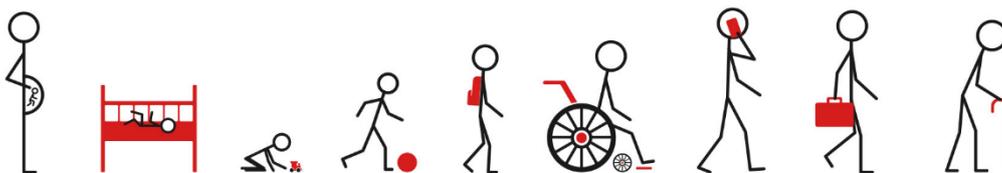


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Specialist advice including pre-operative risk assessment for paediatric cardiology patients requiring anaesthesia for non-cardiac surgery

Date: 21/10/2024



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Guidance

Congenital heart disease (CHD) represents a wide range of potential lesions, and children may present for non-cardiac surgery, at various points during the treatment of their heart disease. Many children with mild forms of disease, or following successful treatment, will be able to undergo non-cardiac surgery safely in a variety of settings. Other children will require highly specialist care during the peri-operative period. In addition to cardiac disease, it is important to consider the nature of the surgical procedure and co-morbidities.

Care may be provided in a range of different settings. This may be in a district general hospital or a Level 3 cardiology centre close to the patient's home, at the Level 2 cardiology centre (Manchester Children's Hospital) or at the regional Level 1 cardiac surgical centre (Alder Hey Children's Hospital). Both Alder Hey and Manchester Children's Hospital offer in house paediatric cardiology, paediatric intensive care, and Consultant Anaesthetists with expertise in the care of children with heart disease. Consideration of these factors requires judgement on the part of clinical teams.

When assessing an infant or child with heart disease it is important to review the most up to date cardiac assessment or clinic letter. For children in moderate or high-risk groups who are overdue their planned cardiology review, the team reviewing the case should contact their lead cardiologist to see if an up-to-date cardiology review is warranted prior to the planned procedure. These children should be assessed proactively ahead of time as requests may not be able to be accommodated at short notice.

The table below provides some guidance but should not dictate where and by whom care is provided. However, the expectation is that patients in the 'Lowest Risk' group can usually be managed at a local hospital according to suitable paediatric experience of the whole peri-operative team. For patients in the high-risk group, it will often be appropriate for non-cardiac procedures to be undertaken at Alder Hey Children's Hospital, however careful assessment and MDT discussion is required on a case-by-case basis.

Lowest Risk	Moderate Risk	High Risk
Mild disease in asymptomatic children: <ul style="list-style-type: none"> • ASD/PFO • Small VSD 	Moderate disease with some symptoms: <ul style="list-style-type: none"> • Moderate Aortic Stenosis • Unrestrictive VSD • History of well tolerated 	Severe symptomatic disease: <ul style="list-style-type: none"> • Myocardial dysfunction • Pulmonary hypertension • Symptomatic arrhythmia • Unoperated Tetralogy of

<ul style="list-style-type: none"> Mild pulmonary stenosis Small PDAs 	<p>arrythmia</p>	<p>Fallot's</p> <ul style="list-style-type: none"> Prostin dependent infants Severe aortic stenosis
<p>Operated:</p> <ul style="list-style-type: none"> Post VSD closure, off medication Post ASD closure with device or surgery 	<p>Operated:</p> <ul style="list-style-type: none"> Recent Surgery Palliated disease with good outcome (SpO2 >85%) Functioning pacemaker 	<p>Operated:</p> <ul style="list-style-type: none"> Post BT shunt or PDA stent Post Fontan with significant functional limitation Major surgery following Fontan procedure

Special Cases

> Emergency Surgery

Outcomes for children requiring emergency surgery can be severely compromised if surgery is delayed due to transfer. This can represent a difficult situation as information and facilities to conduct a detailed assessment may be limited. Many forms of urgent surgery will require transfer to a specialist children's hospital. It is the responsibility of the clinical team, at the referring hospital, to ensure that transfer is conducted in a safe and prompt fashion when required.

> Neonates

Almost all surgical care of neonates is provided within specialist children's hospitals. The combination of significant cardiac disease and major non-cardiac anomalies is associated with a high mortality and morbidity. Care, including the location care is provided, should be planned carefully.

Useful contacts

Level 1 Centre - Alder Hey Children's Hospital

- > For advice regarding procedure planning and anaesthesia please email cardiac CardiacAnaestheticGeneralEnquiries@alderhey.nhs.uk
- > For advice about a patient's cardiac condition or to obtain up to date information please email the PCO team Cardiology@alderhey.nhs.uk, they will forward queries on to the relevant consultant.
- > For emergency cardiac advice please complete the urgent advice form and send to ahc-tr.cardreg@nhs.net before bleeping on-call registrar on 369 via switch 0151 228 4811

Level 2 centre – Royal Manchester Children’s Hospital

- > For advice regarding procedure planning and anaesthesia please email Benoit.Beauve@mft.nhs.uk
- > For emergency advice regarding the urgent transfer of a patient to PICU at RMCH call the PICU consultant on call via switch: 0161 276 1234
- > For urgent cardiac advice please complete the urgent advice form and send it to mft.rmch@nhs.net before bleeping on-call registrar via switch 0161 276 1234

Referral Proforma for urgent advice

Referral form for urgent advice can be downloaded here:

[Clinical Guidelines and Useful information - Northwest, North Wales, Isle of Man Congenital Heart Network \(northwestchdnetwork.nhs.uk\)](#)

Sending confidential emails

It is the responsibility of the person sending the email to ensure that data protection and information governance considerations are complied with. Information sent between email addresses that are both registered as being compliant with DCB1596 standards do not need to be encrypted.

To find the up to date list of DCB1596 compliant organisations please click the link: <https://digital.nhs.uk/services/nhsmail/the-secure-email-standard#list-of-accredited-organisations>