

Information for Patients & Families
with Adult Congenital Heart Disease (ACHD)

Cardiac Catheterisation



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You have recently been informed that you require a cardiac catheter procedure. We understand that you may have some worries or concerns about this. This booklet will answer any questions you may have about the procedure and your hospital stay.

What is a cardiac catheter?

During a cardiac catheter procedure one or two narrow tubes are inserted into the blood vessels at the top of the leg. On some occasions this may involve both groins. There are occasions where the blood vessels in the arm, side of your neck or collar bone may be used but this is not common and would be discussed with you in clinic prior to your procedure. After the tube is inserted, this is then passed gently through the heart. The doctor will then move the catheter around and measure the pressures in different parts of the heart and take blood samples if necessary. Sometimes a contrast dye is injected through the catheter so that special x-rays or videos can be taken. All of this information is important as it gives the doctor a more detailed picture of your heart problem. When the test is over the catheter is removed.

A trans-oesophageal echocardiogram (T.O.E) is sometimes performed at the same time as the catheter. This is a special probe that is passed down the back of the throat into the oesophagus (food pipe). This allows the doctor to get some very clear pictures of your heart from a different angle and can be very helpful in providing a more detailed picture of your heart condition.

The result of the cardiac catheter is usually available straight away. Your Consultant will see you later the same day or at a later date in the out-patient clinic to explain the results and answer any of your questions. Cardiac catheters can be described as diagnostic or interventional.

Diagnostic Right and Left Heart Catheter

This is useful to:

- Obtain more information about your heart
- Confirm a diagnosis
- Help the team decide the appropriate timing for you to have your heart operation or further procedures
- Help measure the blood pressure in your lung arteries. This will help determine if you need special medication to help lower the blood pressure.

Interventional cardiac catheter

An interventional cardiac catheter is performed in order to carry out a number of procedures:

- Stretch (balloon) a narrow valve or blood vessel
- Close a hole or blood vessel
- To insert a stent (small metal frame) into a narrowed blood vessel or conduit
- Insert a new heart valve

Are there any possible complications of having a cardiac catheter?

- **Bleeding from the blood vessel** – If this occurs, this usually responds to pressure being applied over the puncture site. This will be performed manually by someone pressing on the top of your leg or sometimes a special device can be used to apply pressure. If the bleed has been very large you may require some medication to help treat any anaemia. You may be bruised and tender following the procedure if bleeding occurs.
- **Blood vessel blockage** - If this occurs, you will need a blood thinning drug (heparin) to be given via an intravenous infusion (drip). If this fails to work then a clot busting drug (alteplase) is given, again through a drip. It may delay your discharge home by a few days.

- **Blood clot formation** - This is quite rare as you will receive a blood thinning drug during the catheterisation to help prevent blood clots forming. However, clots can still form. If a clot develops there is a risk it can travel to the brain. The effects usually only last for a short period of time but very rarely a permanent stroke can occur.
- **Abnormal heart rhythms** - (heartbeat which is too fast or too slow). 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 medications, an electric shock or a temporary pacemaker may be needed to stabilise the rhythm.
- **Damage to the heart or blood vessels** - This is quite rare and usually no action is required. Sometimes a needle will be used to remove blood from around the heart and rarely an operation is needed to repair the damage.

The risks may be increased further in the following situations:

- If you have pre-existing high blood pressure in your lungs
- If you have a pre-existing bleeding or clotting disorder
- If you have a heart condition where your lips and nails are cyanosed (blue)
- If the pumping action of your heart is not as good as it should be

Will I need an anaesthetic?

This will be discussed with you in clinic prior to your procedure. You may be given a choice of being put to sleep or having the procedure using a local anaesthetic and sedation. There are some diagnostic procedures where it is preferable to stay awake as it affects the results of the test. For most interventional procedures it is normal to have a general anaesthetic.

Why do I need a dental check?

Before coming to see the ACHD nurse specialist in the pre-assessment clinic, we advise all patients to attend their dentist for a check-up. It is important your dentist is informed that you need a procedure on your heart. Any dental work must be completed before you can have your procedure. This is to prevent the risk of infection.

What happens next?

You will be invited to attend the pre-admission clinic in Liverpool Heart and Chest Hospital prior to your catheter procedure. This will be held in Willow Suite which is situated on the ground floor in the Orange Zone. This is accessed via the shared Main Entrance for Liverpool Heart and Chest Hospital and Broadgreen.

You will meet one of our ACHD Nurse Specialists who will assist you throughout your appointment. You will have an opportunity to discuss your procedure in more detail and they will answer any questions you may have. They will advise you and your relatives of the admission process.

At this appointment you will have the following tests:

1. ECG (heart trace)
2. Some people may require an ECHO (heart scan)
3. Blood tests
4. Swabs to check for hospital or community acquired infections

You may also meet with an anaesthetist during this appointment.

How will consent be obtained?

You will meet one of the Cardiologists who will ask you to sign your consent form. This may not always be the same doctor who performs your procedure. You may be asked to sign consent at pre-admission clinic or you may be invited back to clinic to do this. It is important that you understand both the risks and the benefits of any planned procedure.

If you have learning disabilities we will support you to make your own decision as far as possible. We will provide information in an easy read format with pictures to help you understand. If you are not able to make this decision for yourself then we will make decisions for you that are in your best interest. We will also involve your family, carers and any other health professionals that are involved in your care to help us make this decision for you.

Consent is a process whereby you are given all the information you need to help you make your decision. You will be able to contact the Nurse Specialist via the ACHD advice line on **0151 254 3333** if you wish to ask further questions or clarify information.

What about the medicines I take?

Please bring all of your medicines to the pre-admission clinic. You will be advised of any medications that need to be stopped prior to your procedure and when to stop taking them.

We advise you take all other morning medications as usual with a sip of water on the day of your catheter procedure prior to 7.00 am.

What if I take Aspirin or Clopidogrel?

It is important that you take these medications as normal. Please do not stop taking these medications.

What if I am taking blood thinning medication like warfarin? You will have to stop taking your blood thinning medication prior to your catheter procedure. Anti-coagulation prior to a cardiac catheter can be managed in various different ways. The ACHD Nurse Specialist will give you specific instructions regarding this.

What if I have diabetes?

You will be given specific instructions in pre-admission clinic with regards to taking your diabetes medications.

Please do not take your metformin on the morning of your catheter procedure.

Last Menstrual Period (for females only)

The cardiac catheter procedure is performed using x-rays. It is very important to check that you are not pregnant prior to your procedure. On admission you will be asked the date of your last menstrual period, if it is greater than 28 days or you cannot remember then you will be asked to take a pregnancy test. This is normally checked with a blood test and we may have to delay your procedure whilst we wait for the results. It is recommended when you are informed you have been listed for a cardiac catheter that you make a note of when you had your last period to avoid any such delays.

What happens on the day of the procedure?

You will be advised to report to either Holly Suite or Birch ward on the morning of admission.

- One of the nursing staff will check the details you have given in pre-admission clinic to make sure they are still correct.
- A cannula (a small plastic tube) will be inserted into your arm or hand. This will be used to administer fluids and medications through a drip before, during and after your procedure.
- The nurses will place an ID bracelet on your wrist. Closer to the time of your procedure you will be asked to change into a gown.
- The nurses on the ward will go through your consent form with you once again and will ask if you are still happy to proceed with the procedure. Should you think of any questions or queries that you had not thought of in clinic please do not hesitate to ask. The nursing staff can organise for one of the doctors or ACHD Nurse Specialists involved in your care to come see and you and answer these questions.
- If you are having a general anaesthetic, the anaesthetist will come see you before your procedure.
- You will be escorted into the catheter laboratory which looks like an operating theatre and you will then be introduced to the team who will be looking after you during your procedure.
- They will once again check your details with you and the procedure that is being planned.
- The team will also perform a final safety check when you are in the catheter laboratory – by running through what is expected to happen on a system called care cube

What happens after the procedure?

- You will be taken to the catheter recovery area after your procedure. If you have had a general anaesthetic you will wake up in the recovery area. When you feel more alert the nursing staff will transfer you back to Holly Suite or take you back to Birch ward on your bed.
- You will be monitored very closely for several hours after your procedure. The nurse looking after you will check your blood pressure and oxygen levels regularly.
- You may have an echo (heart scan) after your procedure if needed.
- The nurse looking after you will monitor your groin for any signs of bleeding.
- You will need to stay flat immediately after your procedure to ensure that the blood vessels in your groin have time to heal. The nursing staff will advise you when you can begin to sit up and mobilise.
- You will need to have a drip in your arm after the procedure. Once you have woken up this will be removed and you will be able to eat and drink.
- After your procedure your Doctor will come to see you and you will be advised if you can go home or whether you need to stay overnight.

What advice will I be given on discharge?

The nurses on the ward will give you written discharge information and explain any specific instructions prior to discharge but please do not hesitate to ask any questions before you leave.

Wound Care

- There may be bruising around the puncture site which is to be expected. You will be discharged home with a small dressing on your groin site and we advise that it remains covered for at least 24 hours. The ward staff will provide you with some dressings to take home.
- You can have a shower the day after the procedure. Gently pat the wound dry and reapply the dressing. We advise you avoid having a bath for several days after the procedure and also recommend you avoid applying any soap, talc or creams onto the puncture site until it has fully healed.
- Approximately 1 week after the test you may notice a hard pea sized lump may develop at the puncture site. This is quite common, not a cause for concern and it will eventually disappear.

Pain Relief

- You may experience some pain or discomfort for up to a week after the procedure particularly if you have a bruise. Loose fitting clothing may help to ease the discomfort around the puncture site. You can take paracetamol if needed – please ensure that you do not exceed the recommended dose.

Returning to normal activities

- You may feel tired for a day or so after the procedure. We recommend you rest for the remainder of the day when you go home. If you have had the test done through the top of your leg, you should limit the number of times you use the stairs for the first 24 hours.
- You will be given specific instructions as to how long you should avoid driving for. This will depend on the type of procedure that you have had and how long it takes for any bruising to settle in your groin area. You must not drive until you your groin feels normal and is no longer painful. You can visit the DVLA website for specific advice at <https://www.gov.uk/health-conditions-and-driving>
- You should avoid cycling, sports and heavy lifting for one week.

When to contact the Team for advice

It is very important to contact the ACHD team immediately on **0151 254 3333** if any of the following occur:

- If the wound site becomes red, swollen or painful.
- You feel 'pins and needles' in the leg.
- The leg becomes discoloured, appears swollen or feels colder than the other leg.
- You become breathless or there is a change in your normal colour.
- You become very sleepy or develop a high temperature.
- It would be unusual for bleeding to occur once you are at home. However if this happens you should lie down and apply firm pressure just above the puncture site for 15 minutes. If the bleeding does not stop after this time you should contact your GP, NHS direct or local Accident and Emergency department.

Who can I contact for more information?

If you have any worries or concerns you can contact the following:

ACHD Nurse Specialists 0151 254 3333
(Answerphone Monday-Sunday 08.00 am - 6.00 pm)

ACHD Secretaries 0151 600 1675
(Monday– Friday 09.00 am - 5.00 pm for appointment queries)

Birch Ward 0151 600 1175/1230

Holly Suite 0151 600 1322
(Monday – Friday 8.00 am – 8 pm)

If you require a copy of this leaflet in any other format or language please contact us quoting the leaflet code and the language or format you require.

<p>إذا لديك الرغبة في الحصول على نسخة من هذه المعلومات بأي لغة أخرى أو بشكل آخر (على سبيل المثال بخطوط كبيرة) ، الرجاء الاتصال علينا على الرقم 0151 600 1257 موضحاً الشكل أو اللغة التي ترغب فيها.</p>
<p>如果您想索取一份以其他語文或形式（如大字體）編印成的資料傳單，請致電 0151 600 1257 向我們查詢，並說明您所需要的形式和語文。</p>
<p>ئەگەر ئەم زانیاریاتە بەھەر زمانیکی تر یاخود شیۆلۆژیکی تر دەوئیت (بۆ نموونە بە چاپی گەورە) ئەوا تکایە بە ژمارە تەلەفۆنی 0151 600 1257 پەیوەندیمان پێوە بکە و ئاماژە بدە بەو زمانە یانخود شیۆهییە کە دەتەوئیت</p>
<p>W celu uzyskania niniejszej informacji w innym języku lub formacie (np. dużym drukiem), prosimy o kontakt z nami pod numerem 0151 600 1257 podając wymagany format lub język.</p>
<p>Haddii aad u baahan tahay koobiga wargelintan oo luqad ama qaab kale (sida far waaweyn) fadlan nagala soo xiriir 0151 600 1257 adiga oo noo sheegaya luqadda ama qaabka aad wax ku rabtid.</p>

CTCPALS225 Version 1
Date of Publication: April 2019
Date for Review: April 2021