Utah Birth Defect Network (UBDN)

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CCHD Screening

Utah Critical Congenital Heart Defect (CCHD) Screening Project

ADDITIONAL READING

Strategies for Implementing Screening for Critical Congenital Heart Disease

Newborn CCHD Screening Progress

Children's National Medical Center *Heart Smart* Videos

STAR-G CCHD Fact Sheets

IBIS Indicators - CHDs

Utah Birth Defect Network

OUR PARTNERS

University of Utah

Intermountain Healthcare

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Intermountain Healing Hearts

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CCHD Training Conducted - Pilot Screening Underway at IMC and U of U

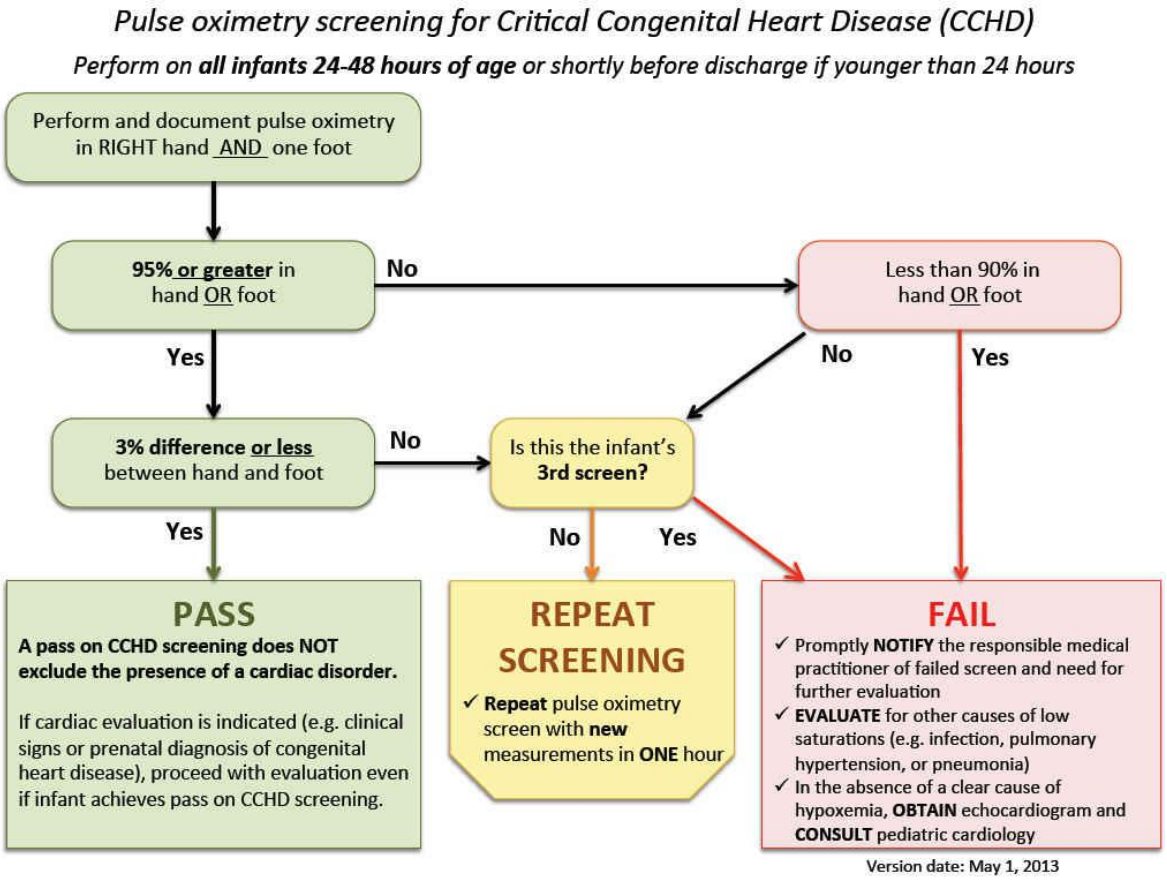
From January to April 2013, medical staff at the University of Utah Hospital and Intermountain Medical Center well baby nurseries completed pulse oximetry training in preparation for the start of the pilot projects. In order to provide standardized training at both sites, the third edition of the *Critical Congenital Heart Disease Screening Program Toolkit* developed by Children's National Medical Center was purchased and provided to trainers at each hospital. The toolkit provides background information on pulse oximetry screening, including a PowerPoint slide set and pre- and post-test evaluations. In addition to training materials for providers and staff, the toolkit contains a family education sheet given to mothers either prior to or immediately after delivery as part of their newborn educational materials. This document is intended to provide the family with information regarding the pulse oximetry procedure and the reasons why it is performed.

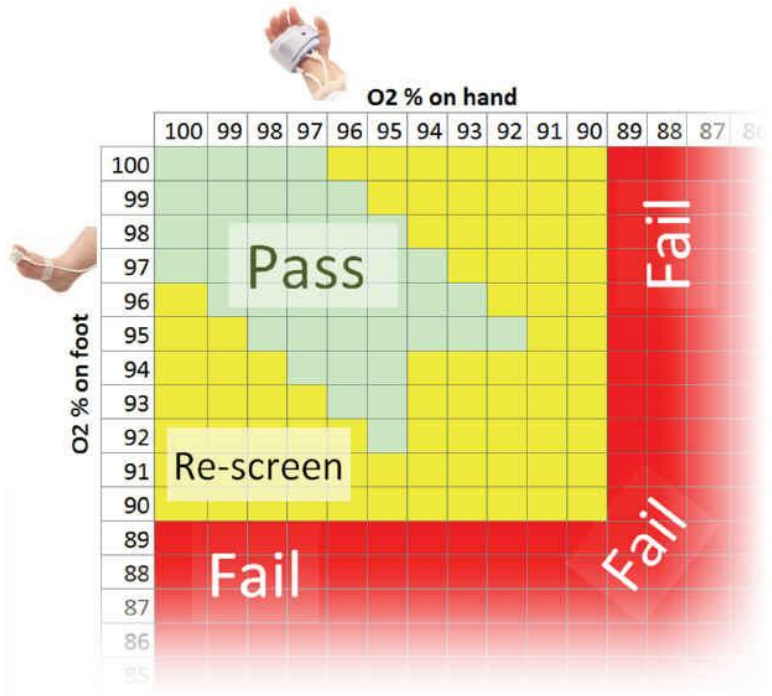
Starting on May 1, 2013, both participating hospitals officially began CCHD screening for all newborns in their well baby nurseries using the nationally recommended protocol proposed by Kemper et al. (*Strategies for Implementing Screening for Critical Congenital Heart Disease*, 2011). After six continuous months of screening, there will be a brief interim analysis period (approximately 2-3 months) during which data and procedures for training and education at each site will be analyzed. Adjustments to the screening protocol, training, and education will be made at this time. Following the interim analysis period, pilot screening will continue for another six months, with final analysis and recommendations for statewide implementation to follow thereafter.

CCHD Screening Protocol

According to the protocol developed by Kemper et al., all infants are initially screened using pulse oximetry equipment between 24 and 48 hours after birth. The pulse oximeter probes are placed on the right hand and either foot of the baby to assess the percent saturation of oxygen in the blood. If the saturation measurements are 95% or greater in either the hand or foot, and there is not a greater than 3% difference between the measurements, the infant passes the CCHD screen. If either measurement is less than 90%, this indicates a failed screen and the newborn is referred for further evaluation. Oxygen saturation values between 90 and 95% require the newborn to be rescreened in one hour. Rescreens can be performed an additional two times following the initial screen. If the newborn does not pass the screen after the third time, this constitutes a failed screen, at which point the newborn is referred for further evaluation. Please see the protocol on the following page (Figure 1) for additional detail. This is the protocol that was used to train staff for the pilot project and is posted in the well baby nursery at each participating site as a reference.

Figure 1. Screening protocol for the Utah Critical Congenital Heart Defect (CCHD) pilot project





Reporting Screening Data to UDOH

The Utah Birth Defect Reporting Rule has been revised to permit birthing hospitals to submit pulse oximetry data to the UBDN. Prior to the start of pilot screening, each participating site was asked to integrate pulse oximetry screening data elements into their electronic medical record (EMR) system. During the pilot project, each site reports electronically each month to the UBDN via an FTP site or secure email transfer results of the screening (actual oximetry values) for all limbs, for the first screen, as well as any repeat screens, together with the timing of screening for each newborn infant. In addition, basic information will be included on the outcome of the confirmatory testing (mother and baby information, echocardiography done vs. not done and normal vs. abnormal vs. unknown). Following the pilot program, the guidelines for hospital data collection and reporting will be reviewed and revised as needed for integration into a state-wide implementation plan.

2013 Birth Defects Awareness Campaign

Birth defects are common, costly, and critical; 1 in 33 babies is born with a birth defect and 25% of these babies have a congenital heart defect. The causes of most birth defects are unknown and more research is needed. The National Birth Defects Prevention Network (NBDPN) and its Parent Advisory Group have developed a public service announcement (PSA) and educational materials which are available in both English and Spanish. The PSAs and educational materials are available, free of charge, on the NBDPN website (www.nbdpn.org). Please help us educate others about birth defects and the need for preconception care to reduce a woman's risk of having a baby with a birth defect. For more information regarding the CCHD pilot project or the Birth Defects Awareness Campaign, please contact the UBDN at 866-818-7096 or ubdn@utah.gov.