Pulse Oximetry Screening for Congenital Heart Defects

Sometimes a baby is born with a heart problem. This is called a congenital heart defect. The baby may seem healthy and fine. But the defect could cause a serious threat to their life. A test called pulse oximetry can help find if there is a problem before a baby goes home from the hospital. This can help a baby get early treatment if needed.

What is pulse oximetry?

Pulse oximetry is a simple, painless, and quick screening test. It checks to see if your baby has enough oxygen in their blood. This can help find out if your baby's heart has a problem. Or find out if it's not working normally.

The test is done when your baby is 24 to 48 hours old, or right before going home from the hospital. During the test, a small sensor is put on the baby's right hand and right or left foot. The sensor is attached to a small device with a computer in it. The sensor tells the device how much oxygen is in the baby's blood. The number shown on the device can tell your child's healthcare provider if there isn't enough oxygen in the blood. This can mean a congenital heart defect.

What pulse oximetry can find

Pulse oximetry can help find critical congenital heart defects. These include:

- **Hypoplastic left heart syndrome.** The left side of the heart doesn't fully develop.
- **Pulmonary atresia.** The pulmonary valve doesn't form or work normally.
- **Tetralogy of Fallot.** The heart has several problems, including a large hole in the heart and a blocked pulmonary valve.
- **Total anomalous pulmonary venous return.** Veins from the lungs go to the wrong parts of the heart.
- **Transposition of the great arteries.** The 2 large arteries that leave the heart are switched in position.
- **Tricuspid atresia.** The tricuspid valve doesn't form or work normally.

- **Truncus arteriosus.** The 2 heart arteries arise from the heart as a single blood vessel.
- **Coarctation of aorta or interrupted aortic arch.** There is a narrowing of the large blood vessel (aorta) that leads away from the heart.
- **Double outlet right ventricle.** Two large blood vessels don't connect to the heart normally.
- **Ebstein anomaly.** The tricuspid valve isn't formed or positioned correctly.
- **Single ventricle.** Only 1 ventricle has the size and strength to pump effectively.

Risks of pulse oximetry

There are no risks linked to pulse oximetry. But the test doesn't find all heart defects. It may even miss a defect it was meant to find. Your baby will also need to have a health history and physical exam to help in the screening process. You should also make sure to stay on schedule with your baby’s health checkups.