

Critical Congenital Heart Disease (CCHD)

Newborn Screening Algorithm

It is best practice to screen when an infant is on room air and has no supplemental oxygen requirement.

Measurement one

Pulse ox on right hand AND one foot around 24 hours of age (or earlier if being discharged)

FAIL

Pulse ox of 89% or less in either right Hand OR one Foot

ACTION: Do NOT repeat pulse ox AND proceed with immediate clinical assesment

RETEST

a. Pulse ox of 90% to 94% in either the right hand OR one foot
OR
b. A difference of 4% or more between the right hand and foot

ACTION: Repeat pulse ox measurements in one hour

PASS

a. Pulse ox of 95% or more in right hand and and foot
AND
b. A difference of 3% or less between the two

ACTION: Do NOT repeat pulse ox AND provide routine care

Measurement two

Pulse ox on right hand AND one foot one hour after measurement one

FAIL

a. Pulse ox of 94% or less in either the right hand OR one foot
OR
b. A difference of 4% or more between the two

ACTION: Do NOT repeat pulse ox AND proceed with immediate clinical assesment

PASS

a. Pulse ox of 95% or more in right hand and one foot
AND
b. A difference of 3% or less between the two

ACTION: Do NOT repeat pulse ox AND provide routine care

EDUCATE FAMILIES

Remind parents that CCHD newborn screening may not find all types of problems in a baby's heart.



Texas Department of State Health Services

REFERENCE

Matthew E. Oster, Nelangi M. Pinto, Arun K. Pramanik, Allison Markowsky, Bryanna N. Schwartz, Alex R. Kemper, Lisa A. Hom, Gerard R. Martin, and the SECTION ON CARDIOLOGY AND CARDIAC SURGERY, SECTION ON HOSPITAL MEDICINE, COMMITTEE ON FETUS AND NEWBORN; Newborn Screening for Critical Congenital Heart Disease: A New Algorithm and Other Updated Recommendations: Clinical Report. Pediatrics January 2025; 155 (1): e2024069667. 10.1542/peds.2024-069667