



A guide to...

Cardiac Stress Magnetic Resonance Imaging (MRI)

Patient information

How to contact us

Cardiac Imaging Suite
Watford General Hospital
West Hertfordshire Teaching Hospitals NHS Trust
Vicarage Road, Watford, Hertfordshire, WD18 0HB
Tel: 01923 244 366 Ext: 8549

If you need this leaflet in another language, large print, Braille or audio version, please call **01923 217 187** or email westherts.pals@nhs.net



Author	Radiology Department
Ratified / Review Date	August 2021 / August 2024
ID Number	46/2072/V4



What is Cardiac Magnetic Resonance Imaging (MRI)?

Cardiac Magnetic Resonance Imaging (MRI) is an imaging test that uses a strong magnetic field and radio waves to create detailed images of your heart.

Why do I need a cardiac stress MRI scan?

Your cardiologist has recommended that you have a Cardiac Stress MRI. This is so that we can collect detailed information on the structure and function of your heart and blood vessels. The reason for this will depend upon your particular condition and will have hopefully been discussed with you in clinic.

What is a cardiac stress MRI?

A cardiac stress MRI scan is an MRI scan of your heart where a very short part of the scan will involve giving you a low dose of a drug called adenosine. This will mimic exercise and increase the workload on your heart slightly.

Before the test

For the 48 hours before your scan it is essential that you do not have any caffeinated or decaffeinated drinks or medication which contains caffeine. This includes tea/coffee (including decaffeinated), hot chocolate, soda and energy drinks or caffeine-containing painkillers. Many painkillers contain caffeine - please check the label. It is also essential that you do not have any chocolate or anything containing chocolate for the 48 hours before your scan.

You may eat an otherwise normal diet and you may drink fruit juice, squash, milk and water. In the four hours prior to your scan please do not have a heavy meal.

Can anyone have a cardiac MRI scan?

Patients with certain kinds of metallic implants, or any other metal in their body, may not be able to have the scan. This is because the scanner uses a very strong magnet, which attracts certain metals.

Please let us know before your appointment if you have:

- a pacemaker/ defibrillator or any other electronic heart implant
- a metallic clip on an artery in your brain
- implants or metal in your body
- previous history of small pieces of metal in your eye
- problems with your kidneys or are on kidney dialysis

Medications

It is important that we check your medical history and current medications before the stress test. **Please bring a list of all your current medications or a repeat prescription print-out with you. This is very important and we may not be able to do the scan without it.**

If any of the following apply to you, please call to let us know so that we can check you are suitable for the test –

- If you have asthma or require any type of inhaler.
- If you have heart-block or a pacemaker.
- If you take any of the following medications or similar type of drug –
 - Salbutamol (*Ventolin*)
 - Aminophylline (*Phyllocontin Continus*)
 - Theophylline (*Neulin, Neulin-SA, SLO-Phyllin, Uniphyllin and Continus*)
 - Dipyridamole (*Persantin, Persantin –Retard*)

Are you pregnant or breast feeding?

We try to avoid doing scans on pregnant women in the first three months of pregnancy (12 weeks). Please tell your doctor and the radiographer if you are or think you may be pregnant before the scan.

Please contact the department, before the scan, if you are breastfeeding.

Do you require an interpreter?

Please let us know, before your appointment date, if you require an interpreter for this procedure. Unfortunately, we cannot use family or friends to perform this role.

What happens on the day of your cardiac stress MRI appointment?

We will check that you are safe to proceed with the scan using an MRI safety checklist.

You will be shown to a cubicle where you will be asked to change into a hospital gown and remove jewellery, cash, keys, credit cards, watches etc. You should place your clothes and personal belongings in the secure locker provided.

We will ask you to remove all jewellery and body piercings before the scan as the scanner uses a very strong magnet. We suggest that you leave all jewellery at home.

Two intravenous (IV) lines will be placed into your arms by a radiographer or nurse prior to the examination.

It is a good idea to go to the toilet before we bring you in for your scan, so that you have an empty bladder during your procedure, which will be more comfortable for you.

During the test

You will be taken into the room and made comfortable lying on the couch (MRI bed). We will need to position ECG electrodes (small sticky patches) onto your chest so that we can ensure that we take the images at the right time during your heartbeat. A large foam pad will be placed over your chest to help acquire the images.

The couch will be moved slowly to position the heart within the middle of the tube. The staff will go to the control room but you will be able to talk to them via an intercom and they will be watching you all the time while the scan is being done.

You will be given a buzzer to alert the MRI staff if you become anxious. Although some patients are concerned about claustrophobia, this is much less of an issue with larger MRI scanners such as ours. During the scan you will find the machine very noisy however you will be given earplugs and headphones.

It is very important that you keep still during the scans otherwise the images we obtain will be blurred. We will try to make you as comfortable as possible. We will ask you to hold your breath for a few seconds each time we take a picture. This stops your chest from moving and ensures that the images we take are as clear as possible.

During the first 15 to 20 minutes, scans of your heart will be taken to see how well it is working. After this your heart will be 'stressed' with a drug called adenosine. This will increase the workload of your heart similar to exercising. You will only receive the drug for about five minutes. For the first 30 seconds to a minute you will not notice anything and then you may feel a little breathless and get a tight chest, you may get a hot flush. After three minutes you will be given an injection of a contrast agent called gadolinium and pictures will be taken showing the blood supply to the muscle of the heart. This will take about 1 minute. During this scan the adenosine is turned off and any symptoms you did get will disappear within seconds. While your heart is being stressed you will be fully monitored and in contact with the staff. After a short break, there is about a further 10 minutes of scanning

The contrast agent called gadolinium is a colourless fluid that lets us see your heart and blood vessels more clearly. Occasionally it can cause a metallic taste in the mouth. A small number of people can also experience nausea (feeling sick) and vomiting immediately after it enters the body though this is rare side effect of the contrast. More serious side effects are extremely rare. Please read the contrast documentation enclosed with this letter for more information.

How long will it take?

Please note that this scan usually takes about one hour to complete, but can take longer in some cases. You should plan to be in the imaging department for at least two hours.

What happens afterwards?

Once the cardiologist and/or radiographer is satisfied that the images show all the information required and that you have not suffered any reactions to the stress test or contrast agent, you will be able to get dressed and go home. You can eat and drink normally and should be able to get the results of your Cardiac MRI at your next clinic appointment.

What are the risks and benefits of having a MRI?

The test is fundamentally safe although in extreme and very rare cases a very small number of patients have been known to experience some reaction to the medication. You will be carefully screened for your suitability to undergo the test and closely monitored throughout.

The benefit of MRI is that it is a painless way of looking at your heart without the use of X-rays or surgical intervention. It is also a very safe procedure providing that you have answered the MRI safety checklist correctly and have been vetted for any MRI unsafe implants.

Are there any alternatives to having a cardiac stress MRI?

A cardiac stress MRI will only have been requested by your cardiologist if he/she feels that this is the best way to find out more information about your condition. Other tests such as ultrasound, CT scanning and nuclear medicine can also be useful and may have already been performed, but MRI often gives additional and better quality information than other methods. If you would like to discuss alternatives to a MRI scan, please talk to your consultant or your GP. Please be aware that this could delay your diagnosis and treatment.

What to do if you can't make your allocated appointment time?

Please contact us as soon as possible. We can then offer this date to another patient and agree a new appointment date and time with you. You will find the appropriate telephone number on your appointment letter.

What about my appointment time?

Please note that the time you are given is the time you should arrive and not the time of your scan. This is to give the staff time to go through your safety questionnaire and for you to change. This helps to minimise delays. If you arrive late we may not be able to perform your scan and another appointment will have to be arranged.

Further information

Please do not hesitate to contact us If you have a query or concern about your cardiac MRI scan, Tuesday to Thursday between 8.30am and 4.30pm on **01923 436549**.

For further information regarding your visit to Watford General Hospital or the West Hertfordshire Hospitals NHS Trust please visit www.westhertshospitals.nhs.uk

If you have further concerns about any aspect of the service you have received in the department and feel unable to talk to the staff responsible for your care please call PALS on: **01923 217198** or email: westherts.pals@nhs.net.