

Myocardial Perfusion Imaging (MPI) Test

What is a myocardial perfusion imaging test?

Myocardial perfusion imaging (MPI) is a non-invasive imaging test that shows how well blood flows through (perfuses) your heart muscle. It can show areas of the heart muscle that aren't getting enough blood flow. This test is often called a nuclear stress test. It can also show how well the heart muscle is pumping.

MPI is useful in patients with chest discomfort to see if the discomfort comes from lack of blood flow to the heart muscle caused by narrowed or blocked heart arteries (angina). Myocardial perfusion imaging doesn't show the heart arteries themselves, but can tell your doctor with good certainty if any heart arteries are blocked and how many. MPI can also show if you've previously had a heart attack.

Depending on circumstances, for example if you have chest pain and an abnormal MPI study, the next step may be performing a coronary angiogram. On the other hand, if the MPI study is normal, your doctor can confidently look into other causes of chest pain that aren't related to the heart.

MPI tests can help your doctor:

Find out if there are narrowings or blockages in your coronary (heart) arteries if you have chest discomfort

If you have heart damage from a heart attack if your heart is not working normally

Determine if you should undergo a coronary angiogram

Decide whether you would benefit from coronary stent or bypass surgery to treat your chest discomfort or help an abnormal pumping function go back to normal

If a heart procedure you had to improve blood flow (stent, bypass) is working

How well your heart can handle physical activity

What are the risks of an MPI test?

MPI tests are generally safe for most people. MPI studies expose you to a low dose of X-rays. Experts disagree if X-rays at such low doses can cause cancer, but the possibility exists that no dose of X-rays, however low, is completely safe. Don't take the test if your risk for a heart attack is low, or if there is no other reason (chest discomfort) to think that you have heart trouble. If you're pregnant or think you might be pregnant, or if you're a nursing mother, tell your doctor before you have this test. It could harm your baby.

How do I prepare for my MPI test?

Tell your doctor about any medicines you take, including over-the-counter medicines, herbs and vitamins. He or she may ask you not to take them before the test. Don't stop taking your medicine until your doctor tells you to.

Your doctor may also ask you not to eat certain foods, such as caffeine-containing beverages (i.e. coffee, tea, soft drinks) or chocolate, for 24 hours before your test. The test may have to be postponed or cancelled if you did drink caffeine.

Don't eat, and drink only water for 4 to 6 hours before your test.

Wear comfortable, loose-fitting clothing and comfortable shoes to exercise in.