Incidental Murmur Guideline

Heart murmurs in children are very common. In asymptomatic, healthy children, these murmurs are often ‘innocent’ or ‘functional’ and result from the normal patterns of blood flow through the heart and vessels.¹

Anxiety often exists around the discovery of a murmur in a child and clinicians worry that they may be missing significant cardiac lesions. However, it is unlikely that a major or complex and life-threatening cardiac lesion will present with an asymptomatic murmur after 6 weeks of age.⁵,⁶

Differentiation of innocent murmurs from those due to structural heart disease is largely clinical. The use of ECG and CXR do not significantly contribute to the diagnosis.

Innocent murmurs do not require review from a cardiology consultant; and most do not require referral to cardiology clinic. This guideline is an aid for medical staff working in A&E who hear a murmur incidentally when examining a child. If the murmur is characteristically innocent (see box 1), referral or further investigation is not required.²

As the murmur is an incidental finding, it is assumed the child is thriving, is cardiovascularly stable, has no signs of heart failure (tachypnoea, increased respiratory effort, hepatomegaly, shock), has normal pulses (including femoral pulses) and is acyanotic. If any of the above do not apply, this guideline is not applicable.

Incidental murmur

< 3 months

See West of Scotland Neonatal Murmur guideline

(Guideline developed for neonatal inpatients and should be only used to guide ED management)

> 3 months

Box 1. Characteristics of an innocent murmur

Always
- Intensity less than 4/6 (i.e. no thrill)
- No radiation
- Peripheral examination completely normal
- Not purely diastolic

Usually
- Intensity less than 3/6
- Short in duration
- Single
- Changes with position
- Musical or vibratory

Not sure if innocent

< 1yr old

Routine referral to cardiology clinic

Features not consistent with innocent murmur – see Box 1

> 1 yr old

Senior review in department ≥ST4, if available

Innocent

No investigations required
No follow-up required
Reassure parents
Innocent murmur leaflet

Routine referral to cardiology clinic

No investigations required
No follow-up required
Reassure parents
Innocent murmur leaflet
Innocent Murmurs – Normal Hearts

----- Parent Factsheet -----

RHSC Emergency Department

Your child has been diagnosed today with an Innocent Murmur. This information sheet explains the nature of Innocent Murmurs.

What is an innocent murmur?

Everyone’s heart makes sounds, which can be heard with a stethoscope. The word murmur is used by health carers to describe an extra whooshing sound in the heart in addition to those usually heard. It does not necessarily mean there is an abnormality in the heart. In fact, although it is true that children with heart problems will often have a murmur, most childhood murmurs occur in completely normal hearts. These murmurs are called Innocent, Normal or Flow Murmurs.

What causes an innocent murmur?

Although the exact cause of Innocent Murmurs is not known, it is thought to be turbulence in blood flowing through the heart. In the same way that deep narrow rivers flow quickly and create noise, children’s small hearts tend to create extra noise. Similarly, large, wide rivers create very little noise, and in the same way large adults hearts are relatively quiet. Most children will have an Innocent Murmur at some stage during childhood. It will usually disappear by the teenage years, but can sometimes be heard into adult life.

When your child has been exercising or is unwell, especially with a fever, the heart pumps blood more quickly. As a result, the Innocent Murmur may be quite loud at these times. It is often during a fever that an Innocent Murmur is heard for the first time.

Are any tests required?

The doctor is able to recognise that your child’s murmur is innocent by the quality of the sound; in the same way it is often possible to identify a particular make of car by the characteristic sound of its engine. For this reason tests on the heart are not necessary to diagnose an Innocent Murmur.

Is any further treatment/follow-up required?

As Innocent Murmurs are normal they do not need to be followed-up by a cardiologist. Your child does not need to follow any exercise or other restrictions. Similarly, they do not require any treatment.

An Innocent Murmur is an indication of a normal healthy heart!