

Radiology

MRI - Cardiac

Introduction

Your doctor has advised that you have an MRI scan. MRI is a test which uses a powerful magnet and a computer to produce detailed images of any part of the body. It does not use X-rays. An MRI scan is performed by a radiographer.

This leaflet will explain what to expect in your MRI appointment and how you should prepare.

Please use the contact information on your appointment letter if you have any questions or concerns. If you feel unhappy with your care, please ask to speak to the superintendent radiographer.

Please read this leaflet carefully. It will help you prepare correctly for your MRI appointment

- Please contact the X-ray Department if your weight is 133 Kg (21 stone) or more. You may need a different type of procedure.
- If you bring young children to your appointment, please make sure they have someone to supervise them whilst you have your scan. Our team are unable to supervise children. If you bring children who require supervision, you may be asked to rebook your appointment for when you have childcare arranged.
- You will need to have had a blood test within 3 months before your appointment if you are having a contrast scan and are above the age of 65 years or have a history of kidney disease. This is important as we need to check your kidney function before you are given contrast agent (dye).



If you do not have a recent kidney function blood test:

- If you have been referred by your GP, please ask your GP for an e-GFR blood request form.
- If you have been referred by a hospital doctor, nurse or other healthcare professional, then please contact the department you were referred from and ask for an e-GFR blood request form.
- You need to bring your blood test result to your appointment if you had your test within the last 3 months at a GP practice outside of the Coventry area.

If your blood test results are not available when you arrive for your appointment, it is unlikely that you will have your MRI scan.

Your appointment will need to be rearranged for after you have your blood test results.

Having a Blood Test

There are more than 30 blood test clinic locations in and around Coventry. You can book in advance at most clinics.

Visit www.uhcw.nhs.uk/bloodtests to find the clinic most convenient for you and book an appointment.

Our main blood test clinics are based at:

- **City of Coventry Health Centre**, Stoney Stanton Road, Coventry CV1 4FS
- **University Hospitals Coventry and Warwickshire**, Clifford Bridge Road, Coventry CV2 2DX
- **Hospital of St Cross**, Barby, Rd Rugby, CV22 5PX
- **George Eliot Hospital**, College Street, Nuneaton, CV10 7DJ
- **Warwick Hospital**, Lakin Rd, CV34 5BW
- **Stratford Hospital**, Arden Street, Stratford Upon Avon, CV37 6NX

Points to remember

- Please bring any sprays or inhalers that you are taking with you.
- If you are on medication from your doctor, please continue to take them as normal.
- Please leave any valuable possessions at home.
- **Please arrive in the department at least 20 minutes before your appointment time.** This is important. We need this time to check your safety questionnaire and prepare you for your MRI scan.
- We may not be able to scan you if you arrive late. We will rearrange your appointment for another time if this happens.
- **You will need someone to drive you home after the examination.** (Hospital transport is not provided).
- If we are unable to find out the MRI compatibility of any device which is within or attached to your body we will not perform the scan. Your new appointment will be made once the correct information is made available to the department.

Preparation your MRI scan

- Attend your examination in clothing that does not contain metal fastenings, zips, or decorations. If this is not possible, our hospital team will provide a hospital gown, so we can attach ECG tabs to you.
- Complete the safety questionnaire that has been sent to you. Bring it with you to your appointment.
- **Stop taking any products which contain caffeine for 24 hours before the test (for example tea, coffee, chocolate or any fizzy drinks). This includes decaffeinated products as well.**
- If you have asthma or known allergies to medication, please let us know.
- Please bring a list of the medication that you are taking with you.

MRI risks

No short-term harmful effects from MRI scans are known. The use of magnetic fields is not thought to be harmful, although long term side effects are unknown.

What is gadolinium contrast (dye)?

Gadolinium contrast is sometimes called “MRI contrast media” or “dye.” When injected into the body, gadolinium contrast helps improve the quality of the MRI scan pictures. This helps a specialist doctor when they assess the pictures and provide a report to your doctor or specialist.

Gadolinium contrast is injected into a vein (intravenously) before your MRI scan and eliminated from the body through the kidneys.

Before the MRI scan, you will be asked about conditions that might mean a gadolinium injection would not be recommended (for example, pregnancy, previous allergic reaction, and severe kidney disease). If you have any of these conditions, then you will more than likely not be given gadolinium.

Why do I need to have gadolinium contrast?

Gadolinium contrast is used to improve the clarity of the pictures of your body’s internal structures. This improves the diagnostic accuracy of the MRI scan. For example, it improves the visibility of inflammation, tumours, blood vessels and, for some organs, blood supply.

Pregnancy, possible pregnancy and breastfeeding

Please inform your doctor or radiologist before having an MRI scan if you are pregnant or think you might be pregnant. This is so that your doctor can discuss with you the risks and benefits of having an MRI scan and a possible gadolinium injection, for you and your unborn baby.

Where relevant, you will be asked about the possibility of pregnancy as part of the safety checks before any MRI scan. If you are pregnant or possibly pregnant, it is unlikely that you will have a gadolinium injection unless it is essential. Your doctor will discuss this with you before the injection if gadolinium contrast is recommended.

If you are breast-feeding, it is safe to continue breast-feeding after the gadolinium contrast is given. It is not thought to represent any danger to your child as the amount received by your baby is small.

Side effects from the gadolinium contrast medium?

Gadolinium contrast is very safe. Side effects or reactions are uncommon but can happen. The most common side effects are headache, feeling sick (nausea) and dizziness. These occur in a small number of patients only, but if they do, they will be noticed within minutes of the injection.

An itchy skin rash might appear a few minutes after a gadolinium contrast injection in around 1 in 1000 patients. The rash will usually resolve by itself.

Severe allergic (anaphylactic) reactions to gadolinium contrast are extremely rare. These severe reactions can involve difficulty breathing and swelling of the lips and mouth. They occur in around 1 in every 10,000 people who have gadolinium contrast injection.

If you have had a history of a previous allergic reaction to a gadolinium contrast injection, or a severe allergic reaction to another material, please tell your doctor and the radiology team. This will affect whether a further gadolinium injection is recommended. If you experience any symptoms of allergic reaction during your appointment, you will be checked by a doctor before being sent home.

Nephrogenic systemic fibrosis (NSF) is a rare condition associated with gadolinium contrast when given to patients with severe kidney (renal) disease. Its onset can occur days, weeks, or months after receiving gadolinium contrast. Most cases occur within 6 months of the last dose. Since Radiology facilities began routinely screening patients for kidney disease, and withholding gadolinium from those with severe renal disease, NSF has become extremely uncommon.

If you do have a history of kidney disease, please be sure to tell the staff at the MRI practice, so that they can check whether the disease is severe enough to mean that you should not receive gadolinium. This might involve a simple blood test of kidney function (eGFR).

A very small amount of gadolinium contrast stays in your body. About 1% of the injected dose which stays in the tissues, mostly in the bones with very small amounts in the brain. This seems to be more likely with certain forms of gadolinium contrast that have a higher risk for NSF. There are no

Patient Information

known adverse effects from these very small amounts of retained gadolinium. This finding has made radiologists more careful and selective in recommending gadolinium contrast, only when it is likely to assist the diagnosis.

Safety

It may not be possible for some patients to have a scan due to the magnetic field produced by MRI. Patients who have a pacemaker, ear implants, surgical clips or any implants within their head or body should contact the MRI department using the phone number on your appointment letter.

If you have had an accident involving metal fragments and your eyes, you should contact the MRI department using the phone number on your appointment letter. You will need to have an X-ray to confirm there are no metal fragments remaining. This must be arranged before your MRI scan.

Patients aged 12-55 years: Although the risk to babies in pregnancy is very small, you will be asked to confirm that you are not pregnant before your MRI scan. If you are pregnant, there are circumstances where the benefits of a scan outweigh the risks. You will decide this with your referring doctor.

What will happen when you arrive?

- Please go to the reception desk in the Radiology (X-ray) department. We will then direct you to the MRI department.
- You will be asked to undress and put on a suitable gown if needed. You can bring your own dressing gown.
- Please try to leave all of your valuables at home. You cannot take valuables into the scan room with you. You will be asked to remove any credit cards, valuables and metal objects including mobile phones, which are in your possession. They will stay with the radiographers whilst you have your MRI scan.
- You will be asked to remove coloured contact lenses and hearing aids before your MRI scan.
- We will check your safety questionnaire with you.

During your MRI examination

- You will be asked about your medical history. An ECG tracing of your heart will be performed.
- The radiographer will help you onto the MRI scanner table. This table moves into the open-ended MRI scanner. The radiographer operating the scanner can see you during the scan. It is important that you remain very still to help us get good quality pictures.
- A tube (cannula) will be inserted into your arm.
- Before the scan is commenced, a blood pressure cuff will be applied to your arm for monitoring purposes.
- The entire scan will take around 1 hour. If a stress cardiac scan has been requested, this is where we 'exercise' the heart with a special drug to test the heart arteries and blood flow into the heart (plumbing of the heart). After the initial pictures are taken, the drug will be administered through the cannula in your arm to exercise the heart. The drugs that we use for this are either adenosine or regadenoson, or in very rare cases, dobutamine. These are all safe and well-established drugs that have been routinely used for this purpose across the world for many years.
- The medicine is given either as a short injection or as a drip (infusion) for up to 6 minutes, during which time you may experience facial flushing, shortness of breath, chest discomfort, light-headedness, headache or nausea (feeling sick). These are all normal to experience and are very short-lived and resolve very shortly after stopping the drug.
- During the scan, you will hear tapping sounds which may become loud. This is normal. We will give you headphones or earplugs to protect your ears from the noise.

After your examination

You can get dressed and go home when MRI scan is finished. Please contact your GP if you have any problems after the MRI scan.

Your results

The results will not be given to you immediately. They will be sent to the doctor who referred you to us for this examination once a formal report has been generated.

More information

If you have any questions or require more information, please contact the MRI department using the contact details on your appointment letter.

The Trust has access to interpreting and translation services. If you need this information in another language or format, please contact the telephone number on your appointment letter and we will do our best to meet your needs.

The Trust operates a smoke free policy.

Did we get it right?

We would like you to tell us what you think about our services. This helps us to make further improvements and to recognise members of staff who provide a good service.

Have your say. Scan the QR code or visit:

www.uhcw.nhs.uk/feedback



Document History

Department:	Radiology
Contact:	27122
Updated:	May 2024
Review:	May 2026
Version:	6
Reference:	HIC/LFT/1928/15