Critical Congenital Heart Disease
Documenting Results on EBC System

Hospitals, birthing facilities, and midwives are required to document the Critical Congenital Heart Disease (CCHD) screening results on the birth certificate as part of the Idaho Vital Records System. CCHD includes a collection of heart defects that are present at birth and involve structural problems in the heart or problems with blood flow through the heart. CCHD may be detected through pulse oximetry (or pulse ox) shortly after birth.

Often, the screening results are initially captured in an electronic health record (EHR) or some other charting mechanism as part of the newborn's medical record. These results must then be entered into the electronic birth certificate (EBC) system or on a hard-copy of the birth certificate.

The following data elements need to be entered in the EBC system:

- Screening result: Not Screened, Passed, Failed
  - If the screening result was “Not Screened,” enter a reason the screening was not conducted.
  - If the screening result was “Failed,” document actions taken, including which facility transferred to and physician referral.
- Pulse ox results for hand and foot each time conducted (up to 3 times)
- Age in hours at each screening

Below is guidance on how to determine if a screening result is considered “Passed” or “Failed.”

Passed Screens

Any screening with an oxygen saturation measure that is ≥95% in the right hand or foot with ≤3% absolute difference between the right hand or foot is considered a passed screen and the screening would end.

Note: Pulse oximetry screening does not detect all CCHDs, so it is possible for a newborn with a passing screening result to still have CCHD or other CHD.

Failed Screens

A CCHD screening is considered failed if:

- Any oxygen saturation measure is < 90% in the initial screen or in repeat screens,
- Oxygen saturation is <95% in the right hand and foot on three measures, each separated by one hour, or
- A >3% absolute difference exists in oxygen saturation between the right hand and foot on three measures, each separated by one hour.

Newborns who fail the screen should have an evaluation for the causes of hypoxemia. Typically, this will include an echocardiogram, but if a reversible cause of hypoxemia is identified and appropriately treated, the echocardiogram may not be necessary. The newborn's pediatrician should be notified immediately and the newborn might need to be seen by a cardiologist.
Please complete the following steps:

Step 1: Enter final CCHD screening result
- Passed
- Failed
- Not Screened

Step 2: Depending on which final CCHD screening result was selected, complete the following:

2a. If the final screening result was Passed, enter:
- Pulse oximetry results for the right hand AND foot.
  - Screening must be conducted on both the right hand and foot.
  - If the infant was screened more than once (up to 3 times), please enter the pulse oximetry results for each screening (Please see algorithm on the last page).
- Age in hours at the time of each screen.
  - The infant should be at least 24 hours at the time of the first screening.
  - If the infant is discharged prior to 24 hours, the screening should occur at discharge.
2b. If the final screening result was **Failed**:

From the “Reason” drop-down menu, select the action taken following the failed screening. Some actions will require additional information.

- If the “Reason” (or action taken) is “Child Transferred to complete ECHO,” please select the facility the newborn was transferred to in the “Facility” drop-down menu.

- If the “Reason” (or action taken) is “Child Discharged with a Referral,” please enter the Physician’s first and last name.

- If the “Reason” (or action taken) is “Other,” please provide an explanation.
2c. If the final screening result was Not Screened:
From the “Reason” drop-down menu, select the reason for why the newborn was not screened. Some reasons will require additional information.

- If the “Reason is Child Transferred,” select the facility the newborn was transferred to from the “Facility” drop-down menu.

- If “Reason” is “Other,” provide an explanation.
CCHD Screening Algorithm

Child in well-baby nursery ≥ 24 hours of age or shortly before discharge if < 24 hours of age

Screen

- < 90% in right hand or foot
- 90%–<95% in right hand and foot or > 3% difference between right hand and foot
- ≥ 95% in right hand or foot and ≤3% difference between right hand and foot

Repeat screen in 1 hour

- < 90% in right hand or foot
- 90%–<95% in right hand and foot or > 3% difference between right hand and foot
- ≥ 95% in right hand or foot and ≤3% difference between right hand and foot

Repeat screen in 1 hour

Failed Screen

Passed Screen

*PLEASE NOTE: Percentages refer to oxygen saturation as measured by pulse oximeter

Adapted from the CDC’s algorithm found at: https://www.cdc.gov/ncbddd/heartdefects/hcp/html