

# Your child is having an MRI scan under sedation

A female nurse with brown hair tied back, wearing a light blue NHS uniform, is smiling and adjusting a white plastic headrest on an MRI machine. The machine's gantry is visible in the background, featuring a digital display showing '1120' and a yellow radiation warning symbol. The scene is set in a clinical environment with soft lighting.

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 sedation, 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](http://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 sedation 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 sedation for the MRI scan. We assess all children to see if they might benefit from sedation. Your appointment letter will state whether your child is having sedation 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 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 sedation

The evening before the scan, reduce the amount of sleep your child has by allowing them to go to bed an hour later than usual.

On the day of the scan, wake your child at least one hour earlier than usual and try to keep them awake on the way to GOSH.

It is important that your child does not eat or drink anything for a few hours before the sedation. 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 sedation. 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.

## The day of the scan

When you arrive at the hospital, you should report to the MRI department. Some scans need additional preparation – details about whether your child needs any additional preparation is in your appointment letter. Your appointment time is 75 minutes before the scan is scheduled. We need this time to prepare you and your child, for instance, completing the metal check described below and to apply some local anaesthetic cream in case your child needs an injection.





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 you or your child do 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 you are wearing a medication patch, for instance, for pain relief or to quit smoking, please remove this before you go into the scanner room. You will also need to leave metallic objects like jewellery, watches, keys, pens or cards with metallic strips like bank cards and train tickets in the lockers outside the scanner room. You are welcome to stay with your child during the scan, but if you are in the first three months of pregnancy, you should let us know beforehand.





## What does the scan involve?

Your child will have the sedation medicine as a liquid to swallow about 20 to 45 minutes before the scan is scheduled. Some children also need 'top up' sedation, which is given into a vein (intravenously). We will put some local anaesthetic cream on your child's skin to numb it, just in case intravenous sedation or a contrast injection is needed. Contrast is a liquid that shows up well on scans.

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). You will be able to stay with your child if you wish.

When your child is in the correct position, the radiographer will move the bed inside the scanner and then go into the control room. A nurse will stay with your child throughout the scan. The scanner will make a continuous knocking sound throughout the scan, which can be quite loud, but we will

give you and your child ear protectors to minimise any discomfort. 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 sedation. You should be prepared to stay in the department 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.

**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.

Risks of sedation are rare and these will be discussed fully on the day before you sign the consent form. The side effects of the medication however are more common, these can involve vomiting when giving the medication, increased sleepiness through the day and irritability. The sedation nurse is very experienced and is trained to deal with any complications.

## What happens afterwards?

When your child has recovered fully from the sedation 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

- Children are generally sleepier than usual for 24 hours after a scan with sedation. This is because the effects of the sedative 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 telephone your family doctor (GP).
- Make sure that your child can tolerate a juice drink before offering anything to eat.
- Give milk only if your child does not feel sick or has vomited.
- Your child may have mood changes which can make them irritable. This is temporary.
- Keep a close watch on your child until they are back to normal. Do not leave them with an inexperienced carer.
- If your child is taking any medications, please give this as normal.
- Your child should be well enough to go to school a day or two after the scan.

## Notes





**If you have any questions or concerns, please contact:**  
**Radiology Play Specialist:** 020 7405 9200 ext. 0301  
**Sedation team:** 020 7405 9200 ext. 5866  
**MRI Bookings:** 020 7813 8510

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