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Title: Paediatric Cardiac Catheterisation and Intervention Standard Operating Procedure

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Network: North-West, North Wales and the Isle of Man Congenital Heart Disease Operational Delivery Network

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Stakeholders Consulted (list all)

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Approved By: Paediatric Ratification Task and Finish Group on behalf of the NW CHD Network Board

Date: 9th February 2026

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Paediatric Cardiac Catheterisation and Intervention Standard Operating Procedure

9th February 2026

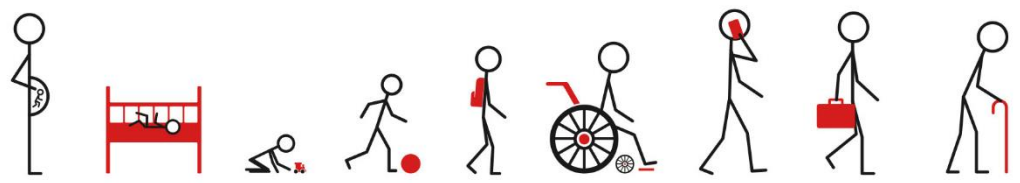

Table of Contents

Policy statement

This Standard Operating Procedure (SOP) relates to paediatric diagnostic and interventional cardiac catheters carried out by the congenital cardiology team working across the North-West, North Wales and the Isle of Man Congenital Heart Disease Operational Delivery Network (NWCHD ODN).

Introduction

NHS England outlined the future of congenital heart disease service on 30th November 2017. Adherence to the standards of NHS England is the key in delivering the service. All diagnostic tests and interventions will be undertaken by congenital cardiologists at Alder Hey NHS Foundation Trust, which is the Level 1 CHD centre. This SOP aims to outline the process of listing, undertaking, reporting and communicating the results of all diagnostic and interventional catheters of congenital heart patients.

On-call service

There is always a congenital interventionist on call covering both paediatric patients (at Alder Hey Children's Hospital) and adult congenital heart (ACHD) patients at Liverpool Heart and Chest NHS Foundation Trust. This operates on a 1:3 basis. Consultants may be contacted via the Alder Hey Switchboard 24hrs a day.

Referring a patient for a cardiac catheter/ intervention

The patient's lead Consultant Cardiologist will be responsible for deciding as to whether a cardiac catheterisation and/or intervention is necessary. This will be discussed with the patient and family during their outpatient consultation. Many patients will be on a patient pathway where catheters are planned as part of their standard evaluation.

When referring a patient (> 1 year) for cardiac catheterisation please make a referral to the Alder Hey dental team for review at a priority 2 patient by dictating a short letter to the dental team via general referrals and booking team. A specific dental cardiac clinic runs every Monday morning.

Risk stratification of catheter and interventional cases[1,2]

COMPLEX CASES	Urgent or inpatient catheters RVOT or PDA stent Transcatheter valves Pulmonary vein intervention Mitral or tricuspid valve intervention Any catheter or intervention < 28 days Any Premmie PDA Intervention Any catheterisation <4 days after surgery Any high-risk case that may need surgical or ECMO back up

MODERATE RISK	Aortic valvuloplasty > 28 days old Coarctation balloon or stenting Pulmonary artery intervention VSD device closure Intervention on surgical shunt Fontan fenestration
ROUTINE / LOW RISK	Diagnostic catheter > 28 days old Patent ductus arteriosus (PDA) more than 6 kg (without PH or BPD) Occlusion of venous or systemic – PA collaterals Central single ASD in patient more than 20 kg; Pulmonary valvuloplasty > 3 months old

Interventional Discussion

Will be discussed in the Cardiac MDT (JCC meeting). A discussion sheet should be prepared in the same way as for any case for discussion at the Thursday JCC. Process is unchanged with priority allocation and these patients being added to the list by the intervention PCO following the JCC.

For diagnostic cardiac catheters - **routine referral** for a catheter should be made. These cases are discussed at the **cardiac catheter meeting** (see details below).

- A discussion sheet should be prepared in the same way as for Thursday AM JCC and sent to the intervention PCO for discussion at the listing meeting
- Alder Hey patients should have a complete coded problem list on Meditech 6

Balloon atrial septostomy (BAS)

Is mostly performed as an urgent procedure. The outcome of an ad hoc discussion with the on-call cardiologist, interventionist and intensivist will be documented in the patient notes.

For patient transferring from outside the Level 1 centre the following should also be sent:

- Echo images to be sent through the ISCV/ PACS system
- Relevant x-rays or CT scans
- Details about social issues impacting on procedure or consenting process

Where there is inadequate information, the referral may be rejected or where more information is needed the patient may be planned for review in clinic with one of the intervention team for further assessment.

Cardiac catheter meeting

Catheter listing meetings occur at 11.45 – 12.45 pm on a Thursday. They will be led by one of the interventional consultants on a rotating basis. The meeting will include:

- Discussion of routine cases and agreement catheter +/- intervention is the best course of action, patients should be assigned a priority code and then listed for date
- Listing of complex cases accepted at Thursday JCC according to priority, with plans made for dual operator
- Other than complex cases need for dual operator to be identified on a case-by-case basis
- Listing of emergency and inpatients for catheter (these will be done be performed by the on-call interventionist for that week)
- Discussion, planning and review of imaging for cases planned for the week coming
- Review of catheter data and activity to inform the Quality Assurance and Quality Indicator Meeting (QAQI)
- Review of difficult cases, complications and incidents for learning (this will also feed into QAQI meeting)

Table 1: Waiting list priority according to Royal College of Surgeons (RCS) classification

P1a	Emergency - needed within 24 hours, life saving
P1b	Urgent - needed within **72 hours**
P2	Elective - that can wait up to **4 weeks** (high clinical priority)
P3	Elective - can be delayed safely up to **3 months** (moderate priority)
P4	Elective - can be delayed **more than 3 months** without predicted harm

General principles

- To maintain continuity and communication when the lead consultant for the patient is one of the interventional team, the patient will be listed on one of their first operator lists. Patients with other 'non interventional' cardiologists will be discussed at the meeting and then be placed on the pooled list and allocated a date in the Thursday interventional listing meeting
- Routine patients should aim to be booked in at least 4 – 6 weeks in advance
- Complex cases should be listed as first case, younger patients should be listed earlier in the day
- 1 – 2 slots/ week should be left empty to accommodate urgent and emergency patients
- Cases should be split equally between the team ensuring this is in accordance with minimum number set out in national CHD standards, this will be monitored quarterly

PCO responsibilities after listing meeting

- Check patient demographics and contact numbers on Meditech 6
- Email the referrer to inform them their patient has been listed
- Send written communication to the family (this may be telephone communication if the case is urgent)
- Check status of dental review
- Add patients to 1C outlook diary with relevant details
- Liaise with HDU/ PICU if bed (back-up) required for case

Catheter pre-admission clinic

The patient will be reviewed in the pre-admission clinic generally within 3 months of their planned procedure. During this clinic they will be reviewed/ assessed by

- Paediatric Cardiac Nurse Specialist
- Consultant Interventional Cardiologist (this will usually be the consultant performing the procedure) or the catheter lab registrar. Consent will be taken at this clinic where possible.
- Cardiac physiologist – *complete echocardiogram* and *ECG* to be performed (if not done in last 3 months)
- A small number of patients may also be reviewed by one of the anaesthetic team depending on complexity
- Date for procedure should be confirmed including time for nil by mouth and time family are to attend ward 1C

This clinic will ensure that the patient is fit for the planned procedure and allow more discussion about the planned procedure with the patient and family. In many cases consent will be completed during this clinic.

Admission to ward 1C

Nursing staff to admit patients and follow usual nursing pathway. Please ensure all relevant documentation, in particular consent (paper or electronic form) for the procedure is available. For some patients, consent will be obtained on the morning of the procedure. Patients will be reviewed by anaesthetist.

Post procedure management plan will be documented on the digital catheter pathway on Meditech. Specifically, patients will require regular monitoring of catheter entry sites and distal pulses. The Consultant Interventional Cardiologist or catheter lab Fellow should be contacted if there are clinical concerns related to the procedure.

All patients who require a post procedure echocardiogram and ECG will need a request to be placed on Meditech for Echo+/- ECG. This request needs to be made the same day as their procedure. The Physiologists will also need to be notified. The physiologists will

then attend the ward at 8am the following morning to perform the investigations requested.

Discharge and follow up plan

- Most patients for diagnostic catheter won't require additional follow-up (unless specified) and will return to their previous pathway
- Following intervention patients will be seen in 6-8 weeks with the Consultant Interventional Cardiologist that performed the procedure before being discharged back to the care of their lead Consultant Cardiologist

Documentation

- All information related to the admission for cardiac catheter procedure including catheter report and relevant information for NCHDA should be completed on the digital catheter pathway on Meditech
- Upon completion of the catheter pathway, an automated cardiac catheterisation report and discharge summary will be generated. These documents will be given to the family and sent to the lead Consultant Cardiologist, local Paediatrician with Expertise in Cardiology (PEC), local Paediatrician and GP.

Introducing new procedures

All new interventional procedures will require approval through the CDEG committee. The process is outlined on the Alder Hey intranet. When new technologies are being considered, they should be discussed by the whole intervention team prior to CDEG submission in addition to the Clinical Lead and Divisional Director.

Audit & data quality assurance

Data submission to NICOR will occur as per national guidelines. NICOR data retention consent will be incorporated into the procedural consent process. Relevant data is collected, and sense checked by in-house data processing staff. Annual departmental activity and complication audit is presented at the quarterly QAQI meeting. Complications and mortalities are discussed in intervention meeting and additionally the monthly QAQI meeting. In house benchmarking for activity, complications and radiation parameters is carried out every three years.

Intervention Team Contacts

Cardiac PCOs	Internal External	Cardiology@alderhey.nhs.uk ahc-tr.cardiology@nhs.net
Charlotte Thomas	PCO Intervention Team Charlotte.Thomas@alderhey.nhs.uk or charlotte.thomas21@nhs.net	0151 252 5633
Tracy Oakes	PCO Intervention Team tracy.oakes@alderhey.nhs.uk or tracy.oakes@nhs.net.uk	0151 282 4515
Cardiac Specialist Nurses	External ahc-tr.cardiacnursespecialist.alderhey@nhs.net	

****Please Note**** All confidential correspondence to comply with data protection and be via encrypted emails or via NHS.net to NHS.net email accounts only
21

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1. Bergersen L, Gauvreau K, Marshall A, et al. Procedure-type risk categories for paediatric and congenital cardiac catheterisation. Circ Cardiovasc Interv. 2011 Apr 1;4(2):188-94. doi: 10.1161/CIRCINTERVENTIONS.110.959262. Epub 2011 Mar 8. PMID: 21386090.

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