

## Patent Ductus Arteriosus (PDA)

### What Is Patent Ductus Arteriosus (PDA)?

The ductus arteriosus (or 'duct') is a short blood vessel that connects the two main arteries in the body – the aorta, which carries blood from the heart to the body, and the pulmonary artery, which carries blood to the lungs. Normally the duct is open when the baby is in the womb and it usually closes in the first few days after birth. PDA refers to the situation in which the duct remains open (patent) after birth.

### Which Babies Are At Risk of Developing PDA?

The duct can remain open in any baby, but it is much more common in very premature babies than in full term babies.

### Why Is PDA Important?

If the duct stays open, it can put extra strain on the heart and the lungs. The heart has to work harder to cope, not only with its normal job of pumping blood around the body, but also with pumping blood through the duct into the lungs. The lungs and their blood supply, in turn, can become overloaded with fluid because of the extra blood being pumped through them. Finally, the extra blood pumped to the lungs means there is lower blood flow to some of the organs in the body, particularly the bowel and kidneys, which may interfere with their function.

### How Do I Know If My Baby Has A PDA?

If your baby was born prematurely, the doctors will check him or her regularly for signs of a PDA. The most common sign is a heart murmur (an extra heart sound). Your baby may also be struggling to wean off the ventilator, CPAP or high flow oxygen support.

These signs are not specific, and a PDA might be present without a baby having any specific symptoms. Therefore, if the doctors are concerned that your baby has a PDA which might be causing a problem they will arrange for a scan of his or her heart (an

echocardiogram or 'echo'). This will show whether the duct is open and whether or not it is likely to be causing problems.

## **What Will Happen If My Baby Has A PDA?**

Babies with PDA do not necessarily need treatment to close the duct. The doctors looking after your baby will consider the balance between possible risks of treatment and possible benefits from closing the duct and will discuss the treatment options with you.

## **How Is PDA Treated?**

If the doctors decide that the duct is causing a problem and needs treatment, they might use medicines such as ibuprofen or paracetamol to try and close it. These medicines are initially given for around 3 days after which the baby may need a repeat heart scan. If the duct is still open and causing a problem, repeating the treatment might be considered. Medicines called diuretics (such as frusemide) might be used to 'dry out' the lungs. Finally, if medical treatment is not effective and the doctors still think the duct is causing significant problems, an operation to close the duct might be necessary. The decision to offer surgery will be made in consultation with the heart specialists at Alder Hey Children's Hospital which is where the surgery would be done.

## **Are There Any Risks Associated With Treatment?**

Ibuprofen can reduce the blood supply to organs such as the kidneys and bowel, affecting the way they function. These effects are usually mild and settle down after treatment is finished but sometimes they may cause the treatment to be stopped early. Paracetamol is routinely used to provide pain relief in newborn babies and is considered to have fewer side effects. Surgical closure of the ductus is a major procedure for a small sick baby, and while it is almost always effective in closing the duct, it may also be associated with significant risks.

Most babies who need treatment for a PDA do not experience these side effects. However, because they can be significant, and because of the uncertainties regarding treatment, the decision to treat is not taken lightly.

## **How Can I Find Out More About PDA?**

Your baby's nurses and doctors can give you more information. Please ask them if you would like to know more about PDA or the various treatment options.

**This leaflet can be made available in different formats on request. If you would like to make any suggestions or comments about the content of this leaflet, then please contact the Patient Experience Team on 0151 702 4353 or by email at [pals@lwh.nhs.uk](mailto:pals@lwh.nhs.uk)**

Liverpool Women's NHS Foundation Trust  
Crown Street  
Liverpool  
L8 7SS

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