

Having an MRI cardiac stress perfusion scan to check blood flow to your heart

Department of Radiology

Information for Patients

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Introduction

If you are an outpatient please read your appointment letter carefully to check which hospital you must attend for your appointment. This leaflet tells you about your examination. Please read it carefully as it contains important information and instructions.

Your doctor has requested that you have a magnetic resonance imaging (MRI) cardiac stress perfusion scan.

What is an MRI cardiac stress perfusion scan?

An MRI cardiac stress perfusion scan is a specialised scan of your heart.

MRI is a scan which uses a powerful magnet and a computer to produce detailed images of any part of the body. The MRI scanner does not use X-rays.

The stress part of the test involves giving you a drug (called adenosine or dobutamine), which stimulates the heart and will make you feel like you are exercising. This allows us to measure the blood supply to your heart.

Why am I having this test?

Most peoples' heart symptoms happen when they are doing something physical such as walking, climbing stairs or exercise. The aim of this test is to see how well blood feeds your heart muscle during extra exercise or 'stress'.

**Health information and support is available at www.nhs.uk
or call 111 for non-emergency medical advice**

Visit www.leicestershospitals.nhs.uk for maps and information about visiting Leicester's Hospitals
To give feedback about this information sheet, contact InformationForPatients@uhl-tr.nhs.uk

Important safety information

You must tell us, by calling the telephone number on your appointment letter if you:

- have a pacemaker or internal defibrillator.
- have ever had any metal fragments in your eyes.
- have any implants or surgical clips in your body or head.
- have ever had an operation on your head, eyes, ears, heart or chest.
- think there is any chance that you might be pregnant.
- have had an operation in the last 6 weeks.
- have a cochlear implant for your hearing.
- have asthma - it is important for us to know if you:
 - take tablets for your asthma.
 - have had a hospital admission for your asthma.
 - were diagnosed with asthma before the age of 30.

If you have been sent a safety questionnaire with your appointment letter, please fill it in and return it according to the instructions.

If you have a drug patch on your skin:

If you have a stick-on drug patch this will need to be removed before having your MRI scan. This is because the patch may warm up or get hot during the scan. This can also change the amount of the drug being given to you.

Once a drug patch is removed it will not reattach to the skin. If you need your drug-patch all the time, please bring a new patch with you so you can put it on after the scan is completed.

If your drug patch is applied by a nurse at home, please tell the nurse that you will need a new drug patch after your MRI appointment. They can then arrange to visit you at home to apply a new one.

If you have a glucose monitor and/ or an insulin pump on your skin:

If you use a glucose sensor (flash monitor or continuous glucose monitor (CGM)), which attaches to the surface of your skin, this will need to be removed for your MRI scan. Please bring a replacement to your appointment so you can apply it after your scan. Alternatively, you can contact us to change your appointment so it ties in with when you are due to replace your sensor.

If you have an insulin pump with tubing, you will need to remove the pump before the scan can be performed. The pump can be reattached as soon as the procedure is over.

If you have a patch pump, such as an Omnipod, you will need to remove the Pod and keep your Personal Diabetes Manager (PDM) outside of the room with your belongings. Please bring a new Pod to apply after your scan.

How do I get ready for the scan?

If you take a medicine called dipyridamole or Persantin, stop taking it 48 hours before your MRI perfusion scan.

Eating and drinking instructions:

Do not eat or drink anything that contains caffeine for 12 hours before your scan. Caffeine is mostly found in tea, coffee, fizzy drinks and chocolate. There are also traces of caffeine in decaffeinated teas, green teas and coffees, so these must also be avoided. All chocolate products have caffeine, including ice cream and hot drinks. It is best to drink only water and fruit juice for these 12 hours. This is very important because caffeine will affect the results of the test.

To recap, please do not eat or drink the following for 12 hours before your scan:

- Tea (including decaffeinated)
- Any green tea (including herbal teas)
- Coffee (including decaffeinated)
- Hot chocolate (or any chocolate drink)
- **All** chocolate products, including ice-cream
- **All** fizzy and energy drinks

Drinks allowed: water, milk, fruit juice, squash and plain Horlicks.

Foods allowed: you can eat normally but do not eat the food listed above.

Some painkillers and over-the-counter cold remedies contain caffeine. Please read the ingredients before taking them.

If you are in any doubt as to whether something contains caffeine, please do not have it.

When you come for your scan:

Please bring any sprays or inhalers that you are taking with you to the appointment.

Please bring a list of your current medication with you. If you are on medication from your doctor please continue to take it as normal.

A member of staff will explain the procedure and ask you to complete a safety questionnaire before starting the scan, if you haven't already done so.

It is helpful to wear clothes which do not have metal zips or clips.

Before the scan you will need to remove all loose metal objects, including:

- watch, activity tracker, mobile phone, money, credit cards, keys, glasses.
- all jewellery (including piercings) - metal piercings can be replaced with plastic piercings before coming for your scan.
- hair clips and grips, wigs, hair pieces, weaves or extensions.

- eye make-up, fake eyelashes.
- sports clothing that contains silver fibres.
- stick-on drug patches - see instructions on previous page.
- diabetic monitoring device - see instructions on previous page.

If you have a fear of confined spaces (claustrophobia) please tell us when you arrive. Most people who are anxious about the scan are able to manage it with support from our staff.

Sedation

If you think you might need some sedation for the scan please contact the Radiology Department on the phone number at the end of this leaflet. We can then book your appointment on a day when we have the sedation and support available.

If you have sedation, you will need an adult to drive you home and stay with you for 12 hours afterwards. You must not drive for 24 hours after having sedation.

What happens during the scan?

- On arrival at the Radiology Department you will be directed to the relevant waiting area. You will be asked to change into a hospital gown.
- You will be asked to complete a safety questionnaire and the procedure will be explained to you. You can ask any questions that you may have.
- Before your scan you will have a simple test done that checks your heart's rhythm and electrical activity (electrocardiogram (ECG)).
- After that the radiographer or doctor will put 2 small plastic needles (cannulae) into veins in your arm, normally 1 in each arm. One cannula will be used to give you the heart exercising drug (adenosine or dobutamine), the other will be used to give you a colourless liquid that shows up on the MRI scan (contrast liquid). These show how well the blood goes to the muscle of your heart.
- You will then go into the scanner room and lie down on the MRI table. Your heart will be monitored by an ECG. Your blood pressure, heart rate and oxygen levels will also be measured throughout the scan.
- During the scan the scanner table will be moved into the magnet and you will hear a rhythmic tapping sound which may become quite loud. This is normal. You will be given headphones or earplugs to protect your ears from the noise.
- The radiographer operating the scanner can see you throughout the scan. You will be given a call button to alert the staff if you need to speak to them during the scan.
- You will need to hold your breath for a short time (up to about 20 seconds) several times during the scan. The radiographer will tell you when to do this.

Please remember not to eat or drink any products containing caffeine before your scan. This is because the drug (adenosine or dobutamine) that is being used to exercise the heart, will not work if you consume anything with caffeine in the 12 hours before your test.

Who will be doing the examination?

Radiographers who are trained in MRI scans will do your scan.

The 'stress' part of the examination is done by either a specially trained radiographer, or a doctor who specialises in MRI scans of the heart (cardiac radiologist).

As we are a teaching hospital a student may also be present. If you wish, you can ask that a student is not present during your scan.

How long will it take?

An MRI heart scan usually takes between 45 and 60 minutes. The time will vary for each patient. With the time it takes to get ready for the scan and getting changed again afterwards, you will be in the department for between 1 and a half to 2 hours.

What happens after the scan?

You should have no after effects from this scan.

You may eat and drink normally after the scan, and you can return to work and normal daily life.

Are there any risks?

- If you have metal fragments in your eyes or cerebral aneurysmal clips you cannot have an MRI scan.
- No short term harmful effects have been found from MRI scans. The use of magnetic fields is not thought to be harmful, however long term side effects are unknown.
- **Bruising** - there is a small risk of bruising around the injection site.
- **Side effects from the drug which stimulates the heart** - the drug used to make the heart exercise during the scan can occasionally cause problems with the rhythm of your heart beat, or a feeling of tightness or pain in the chest. You might also get redness in the face (feel flushed), get a headache, or become short of breath, as you would if you were exercising. These effects usually last only a short time and our staff are fully trained to look after you if you feel these effects.

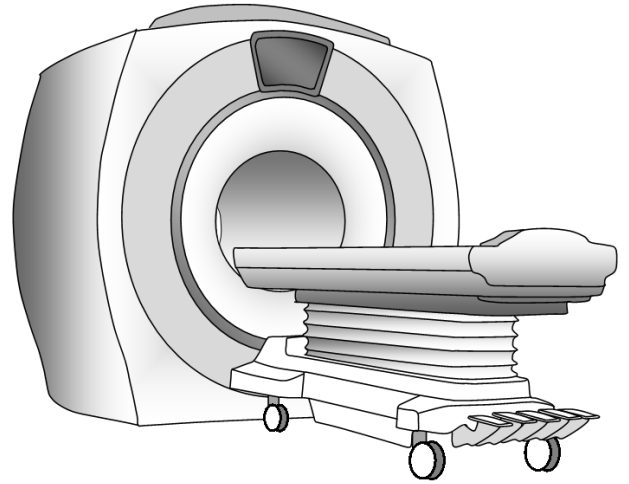
- **Side effects or a reaction to the contrast liquid** - there is small risk of side effects from the contrast liquid. Symptoms are usually mild and may include itchy skin, pain at the injection site, and occasionally feeling sick (nausea) or being sick (vomiting). Headache and chest pain are rare. If you get any of these symptoms at the hospital, tell the doctor, nurse or staff looking after you. If you develop symptoms at home you should contact your GP or call the NHS helpline on 111.

How do I get the results?

The images from your MRI scan will be looked at by a specialist and the results will be sent to the consultant who referred you for this procedure. If you are an inpatient when you come for the scan, the results will be given to the doctor looking after you on your ward.

What if I need to talk to someone?

If you have any questions or concerns, or cannot make your appointment, please call the Radiology Department on **0116 258 8765 (option 2)** - Monday to Friday, 9am to 5pm, excluding bank holidays.



اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔
على هذه المعلومات بلغة أخرى، الرجاء الاتصال على رقم الهاتف الذي يظهر في الأسفل
જો તમને અન્ય ભાષામાં આ માહિતી જોઈતી હોય, તો નીચે આપેલ નંબર પર કૃપા કરી ટેલિફોન કરો

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Aby uzyskać informacje w innym języku, proszę zadzwonić pod podany niżej numer telefonu

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