

Fact sheet for patients

Cardiac Stress MRI

What is a cardiac stress MRI test?

A **cardiac stress MRI** is a diagnostic procedure where detailed images of the anatomy and function of your heart can be viewed.

A medication is injected that will increase the blood flow to the heart. This simulates the effects of stress, or exercise on your heart.

Pictures or images are taken with an MRI Scanner of the dye that is injected as it circulates through your heart.

This can indicate if enough blood is getting to your heart and if there is any previous heart muscle damage from a heart attack.

➤ **MRI (Magnetic resonance imaging)**

Images are created during an MRI test using radio waves and strong magnets. Each image focusses on a different level or “slice” of your heart which combines to create a full and detailed image or movie of your heart.



During a cardiac MRI test, you will lie on a special exam table surrounded by a large magnet, which will make a series of loud noises.

➤ **Cardiac stress MRI tests are safe and effective.**

MRI does not use radiation so you are safe from radiation exposure.

MRI scans can provide different and more detailed information than a conventional x-ray or CT scan.

➤ **Discussing the Cardiac Stress MRI test with your Doctor**

Discussing this with your Doctor will be important for you to know about the potential risks and benefits of this stress test. Should you have any questions, please ask your Doctor.

Benefits	Risks and Complications	Alternatives
<ul style="list-style-type: none"> ➤ MRI does not involve radiation ➤ Your Doctor can easily detect your specific heart condition due to the detail of the images seen on a cardiac MRI 	<p>Cardiac Stress MRI tests are normally very safe however, potential complications may occur. Please read below points.</p> <ul style="list-style-type: none"> ➤ Please advise your Doctor of any surgeries or procedures you may have had which involved metal or implants. These implants or metals can have an effect on the magnet ➤ Sometimes the medication used to mimic stress on your heart can cause flushing of the face, shortness of breath, increase or decrease in heartbeat, dizziness, nausea, headache, tight chest, arm or jaw discomfort ➤ It is rare, but the MRI enhancing agent can cause a reaction 	<p>Depending on your situation your Doctor may require alternatives to Cardiac MRI:</p> <p>This may include other heart stress imaging tests including:</p> <ul style="list-style-type: none"> ➤ Heart Ultrasound (Cardiac stress echocardiogram) ➤ ECG -Stress Electrocardiogram ➤ Nuclear Stress Test ➤ Cardiac Catheterization / Angiogram ➤ CT scan (to see the blood vessels feeding the heart)
<p>The table above indicates the potential benefits, risks and alternatives to Cardiac Stress MRI. Please discuss with your Doctor as your medical situation may have other factors.</p>		

What to do to prepare for your Cardiac MRI test

Please tell your Doctor if you have any allergies, had surgical procedures or have implants as a MRI 's powerful magnet can affect surgical implants causing injury.

These implants include:

- Pacemakers or ICD's
- Brain aneurysm clips.
- Inner ear implants
- Nerve stimulators
- A coil, stent or catheter or filter in any blood vessel.
- An implanted insulin, drug or infusion pump
- Any other magnetic/ electronic/ Plastic/ medical device or other devices within or on your body.

DO NOT wear any metal e.g. watch or jewellery as no metal is allowed in the MRI room. Your glasses can be left in a secure room during the test

Can I eat or drink?

No, but you may drink small sips of water to help swallow your medications.

Avoid all products that contain **caffeine for 24 hours before the test**. Caffeine is found in coffee, tea, colas and other soft drinks and in most chocolate products. Caffeine interferes with the results of the test.

Also avoid **decaffeinated or caffeine free** products for 24hours before the test, as these products contain trace amounts of caffeine

No smoking on the day of your test as **nicotine interferes with the test results**

Should I take medications on the day of the test?

Please bring a copy of all your medications that you routinely take, to your test appointment. This list should include all the over the counter medications and vitamin or herbal supplements you take.

Please follow all the guidelines for taking your medications on the day of your test.

Medications with caffeine

DO NOT take any over-the-counter medications that contain caffeine (these included Excedrin, Anacin, diet pills or NoDoz) for 24 hours before the test.

Please ask your Pharmacist or nurse if you have any 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 prior to the test.

Please remember to bring your asthma inhaler medication to your test.

If you have Diabetes

If you take **insulin to control your blood sugar**, ask your Physician how much insulin you need to take on the day of your test. Your Doctor may tell you to take only half of your usual morning dose and to eat a light meal four hours prior to the test.

If you **take pills to control your blood sugar**, **DO NOT** take your medication until after the test has been completed.

Bring your medication with you so that you can take it after the test is complete. **DO NOT skip a meal** when you take your diabetes medication as this can cause your sugar levels to drop too low.

If you have a glucose monitor, please bring this with you to check your blood sugar level before and after your test.

If you think your blood sugar is low, please tell the staff immediately. Plan to eat and take your blood sugar medication after your test.

If you take heart Medications

Do not take the following heart medications on the day of your test unless your Doctor tells you that it is OK or, if you have chest discomfort on the day of your test and you need to treat this.

- Isosorbide dinitrate (e.g. Dilatrate, Isordill)
- Isosorbide Mononitrate (e.g. Imdur, ISMO, Monoket)
- Nitroglycerine (e.g. Minitran, Nitropatches, Nitrostat)
- Dipyridamole (persantine) **stop taking 48 hours before your test**
- Beta Blockers (e.g. metoprolol, metoprolol XL, Atenolol)

Your Doctor may also ask you to stop taking other medications. Should you have any questions about your medications, please discuss with your Doctor.

DO NOT JUST STOP TAKING ANY MEDICATION.

What to expect during the test

Your test will take place in the MRI unit and the testing area will be supervised by a Physician.

An MRI radiographer will place two IV lines in your arm before starting with the MRI scan.

Electrodes (small sticky patches) will be placed on your chest so that your ECG can be monitored.

You will also have a blood pressure cuff on your arm to monitor your blood pressure.

Your heart rate, ECG and blood pressure will be monitored throughout the procedure.

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

You will need to lie very still inside the MRI scanner for about 1 hour and you will need to hold your breath for short periods of time while the MRI scanner takes images of your heart's anatomy and function and also the blood flow through your heart during rest and during cardiac stress.

From this the Radiologist will determine if you have any damage to your heart muscle.

As the MRI is very noisy you will be given earplugs to help minimise this noise.

If you notice any of the following after your procedure, please contact your Doctor immediately.

- [Chest pain](#)
- [Racing or fluttering heartbeat](#)
- [Trouble breathing](#)