

Your child is having an MRI scan under general anaesthetic

A photograph of a female nurse in a light blue striped uniform, smiling and adjusting a white MRI patient cradle. The cradle is positioned inside the gantry of an MRI scanner. The nurse's uniform has a name tag that reads 'NHS Great Ormond Street Hospital for Children'. The background shows the white and grey structure of the MRI machine.

Information for families

Great Ormond Street Hospital for Children
NHS Foundation Trust

This information sheet from Great Ormond Street Hospital (GOSH) explains about having a magnetic resonance imaging (MRI) scan under general anaesthetic, how to prepare for it and what care your child will need afterwards.

What is an MRI scan?

An MRI (magnetic resonance imaging) scan uses a magnetic field rather than x-rays to take pictures of your child's body. The MRI scanner is a hollow machine with a tube running horizontally through its middle. Your child will lie on a bed that slides into the tube. An MRI scan usually lasts between 20 minutes and an hour.

Please watch our podcast (short video film) about having an MRI, available at www.gosh.nhs.uk/medical-conditions/procedures-and-treatments/your-child-is-having-an-mri-scan/video-your-child-is-having-an-mri-scan/ or on the GOSH channel on YouTube.

If you would like further advice about preparing your child for the scan, please ring the department's play specialist on the number on the back of the leaflet.



Why does my child need a general anaesthetic for the MRI scan?

Some children find it difficult to lie still for the scan – either because of their age or their medical condition – so we might suggest they have the MRI scan under general anaesthetic. We assess all children to see if they might benefit from having the scan under anaesthetic. Your appointment letter will state whether your child is having an anaesthetic so you can follow the instructions below to prepare them.

Are there any alternatives?

Your child may need this scan so that their doctors can get detailed pictures of the size and shape of part of your child's body. Various types of scan such as CT, ultrasound and x-rays can show the size and shape of parts of your child's body but not in as much detail as an MRI scan. The information from the scan is then used to help with a diagnosis and plan their treatment.

When you receive your appointment letter

If you are unable to keep this appointment, please inform the department as soon as possible beforehand. Sometimes, we can offer the appointment to another child on the waiting list. As so many children and young people need to use our services, we have had to introduce a policy where if a child cancels or does not attend two appointments in a row, we will close their referral and inform their GOSH consultant.

Preparing for the general anaesthetic

We operate two 'lists' for MRI scans under general anaesthetic – one in the morning and one in the afternoon. Your child's admission letter will state whether your child is on the morning list or the afternoon list. Please be aware that although the admission letter will give a specific arrival time, your child will not necessarily have their scan at this time. We need to carry out some checks before the scan to make sure it is as safe as possible for your child.

It is important that your child does not eat or drink anything for a few hours before the anaesthetic. This is called 'fasting' or 'nil by mouth'.

Fasting reduces the risk of stomach contents entering the lungs during and after the procedure.

You will be informed the night before the procedure of the time that your child should be 'nil by mouth' – in other words, have nothing to eat or drink before the anaesthetic. Fasting times are provided in your admissions letter – in broad terms, this is six hours for food (including milk), four hours for breast feeding and two hours for clear fluids before the procedure.

On the day of the scan

You will need to be at the hospital at 7.30am for a morning list and 11.30am for an afternoon list.

Your child will be admitted to a ward where they will be seen by a doctor or nurse specialist and be assessed as fit for anaesthesia.

We will also ask you to give permission for the MRI scan under general anaesthetic by signing a consent form if this has not been done previously. The anaesthetist will decide the order of the list on the day itself. This will be based on the clinical diagnosis and condition of all the children placed on that list.





Each list lasts several hours – we will try to let you know where your child is on the list but this is not always possible. Your child should wear clothes without zips or metal poppers for the scan – otherwise they will need to change into a gown. Before the scan starts, the nurse or radiographer will check your child does not have a pacemaker, metal implants or clips, dental braces, a history of metal fragments in the eyes or any allergies. We will ask you to sign a form to confirm this. If, for any reason, we cannot confirm whether or not your child has any metal implants or equivalents, we will have to cancel the scan as it would be unsafe to continue.

If your daughter is 12 years old or older, we will ask her about her periods and any possibility she could be pregnant.

What does the scan involve?

Your child will either have an anaesthetic gas to breathe or an injection. The anaesthetist will closely monitor your child's blood pressure, pulse, temperature and breathing throughout the scan, ensuring that they are safe and fully asleep. Once your child is under anaesthetic, they will be transferred to the scanning room and we will ask you to wait on the ward until the scan is completed.

Your child will need to lie on the bed for the scan. Depending on the part of their body being scanned, they may need to have a coil over part of their body or wear a head coil (this will not touch their head).

When your child is in the correct position, the radiographer will move the bed inside the scanner and then go into the control room. The anaesthetist will monitor your child throughout the scan. When the scan has finished, the radiographer will move the bed out of the scanner.

They will then move your child into the recovery area to wake up from the anaesthetic. Some children are taken back to the ward to recover. We will call you back at this point so that you can be with them when they start to wake up. You should be prepared to stay in the hospital until your child is fully awake and has had something to eat and drink. Most families are able to go home a couple of hours or so after the scan.





Medicines given during an MRI scan

We may give your child some medicine during the MRI scan to make the image clearer. The radiographer will tell you which medicines your child has had in case of later side effects. The medicines we use most often at GOSH include:

Secretin – This is a naturally occurring hormone that increases the volume of juice within the duct of the pancreas. It is given as an injection. Possible side effects include: loose or runny poo, cramp-like stomach ache, headache, skin itching and a rash.

Hyoscine butylbromide (Buscopan®) – This medicine relaxes the smooth muscle of the intestine. Possible side effects immediately after

the injection include: dilated pupils, dry mouth, flushing of the skin, dislike of bright light and palpitations. In the hours following the injection, other side effects may occur: constipation, urinary retention and urinary urgency.

Furosemide – This medicine increases the production of urine immediately after injection. Possible side effects include: low blood pressure and dehydration. You can reduce these side effects by encouraging your child to drink plenty of fluids in the hours after the scan.

Mannitol – This medicine is only given for specific bowel examinations. It allows clear imaging of the wall of the bowel. A common side effect is

loose or runny poo, so in the first few hours after the scan, your child should have access to a toilet. Dehydration may also occur, so ensure plenty of fluids in the hours following the scan.

Gadoteric acid (Dotarem®) – This is a ‘dye’ that makes blood vessels and any inflammation show up more clearly on the pictures. It is given as an injection. A possible side effect is hypersensitivity, but this will normally be an immediate effect. There are no reported long term side effects of gadoteric acid.

Are there any risks?

There are no risks associated with MRI scans. They are painless and generally quick with no lasting effects. The scanner does not touch your child during the scan. MRI scans are not suitable for people with certain metal implants inside them (such as pacemakers) because the scanner emits a strong magnetic field. This is why we carry out a thorough metal check before your child has the scan.

Every anaesthetic carries a risk of complications, but this is very small. Your child’s anaesthetist is a very experienced doctor who is trained to deal with any complications.

What happens afterwards?

When your child has recovered fully from the anaesthetic and has had something to eat and drink, you will be able to go home. The radiologist (doctor specialising in scans) will send a report of the scan to your child’s doctor in time for their next appointment. If you have not been given a follow up appointment to see your consultant, please contact their secretary after two weeks.

When you get home

- After the anaesthetic, your child may feel sick for 24 hours. You should encourage your child to drink but do not force them to do so. As long as your child is drinking, it does not matter if they do not feel like eating for the first couple of days.
- Children are generally sleepier than usual for 24 hours after a scan under anaesthetic. This is because the effects of the anaesthetic medicine last for about a day.
- If your child is unduly sleepy or difficult to rouse, make sure they are in a safe position on their side and ring your family doctor (GP).
- Keep a close watch on your child until they are back to normal. Do not leave them with an inexperienced carer.
- Your child may be tired and a little clumsy for 24 hours after the anaesthetic, so do not let them do anything that might lead to a fall.
- You should keep your child away from school or nursery for one day until they have recovered from the anaesthetic.
- Your child may have mood changes which can make him or her irritable. This is temporary.
- If your child is taking any medications, please give this as normal.

Notes

Notes



If you have any questions or concerns, please contact:
Radiology Play Specialist: 020 7405 9200 ext. 0301
MRI Bookings: 020 7813 8510

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