



Information for  
patients and  
carers

**Magnetic Resonance Imaging (MRI)  
Scan under Anaesthetic for Children**

## 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 your child has or has had any of the following:

- A pacemaker
- A neuro-stimulator
- Cochlear implants
- Aneurysm clips
- A shunt in their head
- A penetrating eye injury with metal fragments
- An artificial heart valve
- Any surgery which involved placing metal implants or clips



Or if any of the following apply:

- You need an interpreter. Please tell us this when you receive your child's appointment so that we can arrange an official interpreter for you
- Your child has had a previous allergic reaction to MRI contrast agent Gadolinium (dye)

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 the appointment.

## Information regarding the anaesthetic

### Why does your child require an anaesthetic?

During the MRI scan we need your child to remain completely still as any movement can reduce the quality of the images. An anaesthetic enables the scans to be completed while your child is asleep allowing clear, still pictures to be taken.

### What is an anaesthetic?

- An 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 your child to sleep for the duration of the scan so your child is unaware of the scan, not frightened and is able to remain still
- The anaesthetic will be given by an anaesthetist (a doctor) who is medically trained for this role

## Are there any special preparations required?

Your child will have to follow some restrictions to eating and drinking prior to the anaesthetic being administered. It is important your child follows the starving instructions shown below:

- Your child can have their last solid food, milk or formula milk, six hours prior to the scan appointment time. Your child's stomach must be as empty as possible of food and milk as this reduces the risk of vomiting during and after the scan
- Your child can have their last breast milk feed four hours prior to the scan appointment time (this does not include milk or formula milk)
- Your child may continue to have clear fluids only for up to 2 hours prior to the scan appointment time. Clear fluids include water, diluted squash or cordial or clear fruit juices (without pulp or particles). If necessary wake your child to give them a drink of clear fluid. This reduces the chances of them being sick after the scan and helps them to recover

Please continue with your child's medication as normal. Please follow the above instructions completely as failure to do so may mean we cannot proceed with the scan.

## 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 and your child will be taken to an interview room where a Radiographer will check some details with you.

The Radiographer will also complete a safety questionnaire for you and your child to make sure you are both safe to enter the MR environment. This is because the scanner has a strong magnetic field.

You will also be asked to remove anything that may contain metal, such as jewellery, hair grips and body piercings before entering the scan room.

You will be provided with a locker to put your belongings into whilst you accompany your child.

The anaesthetist and an anaesthetic nurse will explain the anaesthetic procedure to you and answer any questions you may have.

You will then be asked to sign a consent form for the anaesthetic.

Sometimes, a local anaesthetic cream may be applied to the back of your child's hand. This cream numbs the area and so it helps to reduce the cannula hurting when it is put in. A cannula is a thin plastic tube that is placed under the skin into a vein. A needle is used to put the cannula in but is removed immediately and the plastic tube secured in place. Your child may be able to go to sleep using a mask and gas or with an injection through a cannula.

Please feel free to discuss this with your anaesthetist. If your child is very anxious a pre-medication may be given. This is a small drink of medicine that calms and relaxes your child. This takes roughly 30 minutes to work after being drunk.

## Going into the MRI room

If gas is used, the anaesthetist will either cup a hand or hold a mask over your child's nose and mouth. Your child may become restless as they go to sleep.

If an injection is used, the anaesthetic medication is injected into the cannula, and your child will go to sleep quickly.

Some parents may find this part of the procedure unsettling. Please be assured that our staff will be there to support you.

You will then be asked to leave your child in the care of the anaesthetic and MRI team. The Radiographer will then perform the MRI scan on your child.

## What will happen during the MRI scan?

During the scan your child will be asleep and lying on the scanning table. Equipment known as coils will be placed over the area being scanned. The purpose of the coil is to improve the quality of the MRI images. The Radiographer will ensure your child is comfortable with the use of pads and pillows. The scanner is very noisy whilst it acquires the images and ear protection is always provided.

Your child's breathing and heart will be closely monitored by the anaesthetist throughout the whole procedure, which will take approximately 60 minutes.

During the scan your child 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 to ensure they provide all the information required. The anaesthetist will then wake your child up and they will be allowed to recover in our recovery bay.

At this stage you will be invited back to be with your child as they recover. When our anaesthetic team are satisfied that your child has recovered sufficiently you will either be taken to the children's ward for a further recovery period or discharged from the MRI department after a full recovery.

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

The anaesthetist will decide where your child recovers depending on the type of anaesthetic administered and the length of time the examination has taken.

Some children do feel nauseous or are sick after an anaesthetic. Anti-sickness medicine can be given. The anaesthetist or the nursing staff on the ward will let you know when your child is ready to go home.

Most children only stay for a few hours after the scan. Some may need to stay overnight.

## **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.

If your child experiences 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 your child requires an injection of Gadolinium, we will check their kidney function and administer the lowest possible dose.

## How safe is anaesthesia?

Modern anaesthesia is very safe and complications are rare. For a child in good health having an anaesthetic:

- 1 in 10 might experience a headache, sore throat, sickness or dizziness
- 1 in 100 may have a mild reaction to one of the drugs that has been given e.g. local redness or hives
- 1 in 20,000 might develop a serious reaction to the anaesthetic. This is readily treated by the anaesthetist

Throughout the whole of life, an individual is at least 100 times more likely to suffer serious injury or death in a road traffic accident than as a result of anaesthesia.

## Caring for your child at home

After the anaesthetic, some children may be clingy, difficult and not sleep well. This is a normal reaction and they usually return to normal within 3-4 hours.

## Contact details

If you have any worries or questions about your child relating to their recovery, please phone ward 8 if your child recovered there, or the MRI department, who will contact the relevant anaesthetist with your concerns so we can provide you with advice.

- Ward 8: 01772 522398
- MRI department: 01772 523999/01772 522014



## Sources of further information

[www.lancsteachinghospitals.nhs.uk](http://www.lancsteachinghospitals.nhs.uk)

[www.nhs.uk](http://www.nhs.uk)

[www.patient.co.uk](http://www.patient.co.uk)

[www.accessable.co.uk](http://www.accessable.co.uk)

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Please ask if you would like help in understanding this information. This information can be made available in large print and in other languages.

**Gujarati:**

આ માહિતીને સમજવામાં સહાયતા જોઈતી હોય તો કૃપા કરીને પૂછો. આ માહિતી મોટા છપાણ માં અને અન્ય ભાષામાં ઉપલબ્ધ કરી શકાય છે.

**Romanian:**

Vă rugăm să întrebați dacă aveți nevoie de ajutor pentru înțelegerea acestor informații. Aceste informații pot fi puse la dispoziție în format mare și în alte limbi.”

**Polish:**

Poinformuj nas, jeśli potrzebna jest ci pomoc w zrozumieniu tych informacji. Informacje te można również udostępnić dużym drukiem oraz w innych językach

**Punjabi:**

ਜੇ ਤੁਸੀਂ ਇਹ ਜਾਣਕਾਰੀ ਸਮਝਣ ਵੱਲੋਂ ਮਦਦ ਲੈਣੀ ਚਾਹੋਗੇ ਤਾਂ ਕਰਿਪਾ ਕਰਕੇ ਇਸ ਬਾਰੇ ਪੁੱਛੋ। ਇਹ ਜਾਣਕਾਰੀ ਵੱਡੇ ਪ੍ਰਿੰਟ ਅਤੇ ਹੋਰਨਾਂ ਭਾਸ਼ਾਵਾਂ ਵੱਲੋਂ ਮੁਹੱਈਆ ਕੀਤੀ ਜਾ ਸਕਦੀ ਹੈ।

**Urdu:**

دو سر ی زبانوں او ر بڑی اگر آپ کو ہی معلومات سمجھنے کے لئے مدد کی ضرورت ہے تو یی چھپا یں یی ابی دست بو یسکت ہے برا ئ مہر یان پو یی چھہی۔ معلومات

**Arabic:**

مطبوعه بأ حرف كبير ة و بلغات إذا كنت تر يد مساعده في فهم هذه لمعلومات ير جي أن تطلب أخرى يمكن تو فسير هذه المعلومات

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