results of the scan and send them to your doctor who will discuss the results with you.

## Who interprets the results and how do I get them?

A radiologist will review the images shortly after the exam is completed. A written report will be sent to your doctor. Your doctor will discuss the results with you. Please allow your physician the time needed to review these results.

## **Outpatient Instructions**

Please register at the Outpatient Registration desk at the West Entrance. After registering, testing will be done in the Imaging Services Department on the second floor. Please use the elevators past registration on the left.

Name \_\_\_\_\_

Date \_\_\_\_\_ (Light meal on this date then nothing to eat or drink until the exam is completed)

Stress Test date/time \_\_\_\_\_ (Nothing to eat or drink on this date)

Rest Images date/time \_\_\_\_\_ (Nothing to eat or drink on this date  
until the exam is completed)

Stop Caffeine at \_\_\_\_\_

Stop Beta Blockers at \_\_\_\_\_