The child with a heart murmur

History

- any symptoms ?
- CVS symptoms (Shortness of breath , cyanosis , chest pain on exercise, sweating, poor feeding)
- Past history
- Family history of congenital heart disease

Examination

- height / weight
- ? Dysmorphic
- measure BP
- full CVS examination
- examination of liver
- assessment of murmur (innocent or significant)

Investigations

- CXR and ECG are not helpful in distinguishing innocent from pathological murmurs
- Echocardiography is the investigation of choice but requires cardiology referral

Cardiology referral

if paediatrician or parents are not confident the murmur is innocent

Background

Pre-discharge pulse oximetry is now recommended in addition to cardiac examination in newborns

VSD is the commonest congenital heart lesion

Innocent murmurs

Venous hum – best heard above clavicles , loud , increased by sitting forward and less if neck pressure or lying supine

Stills murmur – vibratory ejection systolic along left sternal border + worse if fever

Pulmonary flow murmur – ejection murmur at upper left sternal edge

Red flags

- urgent if newborn with murmur + symptoms + other signs
- reduced / absent femoral pulse volume
- Cyanosis or features of heart failure (fast RR , fast HR and enlarged liver)

Common types

- VSD – harsh pansystolic murmur +/- thrill
- ASD – fixed split of HS 2
- Aortic stenosis – harsh ejection murmur radiating to neck +/- click
- PS – ejection murmur+/- click
- PDA – loud machinery murmur

References

Paediatrics and Child Health 2009 ; 19(1):25-29

Acta Paediatr 2005 ; **94**: 1590-6

TAKE HOME MESSAGES

Newborns with clinical features suggesting heart disease require urgent referral

Most murmurs seen in older children are innocent

Careful CVS examination is key

Evidence Base

Duct-dependent lesions can be missed on newborn examination and pulse oximetry is helpful

This algorithm has been produced by the National Paediatric and Neonatology Clinical Programmes. It is aimed at medical, nursing and allied health professionals working in both primary and emergency care settings.

Amendments following suggestions of QIP committee of the ICGP . Secondary care denoted in pink

Revision number:	1.0	Document drafted by:	National Paediatric and Neonatology Clinical Programme
Date of Last Update:	21/1/13	Document Status:	Draft
Approval date:		Document approved by:	
Revision date:			