

affix patient label

Your child's MRI scan under a general anaesthetic

What is an MRI scan?

MRI stands for magnetic resonance imaging. An MRI scan uses a combination of a strong magnet and radiowaves to produce detailed pictures of the inside of the body.

What are the benefits of an MRI scan?

- An MRI scan can help to find out what is causing your child's problem and help your doctor to find the best treatment.
- An MRI scan provides much more detailed pictures of your child's body than an ordinary X-ray. It is particularly good at identifying problems in the spine, the brain and the joints. It is also helpful for looking at other parts of the body, often when other types of scan have not given a full picture.
- Unlike X-rays and CT (computerised tomography) scans, MRI scans do not use radiation.

Are there any risks?

MRI is a very safe procedure for most patients. However patients with heart pacemakers and certain other surgical implants, for example a cochlear implant, cannot be scanned. You will be asked to complete and sign a safety questionnaire for your child before their scan to make sure it is safe for them to be scanned. Your child may also need to have an injection of contrast agent (dye) for their scan which can very rarely cause an allergic reaction – this is explained later in this leaflet.

Are there any alternatives?

If your child cannot have a scan, for example because they have a cochlear implant, the radiologist (a specialist doctor trained in studying scans and X-rays) may suggest an alternative type of imaging. This could be a CT scan or an ultrasound scan.

What happens before the scan?

Before your child is given the anaesthetic, the radiographer (a specially trained member of the radiology team who performs the MRI scan) will go through your child's safety questionnaire with you. You will be given the opportunity to ask the radiographer any questions you have.

Your child will be given the anaesthetic in the anaesthetic room, which is next to the MRI scanner. Once asleep your child will be taken into the scanner.

The scanner is a short tunnel and when the scanner is working, it makes a loud banging noise. We will give your child headphones to wear, to protect their ears whilst they are asleep.

Will my child need an injection of contrast (dye) during the scan?

If we are scanning certain areas of your child's body, we may need to give them an injection of contrast dye. This shows up on the scan and gives us more detailed pictures, particularly of your child's blood vessels. The injection will be given through a cannula (small plastic tube) already sited in a vein in your child's arm. This injection is in general very safe. It can very rarely cause an allergic reaction similar to hay fever (runny nose and itchy eyes). However, if your child has any problems with their liver and/or kidneys please raise this with the medical team on your child's admission, as extra tests may be needed before administering any contrast.

How long will the scan take?

This depends on which part of your child's body is being scanned and the information that the doctor needs. The radiographer can tell you how long he/she expects your child's scan to take. The whole procedure can take around 1–2 hours.

Will my child feel anything afterwards?

The scan should be completely painless, just very noisy. Some children may feel a little achy afterwards because of lying still for a while asleep for the scan. This will settle with a dose of paracetamol.

When will we get the results?

The results will be sent to the doctor who referred your child for the scan – usually a hospital or community paediatric specialist. You will get the results of the scan either directly from your paediatric doctor or at your child's next clinic appointment.

Your child's general anaesthetic

The aim of this part of the information leaflet is to help answer some of the questions you may have about your child having a general anaesthetic. It explains the role of the anaesthetist and the possible side-effects and complications that can happen.

What is a general anaesthetic?

General anaesthesia involves giving particular medicines to send someone to sleep so that they can lie very still whilst the scan is performed. Specially trained doctors, called anaesthetists, care for all patients having an anaesthetic. All children having a scan under anaesthetic will be cared for by specially trained paediatric (children's) anaesthetists.

What happens before the scan?

The anaesthetist will meet you and your child before the scan – this may be on the day of the scan or at an outpatient appointment if that is needed. The anaesthetist will talk with you about which anaesthetic technique is most suitable for your child. Please do not hesitate to ask questions if you are uncertain about anything.

You will be asked questions about your child's medical history, including:

- has your child had an anaesthetic before?
- does your child have any serious health problems?
- does your child have any loose teeth?
- what medicines is your child taking?
- does your child have any allergies?

Asking for consent

Discussing your child's treatment with you is part of our consent process. We want to involve you and your child in all the decisions about your child's care and treatment. The Department of Health leaflet, **Consent – what you have a right to expect: a guide for parents**, has more information on consent. If you do not have a copy and would like one, please:

- ask your doctor or nurse for a copy
- call the NHS Response Line on 08701 555455.

How do I prepare my child?

Your child should not have any food for six hours before the scan. This is to make sure their stomach is empty. If food is in the stomach while having a general anaesthetic, there is a higher risk of being sick while anaesthetised or when waking up – this can lead to complications. Your child can drink water up until two hours before the scan.

Breast-fed babies: you can breast-feed your baby up to four hours before the scan.

Bottle-fed babies: you can give your baby bottle-milk up to six hours before the scan (as for food).

A ward nurse may put some Ametop cream on your child's hands about one hour before the scan. It is sometimes called 'magic cream' because it reduces or stops your child feeling any sharp pain when the anaesthetist puts a cannula into a vein. The cannula allows the anaesthetist to give the anaesthetic as well as any other necessary medicines.

Anaesthetists usually prefer to give the anaesthetic through the cannula when possible. If this is not possible, they will give the anaesthetic through a face mask, which means your child may not need the Ametop cream. The anaesthetist will speak to you about this in more detail. Even if your child goes to sleep with the anaesthetic gas, the anaesthetist will insert a cannula whilst they are asleep, as this enables them to give any medicines your child may need whilst they are asleep.

Can I be with my child while they are having the anaesthetic?

You will be able to go with your child to the anaesthetic room, which is next to the MRI scanner. There, you will meet a member of theatre staff who will check your child's details and help the anaesthetist.

Sticky pads will be placed on your child's chest to monitor the heart. A rubber peg will be put on their finger to monitor oxygen levels and an arm cuff to measure blood pressure. Your child will fall asleep within a couple of minutes of having the anaesthetic medicines. The nurse will then take you back to the ward.

What are the side-effects and complications of having an anaesthetic?

Modern anaesthesia is very safe and serious problems are uncommon. Most children recover quickly and are soon back to normal after an anaesthetic. The anaesthetist will use specialist equipment to monitor your child closely throughout the operation. However, some children may still have side-effects or complications.

Side-effects are secondary effects of drugs or treatment. They can often be expected but are sometimes unavoidable. Some examples are having a sore throat or feeling sick after the scan. Side-effects usually last only a short time and can be treated with medicines if needed.

Complications are unexpected and unwanted events due to a treatment. Some examples are damage to teeth or an unexpected allergy to a drug. The likelihood of complications depends on your child's medical condition, the type of procedure and anaesthetic used. If there are risk factors specific to your child these will be discussed with you before the operation.

This scale below is used to help you understand how likely your child is to have a side effect or complication related to anaesthesia:

1 in 10
someone in
your family
Very common

1 in 100
someone in
a street
Common

1 in 1,000
someone in
a village
Uncommon

1 in 10,000
someone in
a small town
Rare

1 in 100,000
someone in
a large town
Very rare

Side-effects and complications associated with having an anaesthetic are as follows.

Very common to common (1 in 10 – 1 in 100)

- **Nausea and vomiting, headache, drowsiness, dizziness, blurred vision** – these may be due to the effects of drugs we use or to lack of fluids. They usually get better within a few hours and fluids or drugs (or both) can be given to treat these problems.
- **Sore throat** – a tube is placed in the airway to help your child breathe during the scan, which means they may get a sore throat. This is usually only mild and will often settle without treatment.
- **Shivering** – this may occur because your child gets cold during the scan, due to some of the medicines used, or due to anxiety. Your child can be warmed effectively using a hot-air blanket.
- **Bruising and soreness** – this can happen around injection and drip sites. It normally settles without treatment, but if the area becomes uncomfortable, the position of the drip can be changed.

Uncommon (1 in 1,000)

- **Damage to teeth, lips, gums or tongue** – damage may be caused when the breathing tube is put in or taken out, or by teeth clenching during recovery from the anaesthetic.
- **Breathing problems** – shallow or slow breathing may occur if some of the anaesthetic medicines are still having an effect, or as a result of some pain-relieving medicines. These effects can be reversed with other medicines and are unusual after this kind of anaesthetic.
- **Behavioural problems** – some anaesthetic medicines can cause children to become agitated as they recover from anaesthesia. This will resolve as the medicine wears off. Some children may have nightmares in the few days after an anaesthetic.
- **Muscle pains** – these may occur as a side-effect of one of the anaesthetic medicines and can be treated with simple pain-relieving medicine, such as paracetamol.

Rare to Very rare (1 in 10,000 – 1 in 100,000)

- **Damage to eyes** – we take great care to protect your child's eyes but sometimes the surface of the eye becomes damaged from contact, pressure or drying of the eye. This is usually temporary and treated with eye drops.
- **Serious allergy to drugs (anaphylaxis)** – allergic reactions will be noticed and treated very quickly. Very rarely, these reactions lead to death even in healthy children.
- **Stomach contents getting into the lungs (aspiration)** – this can occur if there is still food or drink in the stomach before anaesthesia. This may cause a severe and sometimes life-threatening pneumonia.
- **Awareness** – becoming conscious during the operation is rare in children. Monitors will be used to record how much anaesthetic is in the body and how the body is responding to it. These help the anaesthetist to make sure your child has enough anaesthetic to keep them unconscious during the scan.
- **Nerve damage** – nerve damage may be caused by pressure on a nerve during a procedure. Anaesthetists are trained to be aware of nerve damage and take steps to prevent it. If it does occur it may cause numbness, 'pins and needles', muscle weakness or paralysis. However, these are usually temporary and most patients make a full recovery after a few days or weeks. Permanent damage is very rare.
- **Equipment failure** – equipment is tested regularly and monitors are used which give an immediate warning of any problems. Equipment failures rarely have serious effects. All the monitors we use are compatible with the MRI scanner.

- **Brain damage and death** – brain damage and deaths caused by anaesthesia are very rare and are usually caused by a combination of complications arising together. In a lifetime, 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. There are only about five deaths for every million anaesthetics given to children and adults in the UK.

What happens after the scan?

As soon as the scan is finished, your child will be taken back to the anaesthetic room (next to the MRI scanner). The anaesthetist will monitor your child closely. You will be taken to your child as soon as they start to wake up.

When your child is ready, the ward nurse will take your child back to the ward with you. Your child will usually be able to start drinking fluids and then have a light diet within a short time of getting back to the ward.

The pictures taken during the scan are carefully studied by the radiologist who will produce a detailed report.

Further information

If you have any questions or concerns about your child's MRI scan under general anaesthetic please contact the doctor who referred your child for the scan.

If you have any questions or concerns about your child having an anaesthetic, please speak to the anaesthetist at the pre-operative assessment. The Pre-assessment Nurses on 01872 253911 or the Anaesthetic Secretary on 01872 258195 will also be able to contact the anaesthetist for you.

Recommended MRI websites for you and your child

Evelina Children's Hospital MRI webpage – Provides information about having an awake MRI scan: this is interesting as it gives a recording of what the scan sounds like.

www.guysandstthomas.nhs.uk/services/childrens/mri/paedmri.aspx

Kids First for Health – An award winning health and hospital information website for children, teenagers and parents run by Great Ormond Street Hospital.

www.childrenfirst.nhs.uk/kids/hospital/ops_tests/m/mri_scan.html

PALS – To make comments or raise concerns about the Trust's services, please contact our Patient Advice and Liaison Service (PALS). Ask a member of staff to direct you to PALS near the main Trelawny entrance or tel: 01872 252793.

NHS Direct – Offers health information and advice from specially trained nurses over the phone 24 hours a day. tel: 0845 4647 w: www.nhsdirect.nhs.uk

If you would like this leaflet in large print, Braille, audio version or in another language, please contact the Patient Advice and Liaison Service (PALS) on 01872 252793

CONSENT FORM 2**PROCEDURE SPECIFIC PARENT / PERSON WITH PARENTAL RESPONSIBILITY AGREEMENT****Your child's MRI scan under a general anaesthetic**

NHS number:

Name of patient:

Address:

Date of birth:

CR number:

AFFIX PATIENT LABEL

STATEMENT OF HEALTH PROFESSIONAL (to be filled in by health professional with appropriate knowledge of proposed procedure, as specified in consent policy)

I have explained the procedure to the child and their parent(s) / person with parental responsibility.

In particular, I have explained the intended benefits and summarised the risks, as below:

- *An MRI scan is an investigation (not a treatment) to help to find out what is causing your child's problem and help their doctor(s) to find the best treatment.*

Significant, unavoidable or frequently occurring risks:

- *Allergy to anaesthetic drugs or contrast (dye).*
- *Nausea, vomiting, headache, sore throat.*

Rare but serious risks:

- *Damage to teeth, eyes, bruising, nerve damage.*

Very rare but serious risks:

- *Brain damage, death.*

Any extra procedures which may become necessary during the procedure:

- *Other procedure (please specify):*
- *Injection of Contrast (dye) to highlight particular areas for the scan*

I have also discussed what the procedure is likely to involve, the benefits and risks of any available alternative treatments (including no treatment) and any particular concerns of this child and their parent(s) / person with parental responsibility.

I have given and discussed the Trust's approved patient information leaflet for this procedure: Your child's MRI scan under a general anaesthetic (RCHT1313) which forms part of this document.

I am satisfied that this child and their parent(s) / person with parental responsibility has the capacity to consent to the procedure.

This procedure will involve: General and/or regional anaesthesia Local anaesthesia Sedation

Health Professional signature: Date:

Name (PRINT): Job title:

STATEMENT OF INTERPRETER (where appropriate)

I have interpreted the information above to the child and their parent(s) / person with parental responsibility to the best of my ability and in a way in which I believe they can understand.

Interpreter signature: Name (PRINT): Date:

affix patient label

STATEMENT OF PARENT / PERSON WITH PARENTAL RESPONSIBILITY

Please read this form carefully. If your treatment has been planned in advance, you should already have a copy of the patient information leaflet which describes the benefits and risks of the proposed treatment. If not, you will be given a copy now. If you have any further questions, do ask - we are here to help you and your child.

You have the right to change your mind at any time, including after you have signed this form.

I agree to the procedure or course of treatment described on this form and **I confirm** that I have 'parental responsibility' for this child.

I understand that you cannot give me a guarantee that a particular person will perform the procedure. The person will, however, have appropriate experience.

I understand that my child and I will have the opportunity to discuss the details of anaesthesia with an anaesthetist before the procedure, unless the urgency of the situation prevents this. (This only applies to children having general or regional anaesthesia).

I understand that any procedure in addition to those described on this form will only be carried out if it is necessary to save the life of my child or to prevent serious harm to his or her health.

I understand that tissue samples will only be taken in relation to the procedure explained to me. No samples will be taken for quality control, clinical education or research purposes.

I have been told about additional procedures which may become necessary during my child's treatment. I have listed below any procedures **which I do not wish to be carried out** without further discussion.

I have received a copy of the Consent Form and Patient Information leaflet: Your child's MRI scan under a general anaesthetic (RCHT1313) which forms part of this document.

Signature: _____ Name (PRINT): _____ Date: _____

A **witness** should sign below if this patient is unable to sign but has indicated his or her consent.

Witness signature: _____ Name (PRINT): _____ Date: _____

Child's Agreement to Treatment (if child wishes to sign)

I agree to have the treatment I have been told about.

Child's signature: _____ Name (PRINT): _____ Date: _____

CONFIRMATION OF CONSENT (to be completed by health professional when the child is admitted for the procedure, if the parent / person with parental responsibility / child has signed the form in advance).

On behalf of the team treating the child, I have confirmed with the child and their parent(s) / person with parental responsibility, that they have no further questions and wish the procedure to go ahead.

Health Professional signature: _____ Date: _____

Name (PRINT): _____ Job title: _____

Important notes (tick if applicable):

See advance decision to refuse treatment Parent(s) / person with parental responsibility has withdrawn consent (ask patient to sign/date here)

Signature: _____ Name (PRINT): _____ Date: _____

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