Information about Your Pharmacological Cardiac MRI Stress Test

A pharmacological Cardiac Magnetic Resonance Imaging (MRI) stress test is a diagnostic test used to evaluate blood flow to the heart for people who are unable to exercise or cannot increase their heart rates adequately. The test can help determine if you are getting enough blood to your heart when you are active versus when you are resting.

During the test, you will receive a small amount of medication – adenosine, dipyridamole or regadenoson – to make your coronary arteries widen (dilate), which increases blood flow, in a way similar to the way they do when you exercise. The medication only slightly increases your heart rate. A small amount of MRI dye called gadolinium is injected into a vein when you’re resting and after you receive the medication. An MRI scanner takes pictures of the gadolinium dye as it passes through your heart muscle, creating computer images of your heart.

Can I eat or drink the day of the test?

- No, but you may drink small sips of water to help you swallow your medications.
- Avoid all products containing caffeine for 24 hours before the test. In general, caffeine is found in coffee, tea, colas and other soft drinks, and most chocolate products.
- Also avoid products labeled "decaffeinated" or "caffeine-free" for 24 hours before the test, as these products contain trace amounts of caffeine.
- DO NOT SMOKE ON THE DAY OF THE TEST, as nicotine will interfere with the results of your test.

Should I take my medications the day of the test?

Please bring a copy of all your medications, including over-the-counter medications and supplements that you routinely take, to the test appointment.
Please follow these guidelines about taking your medications the day of the test:

**Medications with caffeine:** DO NOT take any over-the-counter medication that contains caffeine (such as Excedrin, Anacin, diet pills or NoDoz) for 24 hours before the test. Ask your physician, pharmacist or nurse if you have questions about other medications that may contain caffeine.

**If you have asthma:** Your physician will tell you NOT to take theophylline (Theo-Dur) for 48 hours before the test. Please plan to bring your asthma inhaler medication to the test.

**If you have diabetes:** If you take insulin to control your blood sugar, ask your physician how much insulin you should take the day of the test. Your doctor may tell you to take only half of your usual morning dose and to eat a light meal 4 hours before the test. If you take pills to control your blood sugar, do not take your medication until after the test is complete. Bring your diabetes medication with you so you can take it when the test is complete. You should skip taking your diabetes medication and, at the same time, skip a meal, as this could cause your blood sugar to plummet.

If you own a glucose monitor, bring it with you to check your blood sugar levels before and after your test. If you think your blood sugar is low, tell the lab personnel immediately. Plan to eat and take your blood sugar medication following your test.

**If you take heart medications:** DO NOT take the following heart medications on the day of the test unless your physician tells you otherwise, or unless it is needed to treat chest discomfort the day of the test:

- Isosorbide dinitrate (e.g., Dilatrate, Isordil)
- Isosorbide mononitrate (e.g., Imdur, ISMO, Monoket)
- Nitroglycerin (e.g., Minitran, Nitro patches, Nitrostat)
- Dipyridamole (Persantine, Aggrenox) – **Stop taking 48 hours before the test**
- Beta Blockers (e.g., metoprolol, metoprolol XL, atenolol)

Your physician may also ask you to stop taking other heart medications on the day of your test. If you have any questions about your medications, ask your physician. **Do not discontinue any medication without first talking with your physician.**
What to expect during the test

An MRI nurse will place two intravenous (IV) lines in your arm before starting the MRI scan. A nurse and an MRI technologist will place electrodes (small, sticky patches) on your chest to monitor your electrocardiogram (EKG), and a blood pressure cuff on your arm to monitor your blood pressure.

Then, you will be asked to lie very still inside the MRI scanner for a total of about 45 minutes. You also will be asked to do a series of short breath holds while the MRI scanner takes images of your heart.

Before you receive the medication through the IV, the nurse will talk to you about the possible side effects of the medication so you will know what to expect.

Your heart rate, EKG and blood pressure will be monitored throughout the test. The testing area is supervised by a physician.

During the examination, the MRI scanner will take images of your heart size and function, blood flow through your heart during rest and during cardiac stress, and determine if you have any permanent damage to your heart muscle.

How long will the test last?

The MRI scan will take about 45 minutes, and your total time in the MRI area may last up to 2 hours.

How do I get the results of my test?

After the physician reviews your test, the results will go into your electronic medical record. Your referring physician will have access to the results and will contact you to discuss them.