



Title: Recommendations for Pulse Oximetry Screening for Critical Congenital Heart Disease in the Presence of a Heart Murmur

Purpose:

- To provide recommendations for CCHD pulse oximetry screening in newborns with a cardiac murmur.

Scope or Principle:

This protocol provides a guideline for Health Care Providers who perform the Critical Congenital Heart Disease (CCHD) Pulse Oximetry Screen.

Background:

- Pulse oximetry screening in asymptomatic newborns can assist in the early identification and treatment of CCHD, resulting in better outcomes for affected babies.
- Heart murmurs are common in asymptomatic, otherwise healthy newborns. However, a heart murmur may be the sole finding in children with structural heart disease; therefore, a thorough evaluation is necessary. Congenital heart disease (CHD) may occur in the presence or absence of a heart murmur.
- CCHD screening and murmur investigation are two distinct procedures. CCHD screening results can add more information to the clinical picture.
- There is still significant heart disease that can be present with a pass result on CCHD screening.

Responsibility:

Health Care Providers (HCPs) caring for newborns during the first days of life should be familiar with the protocol and offer pulse oximetry screening to parents/families of their newborns when clinically appropriate.

Definitions/Acronyms:

- NSO = Newborn Screening Ontario
- CCHD = Critical Congenital Heart Disease
- HCP = Health Care Provider
- NICU/SCN = Neonatal Intensive Care Unit/Special Care Nursery
- Murmur = extra audible sound heard from the heart

Related Documentation:

- Newborn Screening Ontario Critical Congenital Heart Disease Pulse Oximetry Screening Protocol
- Newborn Screening Ontario Critical Congenital Heart Disease Pulse Oximetry Positive Screen Workup Protocol

Recommendations for CCHD Screening in babies with a cardiac murmur

1. Any baby with a murmur should be clinically evaluated.
2. CCHD screening **should still be done in the presence of a murmur**, unless the baby has been seen by a paediatric cardiologist or has another valid reason not to screen. (Example: length of stay in NICU/SCN over 7 days).
3. Consider the CCHD screen result within the clinical context, along with other available information. Ensure a pass is not falsely reassuring in the presence of other clinical signs.



Basic concepts for investigation of murmurs

1. Consider whether the baby is symptomatic or asymptomatic? (e.g. respiratory distress, tachypnea, tachycardia, poor perfusion, lethargy, low tone, poor feeding)
2. Consider whether the pulses are strong in the lower limbs?
3. Are any other investigations needed to help interpret the findings on physical exam and CCHD screening? (e.g. CXR, CBC, blood gas, glucose, upper limb vs lower limb BP comparison)
4. Triage as needed based on clinical evaluation.

References:

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Reviewed by:

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