Pulse Oximetry Screening Protocol for Critical Congenital Heart Disease (CCHD)

Check pulse ox in right hand and either foot in room air for newborns over 24 hours of age or shortly before discharge if less than 24 hours.

- **Less than or equal to 89% in hand OR foot?**
  - **YES**
  - **Less than or equal to 95% in hand AND foot?**
    - **NO**
      - **DID NOT PASS**
        - Notify the medical provider of the failed screen and the need for further evaluation.
        - Evaluate the infant for other causes of the low oxygen saturation (e.g., infection, pulmonary hypertension, pneumonia).
        - Obtain an echocardiogram and consult with pediatric cardiology if a non-cardiac explanation for the low saturation is not identified.
    - **YES**
      - **Is this the infant's 3rd screen?**
        - **NO**
          - **DID NOT PASS**
        - **YES**
          - **Less than or equal to 3 percentage points difference between hand and foot?**
            - **NO**
              - **DID NOT PASS**
            - **YES**
              - **PASS**
                - Notify the medical provider of the passed screen.
                - Infant could still have cardiac disease. If clinical signs or prenatal diagnosis of CCHD are present, proceed with a cardiac evaluation.
                - Signs and symptoms of CCHD can include rapid breathing, cyanosis, fatigue, poor feeding, and poor weight gain.
  - **NO**
    - **REPEAT**
      - Repeat the pulse oximetry screen in one hour.
**Tips for Pulse Oximetry Screeners**

**Where do I place the sensor?**

**EITHER FOOT:**
Wrap the sensor around the outer aspect of either foot. Place the light emitter on the top of the foot with the photodetector directly opposite of it. The tape/wrap should be securely wrapped around the foot.

**RIGHT HAND:**
Wrap the sensor around the outer aspect of the right hand. Place the light emitter on the top of the right hand with the photodetector directly opposite of it. The tape/wrap should be securely wrapped around the hand.

**What do I say to the family?**

**SCREEN:**
We are going to screen your baby for critical congenital heart disease using a fast and painless test called pulse oximetry. The test will only take a few minutes, and it checks the oxygen level in your baby’s blood.

**REPEAT SCREEN:**
Your baby’s oxygen level was lower than we’d like when we performed the pulse oximetry screen, so we will recheck it again in about an hour.

**DID NOT PASS:**
Your baby’s oxygen level was low when we performed the pulse oximetry screen. Your baby’s care team needs to follow-up right away to find out why the oxygen level was low. Sometimes a low oxygen level is a sign of health problems. If there is a problem, it is best to figure it out before your baby goes home.

**PASS:**
Your baby had a normal oxygen level when we performed the pulse oximetry screen. No further testing is needed at this time. Since screening does not detect all heart defects, it is important for you to know what symptoms to look for in the future. Watch your baby’s H.E.A.R.T.: Heart rate (too fast or too slow?); Energy (overly sleepy or fussy?); Appearance (pale or blue skin?); Respiration (breathing too fast or too slow?); Temperature (cold to the touch?).