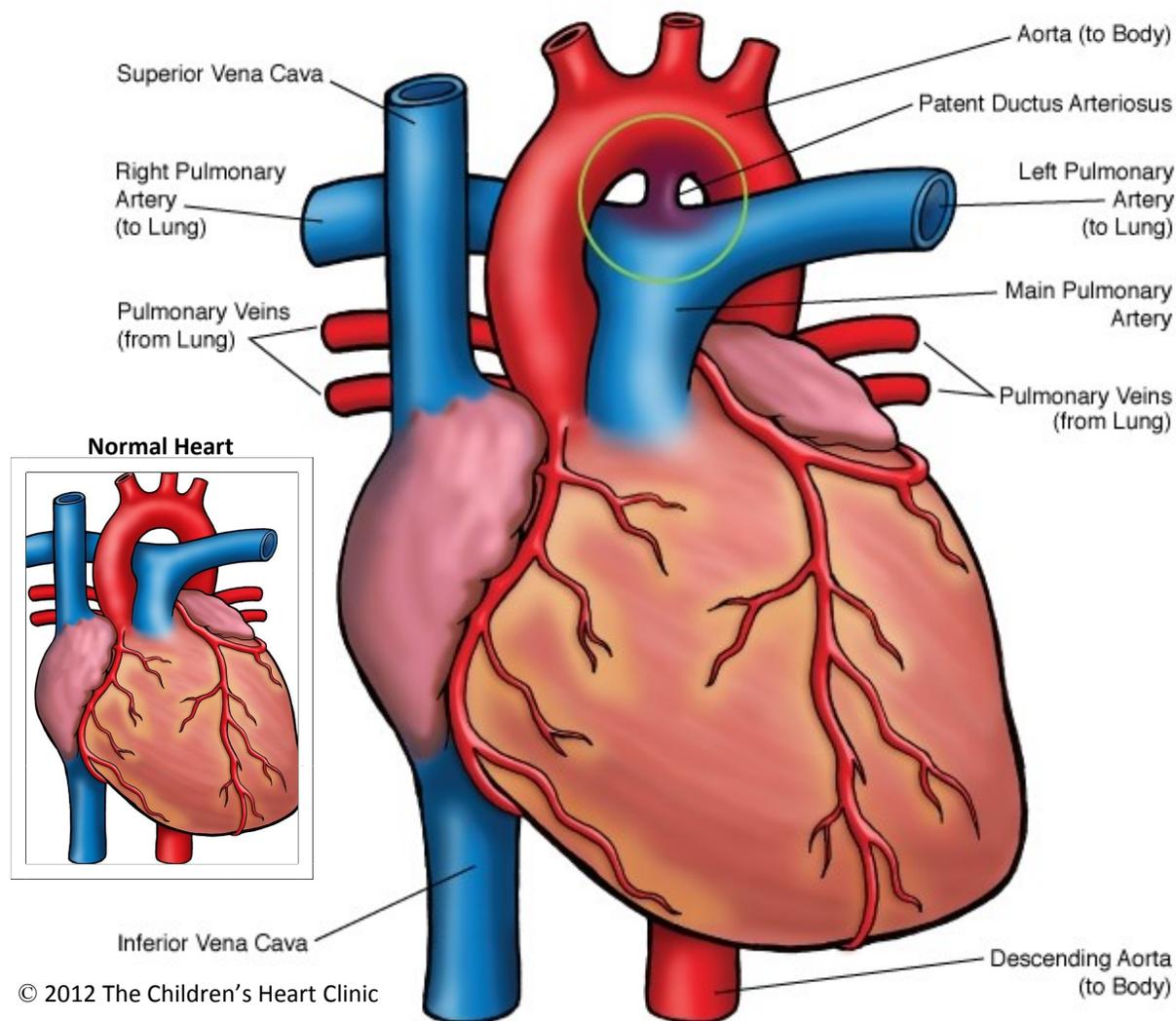


Patent Ductus Arteriosus (PDA)



NOTES:

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Patent Ductus Arteriosus (PDA)

The ductus arteriosus is a normal fetal structure between the left pulmonary artery and descending aorta that usually closes within days after birth. A patent ductus arteriosus (PDA) is a ductus that remains open after birth. This occurs in 5-10% of all congenital heart defects in term infants and is more common in females than males (3:1). PDA is very common in premature infants, appearing in up to 80% of preemies.

Physical Exam/Symptoms:

- Small PDA: asymptomatic, often with no murmur audible.
- Large PDA:
 - May result in poor growth and feeding, lower respiratory tract infections, atelectasis (complete or partial lung collapse), tachycardia (fast heart rate), and tachypnea (fast breathing).
 - Bounding peripheral pulses and a wide pulse pressure are present.
 - Hyperactive precordium (part of the body over the heart and lower chest). A systolic thrill may be palpable at the left upper sternal border.
 - Murmur: Grade I-IV continuous systolic murmur heard best at the left upper sternal border or left infraclavicular area. An apical diastolic rumble may be heard with large PDA shunts.
 - Of note, a murmur is not always present and does not indicate the significance of the PDA.
 - If unrecognized, pulmonary vascular obstructive disease may occur.

Diagnostics:

- Chest X-ray: Normal with small PDA. Moderate to large PDAs may have varying degrees of cardiomegaly (enlarged heart) and increased pulmonary vascular markings, similar to children with ventricular septal defects (VSDs).
- EKG: Normal.
- Echocardiogram: Diagnostic.

Medical Management/Treatment:

- For premature infants with persistent PDAs, a medication called indomethacin may be used. Indomethacin is *ineffective* in term infants.
- PDAs may be repaired by surgery or device closure in the catheterization lab.
- In children with some complex heart defects, medication may be used for a short time after birth to *keep* the ductus arteriosus patent until first stage surgical palliation.
- Your cardiologist will discuss the method and timing of closure with you.
- Long-term cardiology follow up is not needed for a PDA that closes on its own or is surgically closed in the absence of other heart disease or co-morbidities.
- For patients with device closure in the catheterization lab, follow up for 6 months after discharge from the hospital is recommended.

Long-Term Outcomes:

- Normal life expectancy and development in the absence of other heart disease or co-morbidities.