

## Newborn Screening of Heart Defects- Pulse Oximetry Screening for Critical Congenital Heart Defects (CCHD)

**Congenital heart defects are the number one killer of infants with birth defects.<sup>1</sup>** Congenital heart defects are structural abnormalities of the heart that are present at birth. These defects range in severity from simple holes or murmurs to severe malformations, such as the complete absence of one or more chambers or valves. Some critical congenital heart defects can cause severe and life-threatening symptoms which require intervention within the first days of life.

**Pulse oximetry screening is effective at determining life-threatening heart defects.<sup>4</sup>**

Pulse oximetry screening is a non-invasive test that estimates the percentage of hemoglobin in blood that is saturated with oxygen. When performed on newborns in the delivery center it is effective at detecting life-threatening defects which otherwise can go undetected by current screening methods.

**'Positive' screenings require additional follow-up.**

If a baby's test results show low levels of oxygen in the blood this can be a sign of a CCHD. This does not always mean that the baby has a CCHD, it just means that more testing is needed.

**Pulse oximetry screening is cost effective and offers a positive return on investment.** One study calculated that the savings in healthcare costs from the prevention of one case of complications of circulatory collapse resulting from an undiagnosed CCHD may exceed the cost of screening two thousand newborns.<sup>5</sup>



**Current, commonly used, detection methods identify less than half of all newborn cases.<sup>2</sup>**


Current methods for detecting congenital heart defects generally include prenatal ultrasound screening and repeated clinical examinations can identify many affected newborns. However, these screenings alone, identify less than half of all cases, and critical heart defect cases are often missed during routine clinical exams performed prior to a newborns discharge from a birthing facility.

**Secretary of Health & Human Services recommends pulse oximetry screening.<sup>3</sup>**

In a September 21, 2011 letter, HHS Secretary Kathleen Sebelius recommended that pulse oximetry screening to be included as part of the Recommended Uniform Screening Panel for Newborns (RUSP). The American Heart Association stands ready to serve as a resource for those states that move forward to implement the Secretary's recommendations.



## References

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