

Screening for Critical Congenital Heart Defects

Babies with critical congenital heart defect (CCHD) are at significant risk for death or disability if their condition is not diagnosed soon after birth.

Newborn Screening using pulse oximetry can identify some infants with a CCHD before they show signs of the condition.

Once identified, babies with a CCHD can receive special care and treatment that can prevent death or disability in early life.

The Collingwood General & Marine Hospital routinely screens all newborns for CCHDs.

Understanding Critical Congenital Heart Defects

- ❖ Congenital heart defects (CHDs) account for nearly 30% of infant deaths due to birth defects
- ❖ Babies born with CCHDs usually require surgery or other interventions within the first year of life
- ❖ CCHDs can potentially be detected using pulse oximetry screening, which is a test to determine the amount of oxygen in the blood and pulse rates.
- ❖ Pulse Oximetry screening is most likely to detect seven of the CCHDs. These seven defects are:
 - *Hypoplastic left heart syndrome
 - *Pulmonary atresia (with intact septum)
 - *Tetralogy of Fallot
 - *Total anomalous pulmonary venous return
 - *Transposition of the great arteries
 - *Tricuspid atresia
 - *Truncus arteriosus

Other Heart defects can be just as severe as the main screening targets and also require treatment soon after birth. However, pulse oximetry screening may not detect these heart defects as consistently as the seven disorders listed as the main screening targets.

The Importance of Screening for Critical Congenital Heart Defects



Some babies born with a heart defect appear healthy at first and can be sent home with their families before their heart defect is detected. These babies are at risk for having serious complications within the first few days or weeks of life and often require emergency care.

Newborn screening using pulse oximetry can identify some infants with a CCHD before they show signs of a CCHD. Once identified, babies with a CCHD can receive the specialized care and treatment that could prevent death or disability early in life. Treatment can include medications and surgery.

When and How Babies are Screened

Pulse oximetry is a simple bedside test to determine the amount of oxygen in a baby's blood and the baby's pulse rate. Low levels of oxygen in the blood can be a sign of a CCHD. The test is done using a machine called a pulse oximeter, with sensors placed on the baby's skin. The test is painless and takes only a few minutes. Screening is done when a baby is 24-48 hours of age, or as late as possible if the baby is to be discharged from hospital before he or she is 24 hours of age.

Pulse oximetry screening does not replace a complete history and physical, which sometimes can detect a CCHD before the development of low levels of oxygen in the blood. Pulse oximetry screening, therefore, should be used along with the physical examination.

CCHD Screening Results

If the results are "negative", it means that the baby's test results did not show signs of a CCHD. This type of screening test does not detect all CCHDs, so it is possible to still have a CCHD or other congenital heart defects with a negative screening result. If the results are "positive", it means that the baby's test results showed low levels of oxygen in the blood, which 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.

For More Information Please Talk with your Doctor/Midwife or with one of the Obstetrical Team Members

