

PDA and its Treatment

Your baby has a Patent Ductus Arteriosus (PDA). The ductus arteriosus is a small blood vessel that connects the major blood vessel carrying oxygen rich blood to the body with the major blood vessel that carries blood to the lungs to be enriched with oxygen. This blood vessel is normal in an unborn infant but should close within the first hours after birth. There are various reasons for this vessel not closing properly, such as prematurity or needing ventilator support. This vessel being open (patent) allows some of the blood flowing to the body to get into the blood flowing to the lungs. This extra blood flow to the lungs does, in time, cause congestion (extra fluid) in the lungs. The lungs being congested can cause a multitude of problems such as:

1. An increase in respiratory and heart rates. The baby is working harder.
2. An increase in apnea (no breathing for 20 seconds) and/or bradycardia (slow heart rate). The baby is tiring.
3. A need for increased oxygen and increased ventilator support.
4. It may or may not cause a heart murmur.

When the doctors see these problems occurring, they check the baby for a PDA. They will order a chest x-ray, which will show the congestion in the baby's lungs. They will also order an echocardiogram. This is a "real time" picture of the heart and will show the PDA.

Now that your baby has been found to have a PDA, it will need to be treated. There are two medications (**Indomethacin** and **Ibuprofen**), which may be used to chemically close the ductus arteriosus. About half of the infants are successfully treated with one of these drugs. However, if medical treatment is unsuccessful, it will need to be surgically ligated or tied off.

A PDA ligation is a surgical procedure. An incision is made in the left chest wall. The surgeon then locates the PDA and ties it off by placing 2 small metal clamps across the vessel, and then cutting the vessel. The baby may need a chest tube for one to three days after surgery.

Occasionally, babies who have undergone this procedure can develop hoarseness due to injury to a nerve that is in the surgical site. Some infants may develop a paralyzed diaphragm if another nerve is injured. Most of the time, these injuries are temporary due to swelling of the nerve from handling them to get them out of the way. Occasionally, function does not return. This is understandably a scary time for you. Your baby will receive pain medications to ensure his comfort. Please feel free to ask any questions you may have.