

Cardiac catheterisation for children

Information for patients and carers





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This leaflet gives you general information about cardiac catheterisation for your child. It does not replace the need for personal advice from a healthcare professional. Please ask us if you have any questions.

What is cardiac catheterisation?

Cardiac catheterisation is a way to find out detailed information about your child's heart. It is used to diagnose and treat certain heart conditions.

Children are given a general anaesthetic so they are asleep while the procedure is carried out. We then insert a thin tube called a catheter into a blood vessel, usually in the groin (at the top of the legs). The catheter is guided gently up the blood vessel towards the heart. A low dose X-ray (called fluoroscopy) – shown on a TV monitor – is used so we can watch the catheter's progress.

Once the catheter is in place, we measure the blood pressure in different parts of the heart. A special dye is sometimes injected through the catheter to make the arteries show up more clearly on the X-ray.

Another test, called a transoesophageal echocardiogram (TOE), can be done at the same time as the cardiac catheterisation. TOE is a special type of ultrasound scan that uses sound waves to create clear moving pictures of the heart. It involves a small tube being threaded down through your child's mouth.

TOE enables us to see clear pictures of your child's heart from a different angle, which can be very helpful. This additional procedure is only carried out with your consent (agreement).

Once the cardiac catheterisation is completed, we put a dressing over the entry site (at the top of the child's leg) to stop any bleeding.

The results of the cardiac catheterisation are usually available immediately, but for some children additional tests may be needed. Sometimes a decision on further treatment is only made after discussion at our weekly joint cardiac conference, which all of our cardiologists, surgeons and intensive care doctors attend. If this happens, your cardiologist will contact you to talk about the treatment options.



There are three different types of cardiac catheterisation

- **Diagnostic cardiac catheter**

This helps us decide the best way to treat more complex conditions, including the planning and timing of surgery.

- **Interventional cardiac catheter**

Sometimes we can treat cardiac conditions with an interventional catheter, instead of heart surgery. For example, we can use it to:

- make extra holes in the heart to treat transposition of the great arteries. This is when a child is born with a heart in which the main arteries are connected the wrong way round
 - close holes in the heart, when a child has a condition such as atrial septal defects and ventricular septal defects
 - insert stents (small metal tubes) to keep blood vessels open in cases of aortic narrowing. This is when the heart's aortic valve narrows preventing it from opening fully, reducing or blocking blood flow to the rest of the body.
- **Electrophysiology study and radiofrequency ablation**

An electrophysiology study is a test to measure the heart's electrical activity and diagnose abnormal heart rhythms. We use a catheter with an electrode at the tip (a small piece of metal that conducts electricity) to collect information about the heart's electrical activity.

It is often possible to use the electrode to correct abnormal heart rhythms. The electrode does this by delivering electrical impulses to destroy (ablate) the small areas of the heart that are causing the problem.

Are there any possible complications of cardiac catheterisation?

Cardiac catheterisation is very safe, but there are risks to any procedure. These will be fully explained to you when we are getting your permission to go ahead with the procedure.

Complications can include:

Rhythm disturbances

Sometimes the heart can beat abnormally while the catheter moves inside the heart. Usually it returns to normal once the procedure is over, but occasionally treatment – a mild electric current or a temporary pacemaker (a small device to keep the heart beating correctly) – may be required to get the rhythm back to normal.





Blood vessel blockage

Blood vessels in babies and children are small, and cardiac catheters can cause blood clots to form and block the blood flow. This is usually temporary and corrected with a medicine called heparin.

Bleeding from the blood vessel

Bleeding from the vessel can be stopped by using a dressing to apply pressure to the entry site (usually the groin, where the catheter was inserted).

Side effects of the anaesthetic

Your child may be drowsy, feel sick, and need time to feel better after a cardiac catheterisation. If this happens when the procedure has been carried out in the afternoon, we will ask you to stay an extra night in hospital for observation.

Before the cardiac catheterisation

The paediatric scheduling manager will call you to arrange your child's admission to the hospital. The manager will then send you a letter confirming details of the admission. At this stage it is very important you tell us if your child is unwell with cold or flu-like symptoms, or diarrhoea or vomiting. The cardiac catheterisation may need to be delayed.

It is also very important that any dental treatment should be completed before your child has a cardiac catheterisation.

Problems with teeth or gums can be a major source of infection and bacteria (germs) can enter the bloodstream and get into the heart. This is called endocarditis and can seriously damage the heart valves and cause other major complications. If your child has tooth decay or needs any fillings, the cardiac catheterisation will need to be rescheduled.

You will also be asked to call the paediatric bed manager the day before admission to make sure there is a bed available for your child.

It is important your child has an empty stomach before being given the anaesthetic. This means your child will need to be given no foods or fluids ('nil by mouth') before the catheter catheterisation.

If your child is coming in on the day of the catheter catheterisation, he/she must not have anything to eat or drink from 2am that morning. If your child is admitted the day before, the nurses will tell you when to stop giving your child food or drink.

What will happen when we arrive at the hospital?


When you arrive on Rose ward, you will be shown to your child's bed. We will observe your child and take swabs to test for MRSA (methicillin resistant staphylococcus aureus) – a common infection.

Your child may also have an ECG (electrocardiogram), a test to record heart rhythm, and an echocardiogram, also known as an echo, a test that uses sound waves to build up a moving picture of the heart. If you would like more information about either of these tests, please just ask. These tests do not involve any pain for your child.

You will meet a cardiologist to discuss the cardiac catheterisation and to sign the consent form.

Before your child goes to theatre for his/her procedure, we will ask you to bathe him/her with an antiseptic soap called Chlorhexidine. We will give you the soap when your child arrives at the hospital. Your child's skin needs to be as free of bacteria (germs) as possible before having the procedure. Washing with this soap will greatly reduce the number of germs on the skin. This will reduce the risk of infection after your child's operation.

You will be able to go with your child to the catheter laboratory and stay until he/she is asleep (under anaesthetic). A nurse will then take you back to the ward.



A cardiac catheterisation can take anything from 60 minutes to several hours, depending on what we need to do.

What happens after cardiac catheterisation?

Your child will return to Rose ward after he/she has recovered from the anaesthetic. The nurses will check on your child regularly. They will make sure the catheter site is not bleeding and that your child's leg has a good blood supply. They do this by checking its colour and how warm it is. Your child will stay on the ward for four to six hours (and possibly overnight). We will make sure your child is no longer drowsy, has had something to eat and drink, and passed urine before going home.

Going home after a cardiac catheterisation

Wound care

The entry site is quite small and does not need stitches. It will heal in a few days. The area around the site may become a little bruised. Your child can have a bath or shower 24 hours after procedure.

Medication

After some catheter interventions, aspirin may be prescribed. Further advice will be given when your child leaves hospital.

Returning to normal activities

Your child may be tired to begin with, but should be able to return to school and all normal activities within a couple of days.

When to call for advice

It is very important to call the clinical nurse specialists in children's cardiac care immediately if any of the following occur:

- there is bleeding from the entry site
- the entry site becomes red, swollen, painful or hot to touch

- the leg becomes discoloured or feels colder than the other leg
- your child complains of “pins and needles” in the leg.

If you are concerned about your child’s colour, breathing or if there is excessive bleeding from the catheter site, please **call 999** for an ambulance. Your child will be taken to the local accident and emergency unit for assessment.

Your follow-up appointment

We will check on your child’s progress at a follow-up appointment which will be arranged your cardiologist. Please contact your clinical nurse specialist if you have any questions or concerns.

Getting to the hospital

You need to make your own way to and from the hospital. Please be aware that there is little or no car parking available.

By bus

Buses 14, 211 and 414 all stop outside the Fulham Wing entrance to the hospital.

Buses 49 and 211 stops outside the Sydney Street entrance.

Buses 11, 19, 22 and 319 all travel along the King’s Road and stop near the corner of Sydney Street, which is about a five-minute walk from the hospital.



By tube

The nearest tube station is South Kensington on the Circle, District and Piccadilly lines. It is a 10-minute walk from the hospital. The 49 bus travels from South Kensington station to the hospital. Taxis are also available.

By rail

The nearest mainline train stations are Victoria station and West Brompton station. Both have good tube and bus connections to the hospital.

Admission is usually for one night, but please come prepared for a two-night stay. One parent or carer can sleep at the child's bedside. Please pack lightly as space is limited.

By car

If a family member is driving you in by car, they can drop off or pick up at the main hospital entrance in Sydney Street.

Parking for patients and visitors

Royal Brompton Hospital is in a pay-and-display parking meter zone (street parking).

Parking for disabled badge holders

A small number of disabled parking spaces are available in:

- Cale Street
- Foulis Terrace
- Sydney Street (near the main hospital entrance).

Remember to display your disabled badge.

Map showing Royal Brompton Hospital





Useful contact details

Hospital switchboard	0330 128 8121
Royal Brompton Hospital – outpatients	0330 128 8011
Harefield Hospital – outpatients	0330 128 5573
Rose ward administrator	0330 128 8121 ext: 88543
Clinical nurse specialists in children’s cardiac care (direct line, Monday to Friday, 9am-5pm)	0330 128 7727
Rose ward (ask for the nurse in charge)	0330 128 8121 ext: 82412 or 82413 (24-hour)
Family liaison team (Monday to Friday, 9am-5pm)	0330 128 8121 ext: 88588
Bed schedulers (Monday to Friday, 9am-4pm)	0330 128 8121 ext: 82118 bleep: 1256
Paediatric bed manager (Monday to Friday, 9am-4pm)	0330 128 8121 ext: 88588 bleep: 7078
Medicines advisory service (Monday to Friday, 9am-5pm)	0330 128 8901
Clinical psychologists	0330 128 8251
Paediatric dietitians	0330 128 8121 ext: 82082

Our hospital charities

Our hospitals are supported by a number of charities which raise money to support projects that lie outside NHS budgets, but are often vital to enhancing patients' health, wellbeing and experience.

See details about two of our charities opposite.

The Brompton Fountain is a charity that supports families of children under the care of Royal Brompton Hospital for severe and life-threatening heart and lung conditions.

Website: www.thebromptonfountain.org.uk

Tel: **03300 22 92 91** (direct line)

Email: admin@thebromptonfountain.org.uk

Royal Brompton & Harefield Hospitals Charity supports initiatives across both hospital sites, raising money for innovative treatment, equipment and research.

Its projects range from providing camp beds so parents can stay beside a child at night to funding pioneering technology to give more patients the chance of receiving a life-saving transplant.

Website: www.rbhcharity.org

Tel: **020 7351 8613**
(Charity Head Office, Royal Brompton Hospital)

Email: fundraising@rbht.nhs.uk

Research

Research is being carried out to develop new treatments and improve care for patients. You may be asked for permission to allow your child to be included in a research study which will be explained in detail. You do not have to say 'yes'. Your child's care will not be affected by your decision.



Your notes

If you have concerns about any aspect of the service you have received in hospital and feel unable to talk to those people responsible for your care, call PALS on 0330 128 7715 or email pals@rbht.nhs.uk. This is a confidential service.

Royal Brompton Hospital
Sydney Street
London
SW3 6NP
Tel: 0330 12 88121

Harefield Hospital
Hill End Road
Harefield
Middlesex
UB9 6JH
Tel: 0330 12 88121

Website: www.rbht.nhs.uk

Royal Brompton and Harefield hospitals are part of Guy's and St Thomas' NHS Foundation Trust

إذا كنت ترغب في الحصول على ترجمة فورية لمضمون هذه الوثيقة إلى اللغة العربية، يرجى منك الاتصال بأحد مستخدمينا بجناح المصلحة التي يتم فيها استشفائك. أحد موظفينا سيسعى لترتيب إجراءات الترجمة وإتمامها في الوقت المناسب لك.

Brosurteki bilginin Türkçe tercemesi için tedavi görüyor olduğunuz bölüme bas vurunuz. Bölüm personeli tercemenin gerçekleşmesini en kısa zamanda ayarlayacaktır.

