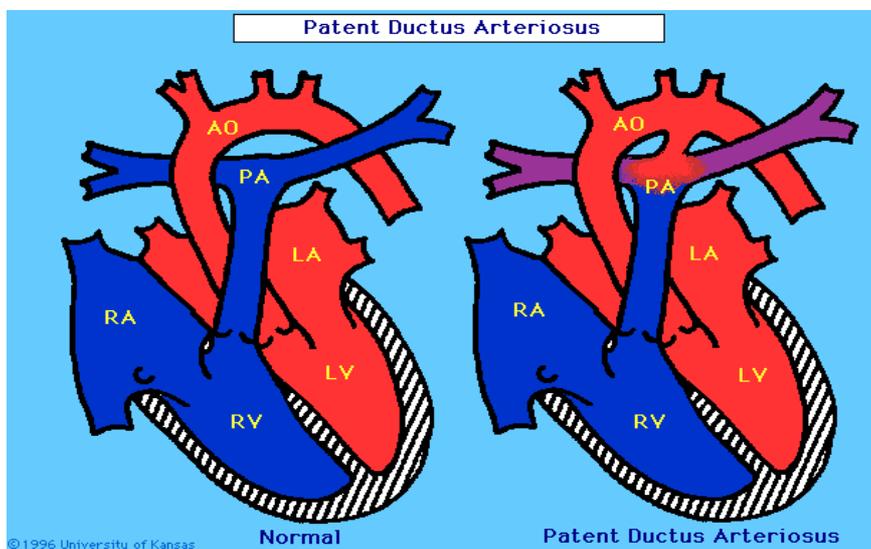




PATENT DUCTUS ARTERIOSUS

What is a Patent Ductus Arteriosus? (PDA)

The PDA is present in all babies before birth. It is an opening, which connects the AORTA (AO) (main blood vessel to the body) and the PULMONARY ARTERY (PA) (main blood vessel to the lungs)



Why does a baby have a PDA?

Before birth, the baby does not need to use its lungs. The mother and placenta supplies all the oxygen that the baby will need. Very little blood needs to go to the lungs, so the DUCTUS ARTERIOSUS lets the blood go past the lungs and go around the rest of the body.

After birth, the baby must use its own lungs to take in oxygen and remove carbon dioxide, so blood now needs to go through the pulmonary artery to the lungs to pick up oxygen instead of going through the DUCTUS ARTERIOSUS, which is no longer needed.

When the baby is born, the lungs will inflate (expand) with the first breath. These changes usually make the ductus arteriosus narrow and close with in the first few hours or days of life. In premature or sick babies this change may not happen, especially if they have RDS (respiratory distress syndrome) if the ductus arteriosus stays open, we refer to it as a PATENT DUCTUS ARTERIOSUS (PDA)

What happens if the duct stays open?

Blood flow through the PDA causes more blood than is needed to go to the lungs. The extra blood makes it harder for the baby to breathe and increases the work the heart has to do to pump blood around the body.

Doctors will know your baby has a PDA if:

- A heart 'murmur' (an extra sound heard as the blood goes through the PDA), using a stethoscope.
- The baby needs more oxygen to breathe, when they should need less.
- They may have more apnoeas (stopping breathing)
- Their heart rate increases and/or the pulse changes.

If the baby is thought to have a PDA, the cardiologist (heart specialists) will be asked to see the baby and an ECHOCARDIOGRAM (an ultrasound picture of the blood flow through the heart) will be performed.

PDA is commonly seen in preterm and sick babies.

How is a PDA treated?

There are three options: -

1. No treatment

If the PDA is small, the doctors may wait to see if it closes on its own.

2. Medical treatment

The doctors may decide to decrease the amount of fluid given to the baby to help the PDA to close

Drugs may be used to narrow and close the PDA. These are INDOMETHICIN or IBRUPROFEN. The doctors will choose one of these to use. The drug of choice will be given in 3 separate doses, 12-24 hours apart. The baby will be monitored closely while these drugs are being given, as they can temporarily cause poor kidney and gut function, so feeds may be stopped over the time the drugs are given.

3. Surgical closure

If medical treatment does not work or the baby is not suitable for drug treatment due to other medical problems, the PDA will need to be closed by surgery.

How is the surgery done?

The baby will have the surgery carried out on the Neonatal unit, by a team of Cardiac (Heart) surgeons. This surgery is called DUCT LIGATION and usually takes around an hour to complete.

The baby will have a general anaesthetic and a small incision will be made under the left arm, between the ribs. A tie or a metal clip is placed around the PDA, closing it. Parental consent will be needed before the operation is carried out.

The baby will be sedated for 24-48 hours after the operation, to help the baby recover. Their condition may get worse before getting better but surgical closure of PDA is very reliable and has few complications.

Will PDA come back?

No, once your baby has recovered from his/her problems of prematurity and the PDA has gone away, it will not come back later in life.

This leaflet is intended to give you information and answer any of your questions. Please feel free to discuss any further questions or concerns with a member of staff.

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