Newborn Screening Program for Critical Congenital Heart Disease

Michigan Hospital Emergency Room Provider:

This infant was born at home on ____/____/____

The newborn is presenting in your Emergency Department for follow-up because at approximately twenty-four hours of life he/she was screened for Critical Congenital Heart Disease (CCHD) using pulse oximetry and did not pass the screening.

The screening results were:

<table>
<thead>
<tr>
<th>Date/Time of Screen</th>
<th>Right Hand (RH)</th>
<th>Foot</th>
<th>Difference</th>
<th>Result (Pass, Fail, Rescreen)</th>
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As part of your initial triage on the infant we are asking that you re-check the pulse ox on the infant’s Right Hand and One Foot. Using the limits defined by the algorithm (see attached), determine if the infant needs further follow-up (pulse ox of 94% or below, or a difference of 4% or greater between the readings).

The Michigan public health code mandates that all newborns be screened for CCHD using pulse oximetry as close to twenty-four hours of life as possible. Infants should be screened using the Michigan recommended screening algorithm.

Infants who fail the screen in the hospital are immediately referred for an evaluation, often including follow up with a pediatric cardiologist/neonatologist and a possible echocardiogram for diagnosing CCHD.

If follow up is needed, upon admittance to the emergency room please consider consulting a pediatric cardiologist or neonatologist.

During the hours of 7 am-4:30 pm you can contact a representative from the MDHHS Newborn Screening program with questions @ 517-284-4992.

More information about the screening is available at our website www.michigan.gov/cchd

Kristen Thompson, MPH
Newborn Screening Coordinator
Michigan Algorithm for Pulse Oximetry Screening

Protocol for all newborns without cardiovascular or respiratory distress (symptomatic)
Screening should take place before discharge as close to 24 hours of life as possible, or after 35 weeks gestation.**

** MDHHS Screening Algorithm

- **Pulse Oximetry Screen**
  - 95% or higher in RH or F and a difference of 3% or less between RH and F:
    - Negative Screen (Pass)
  - 90%-94% in RH and F or a difference of 4% or higher between RH and F:
    - Repeat screen in 1 hour
  - 89% or lower in RH or F:
    - Positive Screen (Fail)

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*Always consult your unit’s policy on physician notification.

Refer for clinical assessment*

Evaluation of the Newborn

Pulse oximetry screening follow-up

- **Is Infant Symptomatic?** (Cardiovascular or respiratory distress)
  - NO
    - Screening Using MDCH Algorithm
  - YES
    - SpO2 89% or less
      - COID
      - Continue screening for 4% or greater

**Immediate Referral for CCHD**

Consider:
- Supplemental oxygen
- IV access
- Echocardiogram
- EKG
- Prostaglandin initiated
- Transport arranged

**Respiratory Illness and/or Sepsis Evaluation:**

- Blood glucose, blood culture
- CBC w/Diff
- Chest x-ray
- Blood cultures
- Arterial blood gases (ABG)
- C-reactive protein (CRP)
- Check abdomen
- Consider CCHD

**Physical Examination**

- Continue with evaluation based on exam findings (transfer to NICU)

*Always contact physician per hospital protocol*