

Radiology Department

MRI Information leaflet: Body

Introduction

You have been advised by your doctor to have a MRI scan. This leaflet will explain what the examination involves. It may not answer all your questions, so if you have any queries or concerns, please call the telephone number on your appointment letter. If you feel unhappy with any part of your care please ask to speak to the Superintendent Radiographer.

Please read this leaflet carefully to ensure you successfully prepare for the examination

- Please contact the X-ray Department if your weight is equal to or more than 133 Kg (21 stone) – You may require an alternative examination.
- Every patient above the age of 64 years needs to have had a blood test within three months of their MRI examination so that their e-GFR can be checked before the administration of any contrast media. If you have had your blood test performed at a GP practice outside of the Coventry area then **you** need to bring the e-GFR result to your appointment.

We request that you ask your referring clinician (Consultant/GP) for a blood test form.

This Blood test should be performed at least **24 hours** prior to your appointment.

Please note: If the blood test results are not available when you arrive for your scan it is unlikely that your scan will be performed. The appointment will therefore need to be rescheduled once you have had the blood test.

- If you have to bring children requiring supervision with you for your MRI scan appointment please ensure that they have someone to supervise them whilst you are having your scan. Staff within the department are unable to assist with the supervision of young children. In these instances you may be asked to rebook your appointment to a time more suitable for you to have childcare arrangements in place.

Points to remember

- Please bring any sprays or inhalers that you are taking with you to your appointment.
- If you are on medication from your doctor please continue to take it as normal.
- We also ask you to leave any valuable possessions at home.
- Please arrive in the department at least **20 minutes before your** appointment time so that we have time to go through your safety questionnaire and get you appropriately changed for your examination.
- If you are late for your appointment there is a possibility that we may not be able to scan you, in these instances you will be sent an appointment for another time.
- If we are unable to ascertain 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.



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What is a MRI?

MRI is a test 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. This part of the examination will be performed by a radiographer

Preparation

- Please do not eat or drink anything for at least four hours before your appointment.
- It is recommended that you attend for your examination in clothing that contains no metal fastenings, zips or decoration. If this is not possible, a hospital gown will be provided.
- Please complete the enclosed safety questionnaire and bring it with you to your appointment.
- You may ask for or bring a drink with you to have after the scan.

Risks of MRI

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

During the examination we may administer a small dose of Buscopan to ensure the cessation of peristalsis (muscle movement within the digestive system) whilst the scan is being performed.

Risks of Contrast

What is gadolinium contrast medium?

- Gadolinium contrast media (sometimes called MRI contrast Media or 'dye') are chemical substances used in magnetic resonance imaging (MRI) scans. When injected into the body, gadolinium contrast medium enhances and improves the quality of the MRI images (or pictures). This allows a specialist doctor to examine the images and provide a written report to your doctor or specialist, to more accurately report on how your body is working and whether there is any disease or abnormality present.
- The contrast medium is injected intravenously (into a vein) as part of an MRI scan, and eliminated from the body through the kidneys.

Why do I need to have gadolinium contrast medium?

- Gadolinium contrast medium is used to improve the clarity of the images or 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.
- Before the MRI scan, you will be asked about conditions that might mean a gadolinium injection would not be recommended (e.g. 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.
- Usually, you will be advised by the radiographer before you have the MRI scan that it is recommended that gadolinium contrast medium be injected during the examination. As with any medical procedure, you have the right to seek further advice and/or to decline a gadolinium injection. The Radiographer who carries out the MRI scan will give you the injection or occasionally a mechanical injector connected to the syringe is used (this allows more precise timing and a more controlled rate of injection).
- Sometimes, even though gadolinium initially would not have been required based on the referral notes provided by your doctor, the radiographer might decide during your

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scan that gadolinium would help make the images clearer. If you are told part of the way through your scan that gadolinium will be needed, you should not be concerned that this indicates something serious is wrong. Most often, this is being done to make the images clearer and of a higher quality, so the radiologist can provide your doctor with a more accurate diagnosis of your symptom or condition. If the gadolinium is not given after such a recommendation, another scan may be required later.

Will I feel anything when I have a gadolinium contrast medium injection?

- Most patients do not notice any sensations, although a few patients will report a cold feeling in the arm during the injection, which is of no significance. An even smaller number (between about 1 and 4 in 100) will notice mild nausea or headache. Vomiting can occur, but this is rare (less than 1 in 100 injections). Gadolinium contrast medium is generally very safe. Side effects or reactions are uncommon, but can occur. In patients with normal kidney function, most of the gadolinium contrast medium injected (over 90%) is passed out in the urine within 24 hours.

Pregnancy, possible pregnancy and lactation

- If you are pregnant, or think you might be pregnant, please inform your doctor or radiologist before having the procedure, so that your doctor can consider and talk to you about any 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 screening before any MRI scan. If you are pregnant or possibly pregnant, it is unlikely that you will have a gadolinium injection unless it is absolutely essential. If an injection is recommended, this would be discussed with you and your doctor before giving you the injection.
- If you are breast-feeding, it is safe to continue normal breast-feeding after the gadolinium contrast medium has been given. There is no requirement to express and dispose of breast milk or to withhold breast-feeding. Although the gadolinium is eliminated from the body through the kidneys, if you are breast-feeding, it has been shown that a tiny part (less than 1 part in 1000) of the injected gadolinium can enter the breast milk. An even smaller amount of gadolinium from the breast milk might be swallowed by the baby and taken into the baby's bloodstream. The amount received by your baby is so small it is not thought to represent any danger to your child.

If I have side effects from the gadolinium contrast medium injection, when will they occur? What can be done to treat or prevent these side effects?

- Gadolinium contrast medium is generally very safe. Side effects or reactions are uncommon, but can occur. The most common side effects of headache, nausea and dizziness occur in a small minority of patients only, but if they do occur they will be noticed within minutes of the injection.
- Less often, in approximately 1 in 1000 patients, an itchy skin rash might appear a few minutes after the injection. This appears to be due to a mild allergy. It usually settles down by itself within an hour or so, but rarely it might be a warning sign of a more serious allergic reaction developing.
- Severe allergic (anaphylactic) reactions to gadolinium contrast medium have occurred, but are extremely rare. These severe reactions, which might involve difficulty breathing and swelling of the lips and mouth, occur in approximately 1 in every 10,000 people who have gadolinium.
- Allergic reactions usually begin within several minutes of the injection, when a patient is most likely still in the scanner, or still in the radiology practice or hospital. If you have had a history of a previous allergic reaction to a gadolinium contrast injection, or a severe allergic reaction to some other material, please tell your referring doctor

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and/or the radiology facility where you are having the MRI, as this will affect whether a further gadolinium injection is recommended.

- Nephrogenic systemic fibrosis (NSF) is a rare condition associated with gadolinium contrast medium given to patients with severe renal (kidney) disease. Its onset occurs days, weeks or months after receiving gadolinium, with almost all cases occurring 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.
- Recently, it has been recognised that very small amounts of at least some forms of gadolinium contrast (about 1% of the injected dose) are retained in the tissues, mostly in the bones, with tiny amounts in the brain. This seems to be more likely with the same forms of gadolinium contrast that have a higher risk for NSF. At this stage, there are no known adverse effects from these very small amounts of retained gadolinium. This finding has made radiologists more careful to recommend gadolinium contrast only where it is likely to assist the diagnosis.

Safety

Female patients aged 12-55 years: Although the risk for the unborn child is minimal, you will be asked to confirm that you are not pregnant before the examination can proceed. If you are pregnant there are some circumstances where the clinical value of a scan outweighs any risk connected to the scan. This will be decided in conjunction with the referring clinicians and yourself.

It may not be possible for certain patients to have this examination due to the strong magnetic field produced by the MRI scanner.

- Patients who have a pacemaker, ear implants, surgical clips or any implants within their head or body should contact the MRI department using the telephone number on your appointment letter to check whether or not their scan can be performed.
- Patients who have had an accident involving metal fragments penetrating your eyes should contact the MRI department using the telephone number on your appointment letter. You will need to have a plain X-ray of your head to confirm there are no metal fragments remaining in your eyes. This must be arranged before your MRI scan can be safely performed.

What will happen when I arrive?

- On arrival at the Radiology/ X-Ray Department, please report to the reception desk where you will be directed to the MRI department.
- If necessary you will be asked to undress and put on a suitable gown. Please feel free to bring your own dressing gown.
- Please try to leave all of your valuables at home as you will not be permitted to take them into the scan room with you. You will be asked to remove any credit cards, valuables and metal objects that are in your possession and they will remain with the radiographers whilst they perform the examination
- You will also be asked to remove coloured contact lenses and hearing aids prior to the examination.
- A Radiographer or Radiology Department Assistant will go through the safety checklists with you.

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During your MRI examination

- The radiographer will assist you onto the MRI scanner table which will move into the open ended MRI scanner. The radiographer operating the scanner can see you throughout the scan. It is important that you remain very still to ensure good quality images. The scan may take 20 minutes to one hour depending on the part of the body being examined.
- The radiographer may insert a venflon (a small plastic tube) into one of your veins which will enable the administration of contrast media and /or muscle relaxant during the examination.
- During the scanning you will hear rhythmic tapping sounds which may become quite loud; this is normal. You will be given headphones or earplugs to protect your ears from the noise.

After your examination

- Once the examination is complete you can get dressed and go home;
- If you have any problems after the examination please see your GP.

How do I get the 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.

Further Information

If you have any questions or require further 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.

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