

## Title: Critical Congenital Heart Disease Pulse Oximetry Screening – NICU/SCN/PICU Babies Protocol

### **Purpose:**

- To outline the inclusion and exclusion of Neonatal Intensive Care/Special Care Nursery/Paediatric Intensive Care (NICU/SCN/PICU) babies for Newborn Screening Ontario (NSO) Critical Congenital Heart Disease (CCHD) Pulse Oximetry Screening as appropriate.

### **Scope or Principle:**

This protocol outlines the inclusion and exclusion details for CCHD screening for those babies admitted to the NICU/SCN/PICU.

### **Background:**

CCHD screening in asymptomatic newborns can assist in the early identification and treatment of CCHD, resulting in better outcomes for affected babies. Certain babies admitted to the NICU/SCN/PICU could benefit from this screening as well, depending on the timing of their discharge and reason for admission.

### **Responsibility:**

Health Care Providers (HCPs) caring for newborns during the first days of life, including but not limited to nurses and midwives, should be familiar with the protocol.

### **Definitions/Acronyms:**

- NSO = Newborn Screening Ontario
- CCHD = Critical Congenital Heart Disease
- CHD = Congenital Heart Disease
- HCP = Health Care Provider
- NICU/SCN/PICU = Neonatal Intensive Care Unit/Special Care Nursery/Paediatric Intensive Care Unit
- DBS card = Dried Blood Spot card

### **Related Documentation:**

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

### **Protocol:**

1. Complete CCHD screening on newborns admitted to the NICU/SCN/PICU and discharged home **before 7 days** of age during their hospitalization when appropriate (no respiratory distress, cardiac symptoms or on supplemental oxygen) OR at the time of discharge.
2. Document the pulse oximetry values and the evaluated screen result in the infant's chart or medical record, as well as on the CCHD screen portion of the DBS card. Send the completed CCHD screen result page to NSO.
3. Newborns admitted to NICU/SCN/PICU and discharged home after 7 days of age, who have not had a CCHD screen completed will not undergo a CCHD screen at discharge.
4. Newborns that have a prenatal diagnosis of a CHD or have been diagnosed during their initial 24 hours with a CHD will not undergo a CCHD screen.

5. If the CCHD screen is not completed, fill out the CCHD screen portion of the DBS card as *Screen Not Done* and reason indicated as either:
- i. *infant in or expected to be in NICU/SCN/PICU >7 days* OR
  - ii. *diagnosed prenatally with a heart defect* OR
  - iii. *diagnosed with a heart defect by physical exam*
- Send the completed CCHD screen result page to NSO.

**References:**

- American Academy of Pediatrics, *Newborn Screening for CCHD, Answers and Resources for Primary Care Pediatricians*; (2016) retrieved from <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/PEHDIC/Pages/Newborn-Screening-for-CCHD.aspx> CCS document
- Center for Disease Control, *Screening for Critical Congenital Heart Defects*, (2016) retrieved from <http://www.cdc.gov/ncbddd/heartdefects/cchd-facts.html>
- Kemper AR, Mahle WT, Martin GR, et al. *Strategies For Implementing Screening For Critical Congenital Heart Disease*. *Pediatrics*. 2011;128(5):e1259-e1267. doi:10.1542/peds.2011-1317.
- Utah Public Health Department, *CCHD Toolkit*, (2016) retrieved from <http://www.health.utah.gov/cchd/>
- Wong KK, Fournier A, Fruitman DS, Graves L, Human DG, Narvey M, Russell JL, *CCS/CPCA Position Statement on Pulse Oximetry Screening in Newborns to Enhance Detection of Critical Congenital Heart Disease*, *Canadian Journal of Cardiology* (2016), doi: 10.1016/j.cjca.2016.10.006.

**Reviewed by:**

- CCHD Disease Specific Working Group (2016/09) (2017/05)
- CCHD Midwifery Task Force (2016/10)
- CCHD Hospital Advisory Group (2016/11)