

Pharmacologic Cardiac Perfusion Imaging: Nuclear Cardiology

A pharmacologic (medication) cardiac perfusion test checks the blood flow to your heart. This test can detect significant coronary artery disease, a blockage in the blood vessels to the heart.

It also can show how severe the blockages are. Most often, this test is for people who cannot reach their target heart rate with exercise or people who have specific resting electrocardiogram (ECG) problems. The test will take 2 separate sets of pictures. Your care team takes the 1st set when you are at rest. You will get a medication that briefly changes the blood flow to your heart (which mimics the way blood flow changes during exercise). Then, your team will do the 2nd set of images.

The test uses a small amount of 2 radioactive tracers to show the blood flow (perfusion) to the heart muscle. The amount of radiation used in this test is small and well within limits that are not harmful. Your total test time will be 3 1/2 to 4 hours.

If there is a chance that you could be pregnant, or if you are breastfeeding, please tell the tech.

Before the test

Medications

- › Check with your physician if you take the following medications:
 - Theophylline,
 - Dipyridamole (Persantine®)
 - Acetylsalicylic acid/dipyridamole (Aggrenox®)
 - Pentoxifylline (Trental®)

You should not take these medications for 48 hours before the test. Check with your physician before stopping them.

- › If you have diabetes and take insulin, you will get instructions about your medication.
- › You may take other medications with water.

Diet

- › You may eat a light meal at least 3 hours before your appointment time.
- › Do not eat or drink caffeine for 24 hours before the test. This includes coffee, tea, cola, chocolate or any medications that contain caffeine such as Excedrin®. Avoid decaffeinated products or products labeled as “caffeine-free” because they may contain small amounts of caffeine.

Plan to arrive 15 minutes before your test time. Wear (or bring with you) comfortable clothing and shoes for walking on the treadmill. Lockers and showers are available for you to use. Also, be sure to bring:


- › A list of your allergies
- › A list of all your current medications (prescription, over-the-counter and herbal)
- › Photo ID
- › Medical insurance information
- › Medicare card (Medicare patients only)

Come to the 8th floor reception desk in Galter Pavilion, 201 East Huron Street.

Parking is available for patients and visitors in the garage at 222 East Huron Street, across from Feinberg and Galter pavilions. For a discounted rate, bring your parking ticket with you. You can validate your ticket at the Customer Service Desks on the 1st and 2nd floors of Feinberg and Galter pavilions, or the 1st floor of Prentice Women’s Hospital.

During the test

When you arrive in the Nuclear Cardiology Department, a nurse or technologist (tech) will explain the test. If you think you may be pregnant or if you are breastfeeding, please tell the tech. The nurse will start an IV (into the vein) line. They will give you the 1st tracer. After the tracer circulates in your blood for 15 to 30 minutes, they will take the 1st set of pictures.



The care team will help you move onto an imaging table. Please lie quietly on your back. The camera will be close to your chest. It is very important that you do not move while the camera takes the pictures. The camera will take pictures at different angles. It will take about 15 to 30 minutes to complete them.

You will then be ready for the stress portion of the test. The care team will prepare the skin on your chest for the electrode placement with rubbing alcohol and a mild abrasive. The electrodes will record your heart rhythm (electrical activity) during the test.

They will ask you questions about your medical history and explain the test to you, including the benefits and risks. They will then ask you to consent to the test.

You will lie on a cart or walk slowly on a treadmill while the IV stress medication goes in over a short time. The care team will give you the 2nd tracer in your IV at the time of peak stress. During the test, the care team will closely monitor your blood pressure, heart rate and heart rhythm.

Tell the care team right away if you have these symptoms:.

- › Chest pain
- › Dizziness or headache
- › Feeling flushed
- › Other discomforts

After the stress portion of your test, the care team will remove the IV. The tracer needs to circulate for at least 60 minutes before you get a 2nd set of pictures. You may leave the department during this time and you may have something to eat. Be sure to return at the given time for your final set of pictures.

When you return to the department, it is very important that you do not move while the camera takes the pictures.

After the test

You may go back to your normal activities and diet after the test. Your physician will have the test results in 1 to 2 days.



Complications are rare and may include:

- › Changes in your blood pressure
- › Irregular heart rhythm
- › Trouble breathing

In very rare cases, heart attack, stroke or death may happen. If you have any questions about these risks, ask the physician, exercise physiologist or nurse present at your test.

If you have any questions or concerns about this test, call the Nuclear Cardiology Department at 312.926.8662 (TTY: 711), Monday through Friday, 7:30 am to 4:00 pm.

For more information about Northwestern Medicine, please visit our website at [nm.org](https://www.nm.org).