

Your child's cardiac MRI scan under general anaesthetic

This information gives more information about your child's cardiac MRI scan under general anaesthetic, and what you can expect when you come to hospital. If you have any questions or concerns, please speak to a doctor or nurse caring for your child.

Your doctor or nurse can give you more information about having a general anaesthetic. Please ask them for a copy of this information.

What is an MRI scan?

An MRI (magnetic resonance imaging) scan uses a combination of a strong magnet and radio waves to produce detailed pictures of the inside of your body.

Benefits of a cardiac MRI scan

A cardiac MRI scan gives us detailed pictures of your child's heart and how it is working. Unlike X-rays and CT scans, MRI scans do not use radiation.

Risks of a cardiac MRI scan

An MRI scan is very safe for most people. However children with certain heart pacemakers and other surgical implants might not be able to have an MRI scan.

Many children with a heart condition have had procedures where metal is used, such as a clip, stent, valve or some other heart device. Most of these can be safely scanned, but this will be confirmed before your child has the MRI.

You will need to complete and sign a safety questionnaire for your child before their scan. This is to make sure it is safe for them to be scanned.

Your child might need to have an injection of contrast (dye) for their scan, which very rarely can cause an allergic reaction. Read more about contrast injections on the next page.

There are also risks with having a general anaesthetic. Please see our leaflet, **Your child's general anaesthetic**, for more information. Your child's doctor will talk to you in detail about any risks to your child.

Other treatment options (alternatives)

If your child cannot have an MRI scan, the cardiologist (heart doctor) might suggest a different type of imaging. This could be a CT scan, an ultrasound scan or a cardiac catheter test. The doctor will explain these options to you in detail.

Preparing your child for their scan

Please follow the preparation details outlined in our leaflet, **Your child's general anaesthetic**.

From a young age, children are keen to talk about what they know about hospitals. Talking to your child before they come for their scan will help them to understand what will happen, and give them time to ask any questions.

Pre-admission appointment

You and your child will need to go to a pre-admission appointment before the anaesthetic and scan. This is to make sure that your child is well enough for the anaesthetic.

During this appointment, your child might have an echocardiogram (ultrasound of the heart) and an ECG (electrocardiogram) to record the rhythm of their heart. Some children might also need a blood test, especially if they have low oxygen levels or are taking certain medicines.

If your child is a baby with a very complicated heart problem, they might need to stay in hospital the night before or after the scan. You should be advised of this in advance. However sometimes this only becomes clear during the pre-admission appointment.

Your appointment letter will include details of the date and time of the scan, and where to go. If the scan is early in the morning, we can arrange an overnight stay for your child and 1 parent.

Before the scan

Your child will need to change into a hospital gown. This is because metal fastenings, such as zips or hooks and eyes, may spoil the pictures.

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

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

Contrast injection

Cardiac MRI scans often need an injection of contrast dye. This shows up on the scan and gives us more-detailed pictures of the heart and major blood vessels. The injection will be given through the small plastic tube (cannula) which is already in place for the general anaesthetic.

If your child has any problems with their liver or kidneys, please tell the radiographer or another member of staff before the scan. Your child might need more tests before they can have the contrast dye.

This injection is very safe. It very rarely causes an allergic reaction. The most common allergic reactions are:

- headaches
- feeling sick (nausea)
- being sick (vomiting)
- sneezing
- wheezing
- runny nose
- eye irritation
- itching
- hives
- skin rash
- swelling of the face, mouth, hands, feet or throat
- difficulty breathing
- low blood pressure

Before the scan we will check if your child has had any previous allergic reactions.

If you would like more information about the contrast injection, please ask the cardiologist or radiographer before the scan.

During the scan

The whole procedure from going to sleep to waking up usually takes 2 to 3 hours. This depends on how many pictures the cardiologist needs of your child, and if any other tests are needed.

ECG stickers and leads will be placed on your child's chest to monitor their heart rate. This is so that the scanner can take the pictures at the correct time.

Once your child is positioned correctly, we will move them into the scanner. The part of your child's body being scanned must be in the centre of the machine.

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

Can other tests be done at the same time?

Your cardiologist might request that other tests are done during the MRI, while your child is under general anaesthetic. If this is the case, they will advise you about these tests in advance. This means that the procedure will take longer, but your child will not need another anaesthetic.

After the scan

As soon as the scan is finished, your child will be taken to the recovery room. Specially-trained recovery nurses will closely monitor your child. You will be taken to the recovery room as soon as your child starts to wake up.

Most children recover quickly from the anaesthetic, and are well enough to go home later the same day. However, if they have a very complicated heart problem or low oxygen levels, it is safer to monitor them overnight in hospital after the scan.

If you have a long journey home, for example to Scotland, Wales or the north of England, it might be better not to travel back on the same day as the scan. We can arrange another night's stay in our accommodation, so please contact us if you need this.

Important. If your child had a contrast dye injection, an allergic reaction can occur up to 2 days after the scan. This is very rare. If this happens, please contact the MRI department where your child had the scan, for advice. See your child's clinic appointment letter for the contact details. If it is out of hours, contact the nearest emergency department (A&E).

Scan results

It takes some time for the doctor to examine the scan. Detailed results will be sent to the cardiologist who referred your child for the scan. They will then contact you to let you know the results and any action that might need to be taken.

Useful sources of information

Evelina London's Children's Hospital has information about having an MRI scan in the MRI unit, [web](http://www.evelinalondon.nhs.uk/our-services/hospital/mri) www.evelinalondon.nhs.uk/our-services/hospital/mri

There is also information about children's cardiology services in the MRI unit.

[web](http://www.evelinalondon.nhs.uk/our-services/hospital/heart-services) www.evelinalondon.nhs.uk/our-services/hospital/heart-services

Contact us

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

If you have any questions about your child's appointment, contact the cardiology admissions department, [phone](tel:02071881142) 020 718 81142 and select option 2, Monday to Friday, 9am to 5pm.

Outside these hours, please leave a message on the answerphone.

For more information on conditions, procedures, treatments and services offered at our hospitals, visit [web](http://www.evelinalondon.nhs.uk/leaflets) www.evelinalondon.nhs.uk/leaflets

Evelina London Medicines Helpline

If you have any questions or concerns about your child's medicines, please speak to the staff caring for them or contact our helpline.

[phone](tel:02071883003) 020 7188 3003 Monday to Friday, 10am to 5pm [email](mailto:letstalkmedicines@gstt.nhs.uk): letstalkmedicines@gstt.nhs.uk

Language and accessible support services

If you need an interpreter or information about your care in a different language or format, please get in touch, [phone](tel:02071888815) 020 7188 8815 [email](mailto:languagesupport@gstt.nhs.uk) languagesupport@gstt.nhs.uk

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