

ANAESTHESIA FOR CHILDRENS MRI SCANS

Your child's paediatrician has asked for an MRI. A general anaesthetic allows them to lie still and alone in the scanner for at least 30 minutes.

General Anaesthetics

At St George hospital they will be given anaesthetic gas and oxygen via a breathing mask and tube with an intravenous drip for rehydration and other medications as required.

A general anaesthetic involves full unconsciousness which needs breathing and circulation support by an anaesthetist. This process carries some risks and side effects.

Risks

When we decide whether to embark on an anaesthetic, we balance the risks with the benefits of the procedure.

Large studies of children having anaesthetics can give a rough indication of the chance of difficulty during the procedure. A study from Europe in 30,000 infants and children from 2017 looked at the rates of anaesthetic complications¹. Note that this study includes major surgery which carries a higher risk than purely an anaesthetic for MRI

- Breathing or airway (Respiratory): 3% -
 - Risk is higher in children with a cold, so please advise your doctor
- Heart or blood pressure (Cardiovascular): 2%
- Anaphylaxis: 0.01%
- Neurological (seizure): 0.02%
- Drug error: 0.2%

Anaesthetists are continuously monitoring their patients and will immediately respond to and treat any complications if they occur. For this reason, permanent harm or death from anaesthesia is extremely rare.

Side effects can include

Nausea and vomiting, crying and agitation after waking, drowsiness, headache, dizziness.

It can take a day or so to feel back to normal.

Alternatives to general anaesthesia for MRI

1. No anaesthetic – newborn babies may lie still during a regular sleep and have the scan in that time. Older children may be able to cooperate with the scan with no anaesthetic.
2. Twilight sedation – we do not use this for children having MRI as it is much less safe and reliable in the MRI scanner.
3. Reconsider the need for an MRI scan to be done.

Summary

Most children can be safely anaesthetized. However, complications do happen.

Complications are much more likely if your child has a cough or cold.

Your child's anaesthetist is highly trained to deliver the safest possible anaesthetic and detect and treat complications should they occur

Your child's anaesthetist will also try to prevent or treat the side effects of anaesthesia and surgery such as vomiting. If you have any questions please tell your anaesthetist on the day of the MRI.

Further details about anaesthesia for children can be found at

[:https://alderhey.nhs.uk/application/files/6515/8083/3470/Consent_for_General_Anaesthesia_Leaflet_PiAG_6.pdf](https://alderhey.nhs.uk/application/files/6515/8083/3470/Consent_for_General_Anaesthesia_Leaflet_PiAG_6.pdf)



QR code link to Alder Hey information handout



QR code to video on Anaesthetic risk from Alder Hey

Reference

1. Habre W. et al. Incidence of severe critical events in paediatric anaesthesia (APRICOT): A prospective multicentre observational study in 261 hospitals in Europe. Lancet 2017 Vol 5 Issue 5 P 412-425

WHAT HAPPENS ON THE DAY

You will be contacted the day before to confirm your child is well.

Please notify MRI bookings 9113 3669 (office hours) or 9113 1111 and ask for Dr Kylie Yates (if child becomes unwell after 4pm on the day before the scan) if your child is unwell at all eg has a cold. It is much safer to do the anaesthetic when your child is well.

For the morning list

Your child must **not have anything to eat after 2 am**. Breastfeeding children can have breast milk until 4am . Your child **can drink water or clear apple juice until 6am** and then nothing further. This is critical for a safe anaesthetic.

You need to come to the Children's ward for admission at 6:30 or 7am for admission and will meet your anaesthetist around 7:30am and can discuss any questions.

For an afternoon list

Your child must **finish breakfast by 7:30am** and have no further food or milk after 7:30am. Breastfeeding children can have breastmilk until 9:30am . Your child **can drink water or clear apple juice until 11:30am** and nothing further. This is critical for a safe anaesthetic.

You need to come to the Children's ward for admission between 12 and 12:30pm for admission and will meet your anaesthetist around 12:30pm and can discuss any questions.

Depending on the order of cases you may start your scan anytime between 1:30pm and 4pm. For later scans, your nurse will offer your child further drinks so they will feel well. These drinks can only be authorised by the anaesthetist.

You can usually go home within around 2-3 hours after the scan if your child is feeling well and drinking. So please allocate time to be in the hospital for the afternoon and evening of that day.

A Radiologist will send a report to the referring doctor, which usually takes four to five working days. In this department, no hard copies are made of the examination. The images are stored on computer and can be viewed on monitors in the Hospital. If you require films of the scan, then a fee will be charged.

You will need to make an appointment to see your referring Doctor for the MRI results. The results are not reviewed by the hospital team.