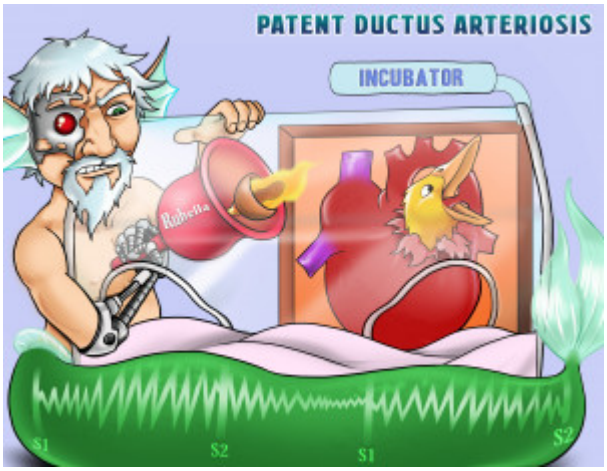
Patent Ductus Arteriosus

Patent ductus arteriosus is a congenital heart disorder in which a neonate's ductus arteriosus fails to close after birth. The ductus arteriosus is a physiologic fetal blood vessel that connects the pulmonary artery to the aortic arch, allowing blood from the right ventricle to bypass the non-functioning lungs. At birth, the ductus arteriosus closes to become the ligamentum arteriosum. Failure of this blood vessel to close results in the condition patent ductus arteriosus, which generates a left-to-right shunt. The blood that flows through this duct creates a continuous machine like murmur that is loudest at the S2 heart sound. Common causes include congenital rubella or prematurity, and if left uncorrected, can lead to pulmonary hypertension and Eisenmenger syndrome.



PLAY PICMONIC

Continuous

Graphic representation of Continuous-murmur

The blood flow through the patent ductus arteriosus creates a continuous murmur that exists in both systole and diastole.

Machine like murmur

Machine-like Merman

This murmur is classically described as having a machine-like quality due to continuous clicking noises. Important to note that while the machine-like murmur is often the hallmark sign, a systolic ejection murmur may also be heard.

Often Due to Congenital Rubella

Red-bell torch

Patent ductus arteriosus is a common outcome of congenital Rubella infection close to delivery. However, the frequency of PDA caused by congenital Rubella has significantly decreased due to immunization.

Prematurity

Incubator

In premature infants, the patent ductus arteriosus closes later than it would in term babies, possibly related to the relative immaturity of the lungs.