

Information for Patients and Carers

Magnetic Resonance Imaging (MRI) Scan under Anaesthetic or Sedation-Adults



What is an MRI scan?

Magnetic Resonance Imaging (MRI) is the name given to a technique which takes very detailed pictures of the inside of your body. It uses a powerful magnetic field and radio waves, together with an advanced computer system to build up a series of images.

The scanner is an open-ended tube, surrounded by a large circular magnet.

Important information

It is very important to contact us before coming for your appointment if you have or have had any of the following:

- A pacemaker or implanted defibrillator
- A neuro-stimulator
- A cochlear implant
- An aneurysm clip
- A shunt in your head
- A penetrating eye injury with metal fragments
- A shrapnel injury
- Any surgery which involved placing metal implants or clips
- A recent endoscopy procedure involving clips or swallowing a capsule

We also need to know if any of the following apply:

- You need an interpreter. Please tell us this when you receive your appointment so that we can arrange an official interpreter for you



- You've had a previous allergic reaction to MRI contrast agent Gadolinium (dye)
- You've had a previous allergic reaction to anaesthetic drugs

If you fail to inform us of any of the information above, we may not be able to perform the scan on the day of your appointment.

Information regarding the anaesthetic/sedation

When is an anaesthetic or sedation required for MRI?

Anaesthetic or sedation may be needed if you have severe claustrophobia or any additional needs which may prevent you from tolerating the scan without being asleep or sedated.

You may have a movement disorder. During the MRI scan we need you to remain completely still as any movement can reduce the quality of the images. An anaesthetic enables the scans to be completed while you are asleep or sedated allowing clear, still pictures to be taken.

What is an anaesthetic/sedation?

- The anaesthetic/sedation will be given by an anaesthetist (a doctor) who is medically trained for this role
- The anaesthetist will decide if you are suitable for a scan under general anaesthetic or sedation
- A general anaesthetic consists of a combination of medications given either as a gas to breathe or as an injection or both together. These drugs will send you to sleep (temporary state of unconsciousness) for the duration of the scan, so you are unaware of the scan and able to remain still
- During a general anaesthetic you are fully unconscious and should not remember the scan itself. In adults we generally start the anaesthetic using a medicine injected into a cannula (small tube placed in a vein)
- Sedation involves giving a medication that makes it easier for a patient to tolerate a scan that they would otherwise find difficult or impossible. Sedation ranges from taking a tablet that causes

relaxation or drowsiness through to giving an injection of anaesthetic medication through a cannula for the whole duration of the scan

- It is common for patients to have no recollection of the scan after having sedation

Are there any special preparations required?

You will have to follow some restrictions to eating and drinking prior to the anaesthetic/sedation being administered. It is important you follow the starving instructions shown below:

- You can have solid food up to six hours prior to the scan appointment time. Your stomach must be as empty as possible of food as this reduces the risk of vomiting during and after the scan
- You may continue to have clear fluids up to 2 hours before your appointment time. Clear fluids are water, dilute squash or tea or coffee **without any milk**. In the 2 hours before your appointment time, you may continue to take sips of water. The maximum amount of water should be less than a standard size drink can (330ml) over 2 hours

Please continue with your prescribed medication as normal.

Please follow the above instructions completely as failure to do so may mean we cannot proceed with the scan on the day of your appointment.

What happens when I arrive at the department?

When you arrive at the MRI department you should go to the reception desk where you will be booked in and asked to have a seat in the waiting area. You will then be taken to an interview room where a radiographer will check some details with you.

A radiographer will also complete a safety questionnaire with you to make sure you are safe to enter the MRI area. This is because the scanner has a strong magnetic field.

The anaesthetist and an anaesthetic assistant will explain the anaesthetic/sedation procedure to you and answer any questions you may have. You will then be asked to sign a consent form for the anaesthetic/sedation.

Upon leaving the waiting room and entering the MRI area, you will be asked to remove anything that may contain metal, such as jewellery, hair grips and body piercings. You may be asked to get changed into a hospital gown.

You will be provided with a locker for your belongings whilst you have your scan.

Going into the MRI room

In most cases a cannula (small tube into a vein) will be inserted. Monitoring equipment will be placed on your finger and for some examinations, your chest. The anaesthetist will induce general anaesthesia or start your sedation.

If gas is used as part of the anaesthetic process, you will breathe this in through a mask over your face and nose. This will make you fall asleep. Once you are asleep, a cannula will be placed into a vein, usually in your hand. The radiographer will then perform the MRI scan.

What will happen during the MRI scan?

During the scan, equipment known as coils will be placed over or on the area being scanned. The purpose of the coil is to improve the quality of the MRI images.

The radiographer will ensure you are comfortable with the use of pads and pillows. The scanner is noisy whilst it acquires the images so you will be provided with ear protection, ear phones and/or headphones.

Your breathing and heart will be closely monitored by the anaesthetist throughout the whole procedure, which will take approximately 30-60 minutes, or longer depending on the area(s) of the body being scanned.

During the scan you may require an injection of a contrast agent (dye) called Gadolinium. This can give the radiologist more information about the body area being scanned. We will use the cannula already placed by the Anaesthetist to inject the dye.

What happens after the MRI scan?

The images will be checked by a radiologist to ensure they provide all the information required. The anaesthetist will then wake you up and you will be able to recover in our recovery bay.

When our anaesthetic team are satisfied that you have recovered sufficiently you will either be taken to the Day Case Unit for a further recovery period or discharged from the MRI department after a full recovery.

Please be prepared to be on the Day Case Unit or in the MRI department for up to 4-5 hours.

The anaesthetist will decide where you recover depending on the type of anaesthetic administered and the length of time the scan has taken.

Some patients do feel nauseous or are sick after an anaesthetic. Anti-sickness medicine may be given. The anaesthetic staff or the nursing staff on the Day Case Unit will let you know when you are ready to go home. It is rare that you will need to stay overnight. If you have a cannula in your vein, this will be removed before you go home.

When will I get the scan results?

The radiographer will not be able to give you your results on the day of your scan as the MRI images will need to be interpreted carefully by a radiologist. The results will be sent back to the person who referred you for the scan.

Are there any risks to having the MRI scan?

The MRI scan poses no risk when appropriate safety guidelines are followed. All members of staff follow appropriate safety measures before, during and after the scan.

There is a very rare risk of an allergic reaction if the contrast agent Gadolinium is injected. Such reactions are usually mild and easily controlled. These will be discussed with you prior to your scan.

If you experience symptoms of an allergic reaction, the anaesthetic team and radiographers will be available for immediate assistance.

It is known that small amounts of Gadolinium may remain in the brain or other tissues after an injection of it, although there is currently no evidence that these small amounts cause any harm.

If you require an injection of Gadolinium, a radiographer will go through a checklist with you to make sure this is suitable for you.

How safe is anaesthesia?

Modern anaesthetic and sedation drugs are generally safe, and serious problems are rare.

Most adults recover quickly after a general anaesthetic.

Some pre-existing medical conditions can increase the risks associated with anaesthesia or sedation.

The anaesthetist will discuss the side effects and risks with you prior to your scan.

Further information on anaesthetic risks is available at:

<https://www.rcoa.ac.uk/patients/patient-information-resources/anaesthesia-risk>

Your care at home following your scan

You will need a responsible adult to accompany you home and remain with you for 24 hours following your scan.

For 24 hours following your scan please DO NOT -

- Drive. Your co-ordination and judgement may be affected, so it is important that you arrange to have a capable adult to drive/escort you home. Please note: You must not drive until you are sure you are no longer feeling any effects from the medication – this could be longer than 24 hours

- Use machinery or electrical equipment, including household appliances, for example, a kettle
- Drink alcohol or take any recreational drugs. This will increase the drowsy effects of the anaesthetic/sedation and may make you go into a very deep sleep
- Smoke. There is an increased possibility of headaches, nausea, and faintness
- Make any important decisions, such as signing contracts, commitments or major purchases
- Be the sole carer for young children or other dependants

For 24 hours following your scan please DO -

- Rest
- Continue diet and fluids as normal
- Take your regular evening medication (please seek advice from the MR department if you are taking sleeping tablets)

Contact details

If you have any worries or questions relating to your recovery, please phone the MRI department (7.30am-8pm), who will contact the relevant anaesthetist with your concerns so we can provide you with advice.

MRI department: **01772 528124/01772 522167.**

Sources of further information

www.lancsteachinghospitals.nhs.uk

www.nhs.uk

www.accessable.co.uk

www.patient.co.uk

www.lancsteachinghospitals.nhs.uk/veteran-aware

<https://bepartofresearch.nihr.ac.uk/>

www.lancsteachinghospitals.nhs.uk/veteran-aware

<https://www.rcoa.ac.uk/patients/patient-information-resources/anaesthesia-risk>

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All our patient information leaflets are available on our website for patients to access and download:

www.lancsteachinghospitals.nhs.uk/patient-information-leaflets

Lancashire Teaching Hospitals is a smoke-free site. Smoking is not permitted anywhere on any of our premises, either inside or outside the buildings. Our staff will ask you about your smoking status when you come to hospital and will offer you support and advice about stopping smoking this will include Nicotine Replacement Therapy to help manage your symptoms of withdrawal and the opportunity to speak to a nurse or advisor from the specialist Tobacco and Alcohol Care Team.

If you want to stop smoking, you can also contact Smokefree Lancashire on Freephone 08081962638

Please ask a member of staff if you would like help in understanding this information.

This information can be made available in large print, audio, Braille and in other languages.

Our patient information group review our leaflets regularly, if you feel you would like to feedback on this information or join our reading group please contact on email address:

patientexperienceandinvolve@LTHTR.nhs.uk

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