Patent Ductus Arteriosus (PDA)

What is a PDA?

A PDA is a normal blood vessel in all fetuses (babies growing in the womb). It connects two major arteries; the aorta and the pulmonary artery. A fetus does not use the lungs to breathe because it gets oxygen from the mother’s placenta. The PDA reroutes blood away from the lungs, sending it directly to the body. After a baby is born, it starts to breathe and the PDA is no longer needed. It usually closes during the first 2 days after birth. Sometimes, the PDA doesn’t close. This results in oxygen-rich blood from the aorta mixing with oxygen-poor blood in the pulmonary artery. This causes too much blood flow into the lungs, which puts a strain on the heart, and increases blood pressure in the pulmonary arteries.

What causes a PDA?

The cause is not known, but genetics might play a role.

PDA is more common in:

- Premature babies
- Babies with neonatal respiratory distress syndrome
- Babies with genetic disorders like Down syndrome
- Babies with other heart conditions
- Girls (affects twice as many as boys)

In most babies the PDA will shrink and go away on its own in the first few days of life. Some PDAs that don’t close at this time will often still close on their own by 1 year of age.

In premature babies, the PDA is more likely to stay open, especially if the baby has lung disease. When this happens, your child’s doctor may talk to you about treatment to close the PDA.
How will I know if my baby has a PDA?

Babies with small PDAs may have no symptoms, but a murmur may be heard at a check up. Babies with a larger PDA might have these symptoms:

- Fast breathing
- Problems eating
- Sweating while eating
- Gets tired quickly
- Poor weight gain

To find out if your baby has a PDA the doctor will use a stethoscope to listen for a heart murmur. This is often heard in babies with PDAs. Other tests might include:

- A chest x-ray
- An ECG, a test that measures the heart's electrical activity.
- An echocardiogram, a test that uses sound waves to diagnose heart problems. These waves bounce off parts of the heart, creating a picture of the heart that is shown on a monitor. In babies with PDA, an echo shows how big the opening is and how well the heart is functioning.

What is the treatment for a PDA?

- Medicine - if the baby is very young
- A heart catheterization procedure
- It is very rare that a baby with a PDA needs surgery. Surgery might be needed if a PDA is large enough that the lungs could become overloaded with blood. This could lead to an enlarged heart, or symptoms of heart failure.