

# MRI Scan under General Anaesthetic for Children

## Information for parents and carers

### Why have I been given this leaflet?

Your child has been referred for an MRI scan under general anaesthetic. This leaflet explains what an MRI scan is, what a general anaesthetic (GA) is, and what is involved on the day.

It also explains the risks involved with the GA and some of the alternatives. You can discuss these with the referring clinical consultant.

### What is an MRI scan and why does my child need it?

An MRI scan produces detailed images of the inside of your child's body. These images are usually used to diagnose, monitor, or rule out problems inside the body.

Both the MRI scan and the GA have some risks (see below), so it is important that you understand how the scan helps your consultant treat your child. It is also important to consider alternatives, like other ways of getting images, or treating your child without images. Your doctor should discuss these options with you.

### Will I need to give my permission (consent)?

Before the MRI scan can go ahead, your consultant will need to have obtained your consent. They will discuss the benefits and risks of the MRI scan with you, and answer any questions you may have. You will then be asked to sign a consent form.

Remember it is your choice whether to give consent. You can change your mind at any time, even after signing the consent form. However not having the MRI scan may have its own risks, which you should discuss with your consultant.

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

The MRI scan usually takes between 30 and 90 minutes. It is important that your child holds still the whole time – otherwise the images will not be usable. Some adults and older children can hold still for long enough, but many children cannot. In a GA, your child will be unconscious throughout, and so will remain still.

Alternatives to GA should always be considered. These include scanning while your child is awake, using distraction, using sedation, or waiting until your child is older. If none of these are possible, then a GA will be needed.

## Is the MRI scan safe?

The MRI scan is usually very safe, but there are some rare risks you should know about.

The MRI involves a powerful magnet, so any metal objects in the room could cause injury or burns. Implants inside the body which contain metal (like shunts or pacemakers) could malfunction, or cause injury or burns.

**For this reason, it is extremely important that you tell us as soon as possible if your child has any implants or metal in their body.** Modern devices are often safe, but this must be checked before the day of the MRI scan. A thorough safety checklist will be completed before your child comes to the MRI suite to ensure they remain safe.

Very rarely, your child may experience funny sensations like tingling, or feel sick after the MRI scan. These temporary symptoms get better by themselves, usually within a few weeks.

## What is contrast?

During the MRI scan, your child may be given a special dye into their vein. This dye is known as contrast. Contrast is sometimes needed to give extra information, for example to highlight certain structures in the body. Contrast is only given when it is necessary. This decision is reviewed during the scan, so it often isn't known if contrast is needed before the scan starts.

Contrast can very occasionally cause allergic reactions. 1 in 10,000 children will have a minor allergic reaction, with symptoms like itching, rashes, sneezing, and sickness. 1 in 70,000 children will have a severe allergic reaction, which may affect their breathing and become life threatening.

If your child has kidney disease, the contrast could cause a disease called Nephrogenic Systemic Fibrosis. This can cause problems with the heart, lungs, muscles, and skin.

## What do I do on the day?

Your appointment letter will tell you where to come, and at what time. Your child will need to have fasted (not eaten anything or drunk milk) from a certain time - the letter will tell you what time this is. Your child is allowed sips of plain water whilst on the ward.

You can come with one other adult. Please do not bring any other children to the hospital. If this is unavoidable, they will need a second adult to look after them while you come with your child to the anaesthetic room.

Once you arrive, speak to a member of staff to let them know you have arrived. They will ask some questions to book you in, and then show you where to wait.

You should bring your child's medicines, their pyjamas, and anything that may help comfort your child (such as favourite toys). The pyjamas should not contain any metal - for example in buttons or draw-strings.

## What will happen while we're waiting?

A staff member will ask questions to confirm some important details about your child. They will check the consent form that you signed, and complete a safety questionnaire for the MRI. They will also weigh your child, and may use some local anaesthetic (numbing) cream on the back of their hand. This is in preparation for putting a cannula (small tube) into your child's vein later, which the anaesthetic may be given through.

Your child's Anaesthetist (doctor who gives the anaesthetic) will come to meet you and your child. They will ask some questions and explain what is involved with the GA.

Occasionally, if the Anaesthetist feels it is needed, your child may be given a medicine which helps them to relax whilst on the ward. This is usually given as a liquid which your child drinks. Your Anaesthetist will discuss this with you.

## What happens when it's time for the scan?

One adult can come with your child into the anaesthetic room (a room where the Anaesthetist will give your child the anaesthetic). A staff member will come with you and show you where to go. You can stay with your child until they are asleep. A staff member will then show you where to wait.

## What will I see in the anaesthetic room?

There are two ways of giving a GA. For either option, your child might be sat in your lap or lying on a trolley.

The first way involves the Anaesthetist putting a cannula (small tube) into a vein, usually on the back of your child's hand. This allows the Anaesthetist to give anaesthetic medicines into the vein. A needle is used to put the cannula in but is removed straight away. Local anaesthetic (numbing) cream is normally put on your child's hand beforehand, which usually stops the cannula from hurting. This way is usually quite quick once the cannula has been inserted.

The second way involves your child breathing anaesthetic gasses. A cannula will still be inserted once they are asleep, to allow other necessary medicines and contrast to be given.

The preferred choice is usually the first way with the cannula. However, your Anaesthetist will discuss which option is best for your child.

Sometimes your Anaesthetist may attempt one way but then change to the other. This is not unusual, for example if your child becomes distressed by breathing the mask or by the cannula.

## What happens after my child is asleep?

When your child is given the anaesthetic, they may look restless or agitated. This is normal, and the child does not usually remember it afterwards.

Once your child is asleep, you will be asked to leave so the team can focus on looking after them.

Your child will continue to be given anaesthetic medicines, which keep them asleep. Equipment which monitors your child's blood pressure, pulse, and oxygen levels will be attached if it wasn't already. The Anaesthetist and other staff members then move your child from the anaesthetic room to the MRI scanner. The Anaesthetist will stay in view of your child for the whole scan and monitor them closely.

Once the scan is finished, the Anaesthetist stops giving the anaesthetic medicines. Your child is moved to another room, and will continue to be monitored as they wake up. You will be reunited with your child as soon as they are awake. This is either back on the ward, or in a recovery area in the MRI suite.

## What happens after the scan?

Once your child is completely awake, they will be offered something to eat and drink. Once you, the Anaesthetist, and staff are happy that your child is back to normal, you will be able to go home.


The result of the MRI scan will be shared with you. This will be in writing, and/or when you are seen again in clinic.

## Is the general anaesthetic safe for my child?


For most children, the risk of a serious complication from anaesthetic is very low - about the same risk as you having a car crash while driving to the shops. If your child has medical problems, for example heart or lung issues, the risks may be different. You should discuss these with your Anaesthetist.

The risks are explained by the graphic on the next page. The most common risks are minor side effects, such as feeling sick, having a sore throat, or being more sleepy than usual the next day.


Serious complications of a GA in a fit and healthy child are very rare – between 1 in 100,000 and 1 in 1,000,000.



Royal College of Anaesthetists



Association of Paediatric Anaesthetists of Great Britain and Ireland



Trusted Information Creator

Parent Information Forum


## Common events and risks

for children and young people having a general anaesthetic


**This summary card shows some of the common events and risks that healthy children and young people of normal weight face when having a general anaesthetic (GA) for routine surgery (specialist operations may carry different risks).**

**Modern anaesthetics are very safe.** There are some common side effects which are usually not serious or long lasting. Risk will vary between individuals, and will depend on the procedure and the anaesthetic technique used. Your anaesthetist will discuss with you the risks they believe to be most significant. You should also discuss with them anything you feel is important to you.


**Very common**  
More than 1 in 10  
Equivalent to one person in your family




**Sore throat**



**Agitation on waking from GA**  
Mainly ages 1-6 years




**Sickness**




**Temporary changes in behaviour**  
eg. anxiety, sleep problems, bedwetting

**Common**  
Between 1 in 10 and 1 in 100  
Equivalent to one person in a street




**Minor lip or tongue injury**




**Discomfort at injection site**

**Uncommon**  
Between 1 in 100 and 1 in 1,000  
Equivalent to one person in a village




**Breathing problems**  
Needing treatment




**Skin damage**  
Mainly longer procedures


**Rare**  
Between 1 in 1,000 and 1 in 10,000  
Equivalent to one person in a small town



**Need for Intensive Care (unplanned)**  
1 in 2,400  
Risk is higher for children under 1 year




**Injury to eye**  
eg. scratch on eye




**Damage to teeth**


**Very Rare**  
1 in 10,000 to 1 in 100,000 or more  
Equivalent to one person in a large town




**Anaphylaxis**  
1 in 40,000  
Severe allergic reaction to a drug



**Awareness during an anaesthetic**  
1 in 60,000





**Death as a direct result of anaesthesia**  
1 in 100,000 to 1 in a million



**Long-term disability**  
Less than 1 in 100,000

Things we all do in normal life, such as road travel, involve higher risks than the **Very Rare** risks above.





Leave your feedback on this resource at: [surveymonkey.co.uk/r/testrisk](https://surveymonkey.co.uk/r/testrisk) or by scanning this QR code:

Churchill House, 35 Red Lion Square, London WC1R 4SG | [patientinformation@rcoa.ac.uk](mailto:patientinformation@rcoa.ac.uk) | March 2022

## Where can I get more information?

The following websites may be useful.

The Royal College of Anaesthetists has produced leaflets for children of all ages undergoing general anaesthesia, and information for parents and carers:

<https://rcoa.ac.uk/patients/patient-information-resources/information-children-parents-carers>



Leeds Teaching Hospitals Trust have made this video of an older child having an MRI scan without an anaesthetic:

[https://www.youtube.com/watch?v=jcu9xTCW\\_EE](https://www.youtube.com/watch?v=jcu9xTCW_EE)



**If you have any comments about this leaflet or the service you have received you can contact :**

The Ward Clerks  
Children's Ward (Ward 3)  
Calderdale Royal Hospital  
Telephone: 01422 223403

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

**If you would like this information in another format or language contact the above.**

Potřebujete-li tyto informace v jiném formátu nebo jazyce, obraťte se prosím na výše uvedené oddělení

Jeżeli są Państwo zainteresowani otrzymaniem tych informacji w innym formacie lub wersji językowej, prosimy skontaktować się z nami, korzystając z ww. danych kontaktowych

ਜੇ ਤੁਸੀਂ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਪ੍ਰਾਰੂਪ ਜਾਂ ਭਾਸ਼ਾ ਵਿੱਚ ਲੈਣਾ ਚਾਹੁੰਦੇ ਹੋ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਉਪਰੋਕਤ ਵਿਭਾਗ ਵਿੱਚ ਸਾਡੇ ਨਾਲ ਸੰਪਰਕ ਕਰੋ।

اگر آپ کو یہ معلومات کسی اور فارمیٹ یا زبان میں درکار ہوں، تو برائے مہربانی مندرجہ بالا شعبے میں ہم سے رابطہ کریں۔

"إذا احتجت الحصول على هذه المعلومة بشكل مغاير أو مترجمة إلى لغة مختلفة فيرجى منك الاتصال بالقسم المذكور أعلاه"