NEWBORN SCREENING FOR CRITICAL CONGENITAL HEART DISEASE
RECOMMENDED METHOD

LB 225 passed in the 2013 Legislative Session requires screening of all Nebraska newborns for critical congenital heart disease effective September 6, 2013.

As required by this statute, the Nebraska Department of Health and Human Services has worked with a panel of persons with expertise in critical congenital heart disease screening to develop approved methods. The methods and protocol that the Department is recommending are consistent with those endorsed by the American Academy of Pediatrics Committee on Congenital Heart Defects, Children's National Hospital and Children's Hospital Omaha, Nebraska's expert panel on Critical Congenital Heart Disease, and Nebraska's Newborn Screening Advisory Committee.

The primary recommendation is that screening for CCHD for all newborns in the regular nursery should be conducted using pulse oximetry on the right hand and foot, and to utilize the following screening algorithm*:

- Newborns with oxygen saturation of 95 percent or more in the right hand or foot, and a difference of 3% or less between the hand and foot, pass the screen. All results must be recorded in the newborn's medical record.

- Newborns with oxygen saturation between 90 percent and 94 percent on both the right hand and foot, or a difference of more than 3 percent between the hand and foot, have an inconclusive result. The baby shall not be discharged and must be rescreened in one hour. If the rescreen remains inconclusive a third screen must be done in one hour. If on the third screen the results continue to not meet the pass criteria, this is a fail or positive screen result. Screening personnel should immediately notify the newborn's physician. The newborn's physician should evaluate the newborn, and obtain or refer for an echocardiogram and NICU/ Cardiology evaluation. All results must be recorded in the newborn's medical record.

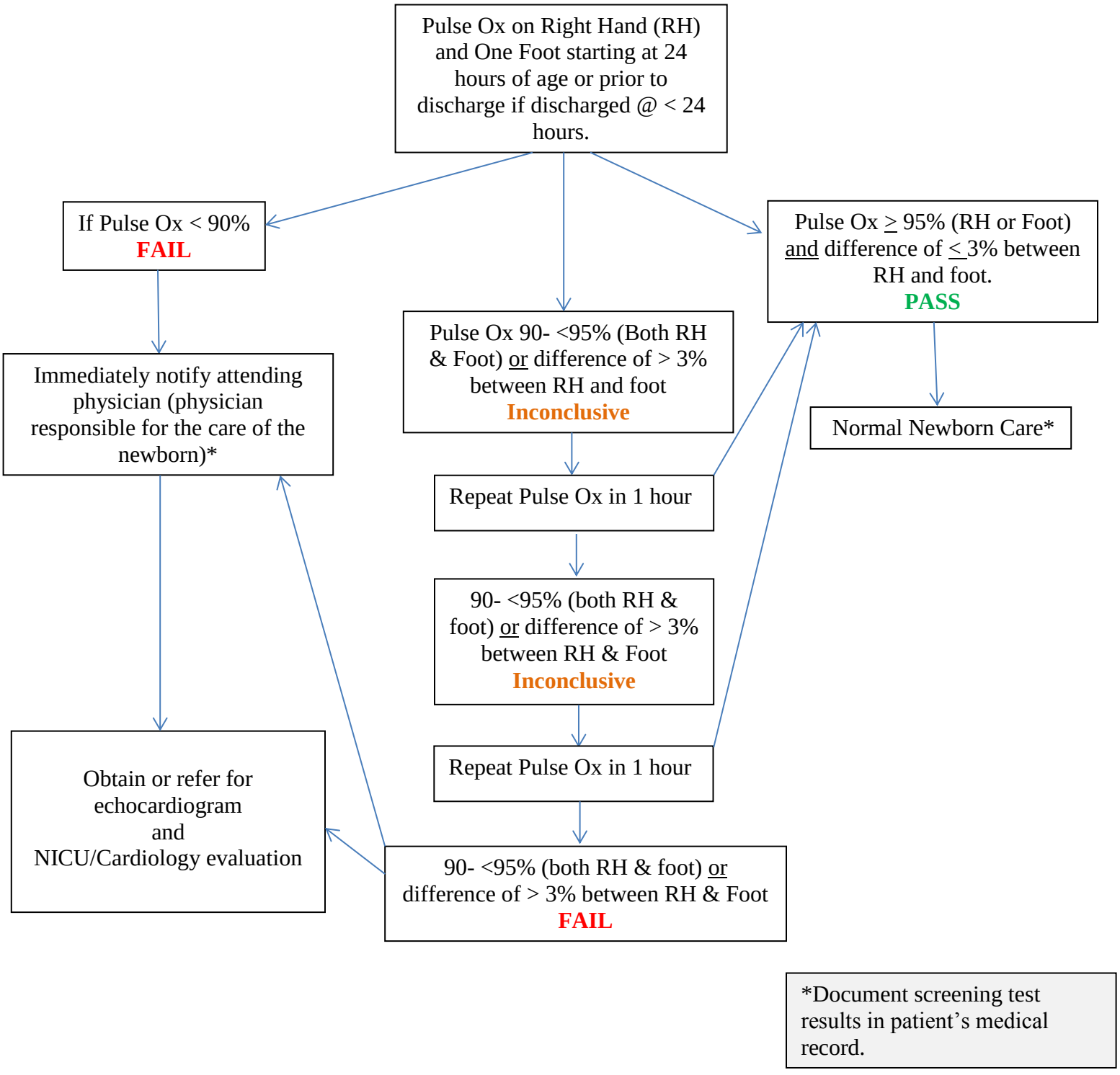
- Newborns with oxygen saturation percentages less than 90 percent on any screen (initial or rescreen) have a failed screen result. This is a positive result for possible critical congenital heart disease. Screening personnel should immediately notify the newborn's physician. The results must be recorded in the newborn's medical record. The newborn's physician should evaluate the newborn, and obtain or refer for an echocardiogram and NICU/Cardiology evaluation.

- *A visual graphic of the recommended algorithm follows.

The recommended screening method for newborns admitted to the neonatal intensive care unit is also described on the following algorithm.

Nebraska Recommended Newborn Screening Algorithm for

CRITICAL CONGENITAL HEART DISEASE SCREENING



*Document screening test results in patient's medical record.

Nebraska
CCHD Screening recommendations for NICU admissions

Background Rationale for Recommendation:
Approximately 75% of all NICU admissions are 34-36 weeks gestation, and many term babies are admitted to the NICU for brief observation. Many of these babies will not be staying much longer than 7 days. Newborns admitted to NICU for longer than 7 days will have been screened by prolonged pulse oximetry monitoring, possibly chest x-rays and echocardiogram and would have received continuous intensive monitoring and repeated physical exams. A separate specific pulse oximetry screen is not necessary in these cases.

Screening Protocol:
All NICU babies should be screened.

> For any baby in the NICU less than 8 days, screen using the standard protocol, in Room Air, prior to discharge. (The standard protocol for CCHD screening is the pulse oximetry screen per the subcommittee's recommendation for regular nursery babies).

For all other patients in the NICU more than 7 days, screening with pre and post ductal oximetry is not required.