



Oxford University Hospitals
NHS Foundation Trust

CARDIAC CATHETERISATION

**Information for
parents and carers**



Paediatric Cardiology

What is cardiac catheterisation?

This procedure involves passing a fine tube up through one of the big blood vessels, usually in the groin, and threading it into the heart. This is carried out under a general anaesthetic, which means your child would be asleep throughout.

The tube can be used to take measurements of the pressure within the heart and oxygen levels. Dye can also be injected through the tube to show up the anatomy and blood flow in detail. X-ray pictures can then be taken as the dye is pumped around the heart.

When the procedure is finished, the catheter is removed and a sticky plaster put over the site. Stitches are not usually needed, as the 'hole' left by the tube is tiny.

The procedure can be carried out for 'diagnostic purposes' (as an investigation), or for 'interventional purposes' (to treat a condition). Procedures that can be carried out with cardiac catheterisation include stenting and stretching (balloon dilatation) of arteries and valves, and occlusion (blocking) of atrial septal defects (ASD) and patent ductus arteriosus (PDA).

This procedure, whether for diagnostic or interventional purposes, requires a short stay in hospital.

What are the risks or complications?

Statistically, overall risk from this procedure is less than 1%. Your cardiologist will discuss your child's individual risks and benefits with you.

Potential risks and complications:

- **Nausea/vomiting**

Some children may feel sick following the general anaesthetic, but all children react differently.

- **Blood clots**

Passing the catheter tube through the blood vessel in the groin can sometimes disrupt the blood flow in the leg, which can cause a blood clot. This will result in your child's leg feeling cool, with weak pulses. We would need to give your child some medicine through a 'drip' (small tube called a 'cannula' in their arm or hand) to treat this.

If this happens, your child will need to stay overnight in hospital after the procedure.

- **Heart rhythm disturbances**

Occasionally, passing the catheter tube into the heart can cause temporary disruption to the heart's conduction system (the electrical activity in the heart).

- **Bleeding**

This can occur from the groin site (or any alternative site that is used) and requires firm pressure to be applied until the bleeding stops. Rarely, bleeding can occur inside the heart itself. This is more serious and requires immediate treatment to stop the bleeding.

- **Reaction to the dye**

This rarely occurs, but is a possible side effect.

- **Reaction to the anaesthetic**

This rarely occurs. Inform the anaesthetist if your child has previously been unwell in any way following an anaesthetic.

- **Death/serious neurological (brain) injury**

This is very rare.

What are the benefits?

Diagnostic procedure:

Overall, this is a very safe procedure, but not a zero risk. It is important to obtain a precise diagnosis, and an accurate picture of the anatomy and physiology of your child's heart. This will enable future planning and timing of the exact type of surgery/treatment your child will require.

Interventional procedure:

This is less invasive than 'open' heart surgery, with no scar and a quicker recovery.

Consent

The cardiologist will discuss the procedure with you in detail and ask for your written consent. If there is anything you are unsure about, or if you have any questions, please ask the doctor before signing the consent form.

Preparing your child for hospital

There are many different ways you can prepare your child for their hospital stay. Preparing them by giving them information can reduce fear and anxiety and increase their co-operation in procedures. Understanding a bit about what is happening to them helps children to cope better. Also, reducing anxiety has shown to help speed up recovery.

How can I prepare my child?

Start by talking to your child, to understand how much they know about their visit to hospital. This will give you an idea of how much you need to tell them and the chance to correct any misunderstandings they may have.

When telling your child about their visit it is important to be truthful and give them detailed, factual information.

As young children have little concept of time, it may be best to prepare your child a day or two before they're due to come into hospital. This can be done through a variety of methods, depending on the age of your child.

- **Stories**

There are many books available which describe going for an operation; some are listed on the next page. Ask your local library, bookshop or nursery/school if they have these books available. We have certain books available for you to borrow.

Anatomy and physiology books may be useful for explaining to older children.

- **Imaginative play**

This is a successful method of explaining things to young children (especially between ages of 2-7). Hospital procedures, such as taking temperatures, can be played out using dolls or teddies. Perhaps you could set up a teddy hospital and get your child to nurse them all better. Hospital play can also be acted out using play medical kits, toy hospitals and ambulances, dressing up outfits or puppets.

- **Play specialists**

We have play specialists available to help prepare your child for their operation once they are admitted; they have many specialised resources for this. There is a playroom on the ward where your child can be amused and occupied during their stay.

- **Post procedural play**

It can be beneficial to talk about or play through your child's experiences of hospital after their operation. This can aid recovery and reduce any feelings of stress.

BOOK LIST

- **Miffy in hospital**

Dick Bruna

A simple story, suitable for toddlers.

- **Topsy and Tim go to hospital**

Jean and Gareth Adamson

Tim bumps his head and visits the hospital. Whilst there he meets lots of different staff, goes for an X-ray and makes a lot of new friends.

- **Going to the hospital**

Usbourne

Ben has an operation on his ear. This book tells the simple story of his operation and has lovely pictures.

- **I don't want to go to hospital**

Tony Ross

The little princess decides she doesn't want to go to hospital, but once there doesn't want to go home. A fun book, which does not give too much information about hospital procedures.

- **Talking it through – Going to the hospital**

Althea

A great guide to hospital from a young person's point of view.

- **Riley's Heart Machine**

Lori M Jones

For children with pacemakers.

Found on Little Hearts Matter website.

www.lhm.org.uk

We also have a colouring book available about:

- **Cardiac catheterisation**

What happens on the day of the procedure?

Your child will usually be admitted the day before and may also have an overnight stay following the procedure. Some children may have the procedure as a day case, so won't need to stay overnight. The consultant will decide if this is appropriate for your child.

Once settled into the ward, your child will be checked by a doctor and nurse to make sure they are well enough to have the procedure. If they have a heavy cold, cough, high temperature, etc. then the procedure may not be able to go ahead.

You will also have an opportunity to meet the anaesthetist before the procedure.

The procedure itself takes place in the Cardiac Catheter lab.

Before the procedure, your child will need to have an empty stomach, as they will be having a general anaesthetic.

Your child will not be allowed to eat or drink for a while before the operation. This includes having chewing gum or boiled sweets. **It is important that these instructions are followed for their safety. If they have anything in their stomach whilst they are under the general anaesthetic, it might come back up and get into their lungs.**

If these instructions are not followed, this may result in your child's procedure being cancelled.

We will tell you the precise time when your child is allowed their last food and drink.

'Magic' cream (Ametop/Emla) will be applied to the back of your child's hand. This numbs the skin ready for the cannula (drip) to be inserted whilst they are in the Cardiac Catheterisation lab. You will be able to accompany your child and stay with them until they are asleep.

After the procedure, your child will go from the Cardiac Catheter lab to the recovery area nearby, until they are awake. A nurse from the ward will then collect your child and take them back to the ward.

Once on the ward, we will need to make sure your child has recovered from the anaesthetic and the procedure. When your child is awake from the anaesthetic they can start drinking and, if they are not sick, they can start eating small amounts of food.

Your cardiologist will come and talk to you after the procedure, to discuss the findings and what they may mean.

The hospital experience can be strange and unsettling for some children, so do not be concerned if your child is more clingy, easily upset or has disturbed sleep.

Leaving hospital

Make sure you understand what was found during your child's procedure and that you know about follow-up arrangements. Make sure you also understand any medications your child is being sent home with.

Your child cannot go home on public transport on the day of the procedure after having a general anaesthetic.

The anaesthetic may leave your child feeling a bit sick for the first 24 hours. The best treatment for this is rest and small, frequent amounts of fluid and toast or biscuits. If they are sick and this continues for longer than 24 hours, please contact their GP.

Your child can have a normal bath after 48 hours. You can remove any plasters at this time, if they are still in place.

Your child may return to nursery or school after 2 days. They may restart PE and swimming, etc. after a week.

If your child appears to be in any discomfort you can give them paracetamol. See the bottle for doses appropriate for your child's age.

Signs to look out for

If your child has any of the following symptoms, please contact the hospital where the procedure was carried out.

- pain from the puncture site which continues for more than 48 hours or is getting worse
- new swelling or redness around the puncture site
- a high temperature (38°C or above) for more than 24 hours after the procedure
- any bleeding from the puncture site. Apply pressure to the site for 5-10 minutes with a clean cloth and ring for advice (even if the bleeding has stopped).
- a difference in colour or temperature in the leg used for the catheterisation, compared to the other leg.

How to contact us

If you have any questions or concerns, please contact us.

Children's Cardiac Nurse Specialists (Oxford)

Tel: **01865 234 985**

Oxford University Hospitals' Switchboard

Tel: **0300 304 7777** – ask for bleep 4170

Children's Cardiac Nurse Specialists (Southampton)

Tel: **02381 204 659**

University Hospital Southampton Switchboard

Tel: **02380 777 222** – ask for bleep 2478

If you need an interpreter or would like this information leaflet in another format, such as Easy Read, large print, Braille, audio, electronically or another language, please speak to the department where you are being seen. You will find their contact details on your appointment letter.



Authors: Georgina Stepney and Kathy Lurcook
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Oxford University Hospitals NHS Foundation Trust
www.ouh.nhs.uk/information

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charity@ouh.nhs.uk | 01865 743 444 | hospitalcharity.co.uk

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