

Coarctation of the Aorta

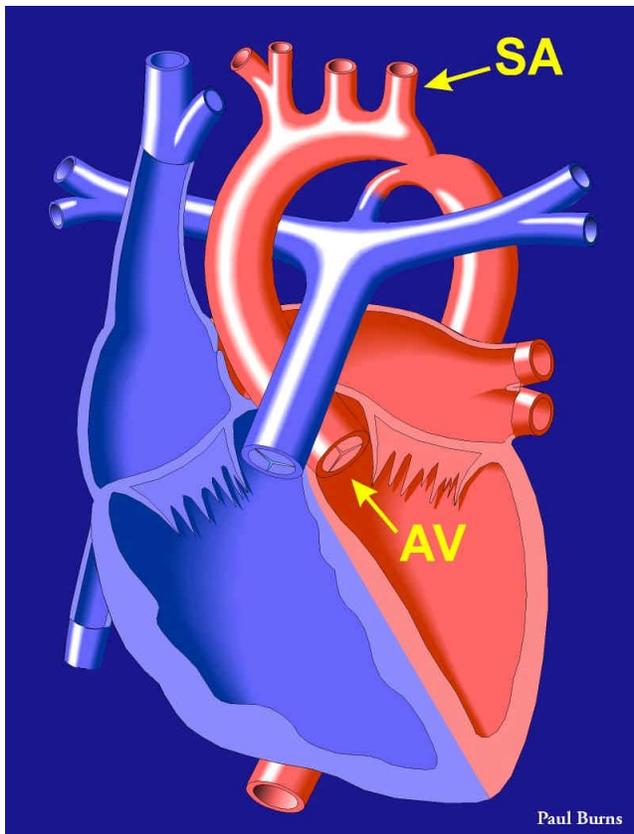


What Is It?

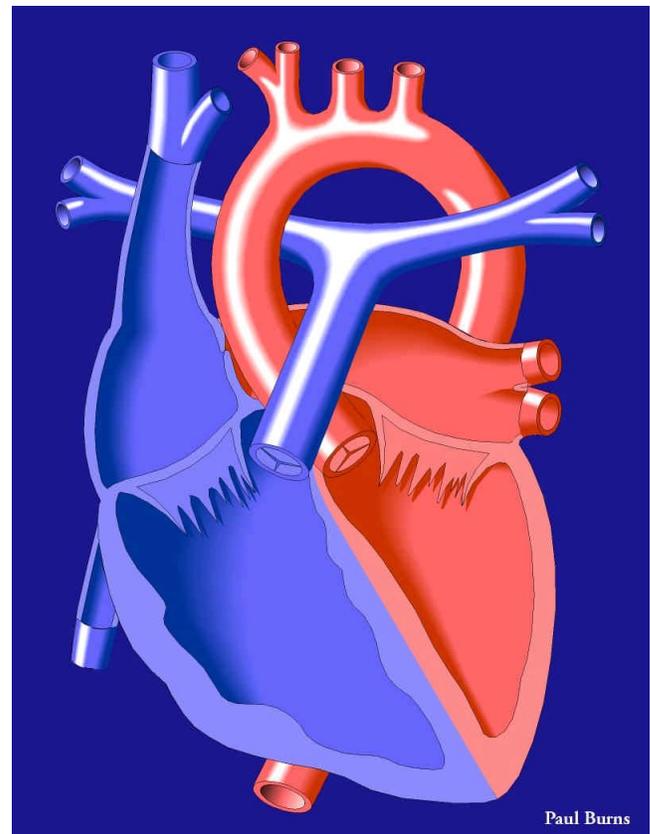
Coarctation of the Aorta is characterized by a blockage (coarctation) in the aorta itself. This may consist of a narrowing of the vessel or a shelf-like obstruction within it.

The coarctation is located on the descending aorta near the heart, usually immediately past the point (further from the heart) where the subclavian artery (SA in the diagram) exits the aorta on its way to the upper body.

In some cases, the aortic valve (AV in the diagram), through which blood enters the aorta from the left ventricle, is abnormally formed in this defect, with only two valve leaflets rather than the usual three.



Coarctation of the Aorta

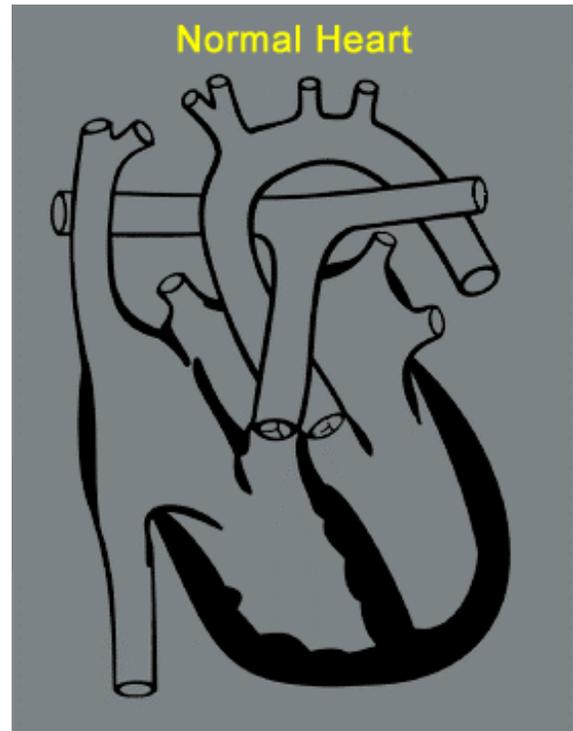
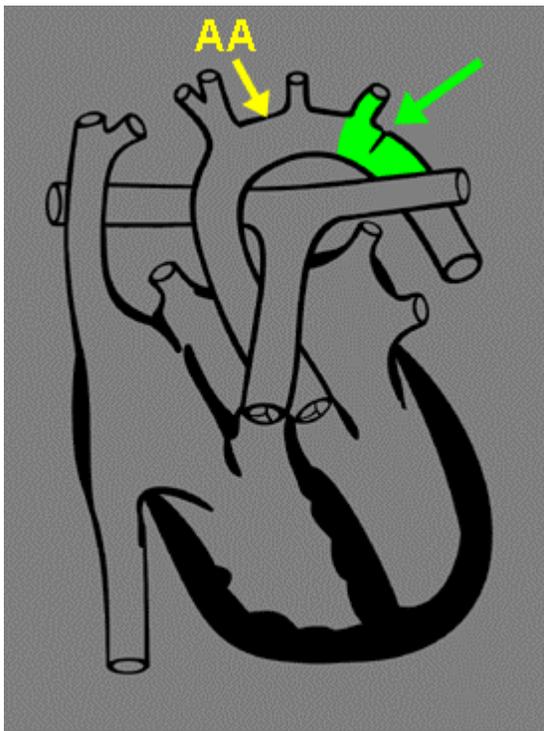


Normal Heart

What Are Its Effects?

The obstruction to blood flow caused by the coarctation causes high pressure in the left ventricle, which pumps blood into the aorta and the part of the aorta between the heart and the blockage (the aortic arch - AA in diagram).

While the blood pressure in the upper body becomes high, the blood pressure in the lower body is low because of the reduced blood flow through the aorta. If the obstruction in the aorta is severe, infants will develop severe heart failure after the patent ductus arteriosus (PDA) closes in the first several days after birth. If the problem is not diagnosed promptly, the infant may die.



How Is It Treated?

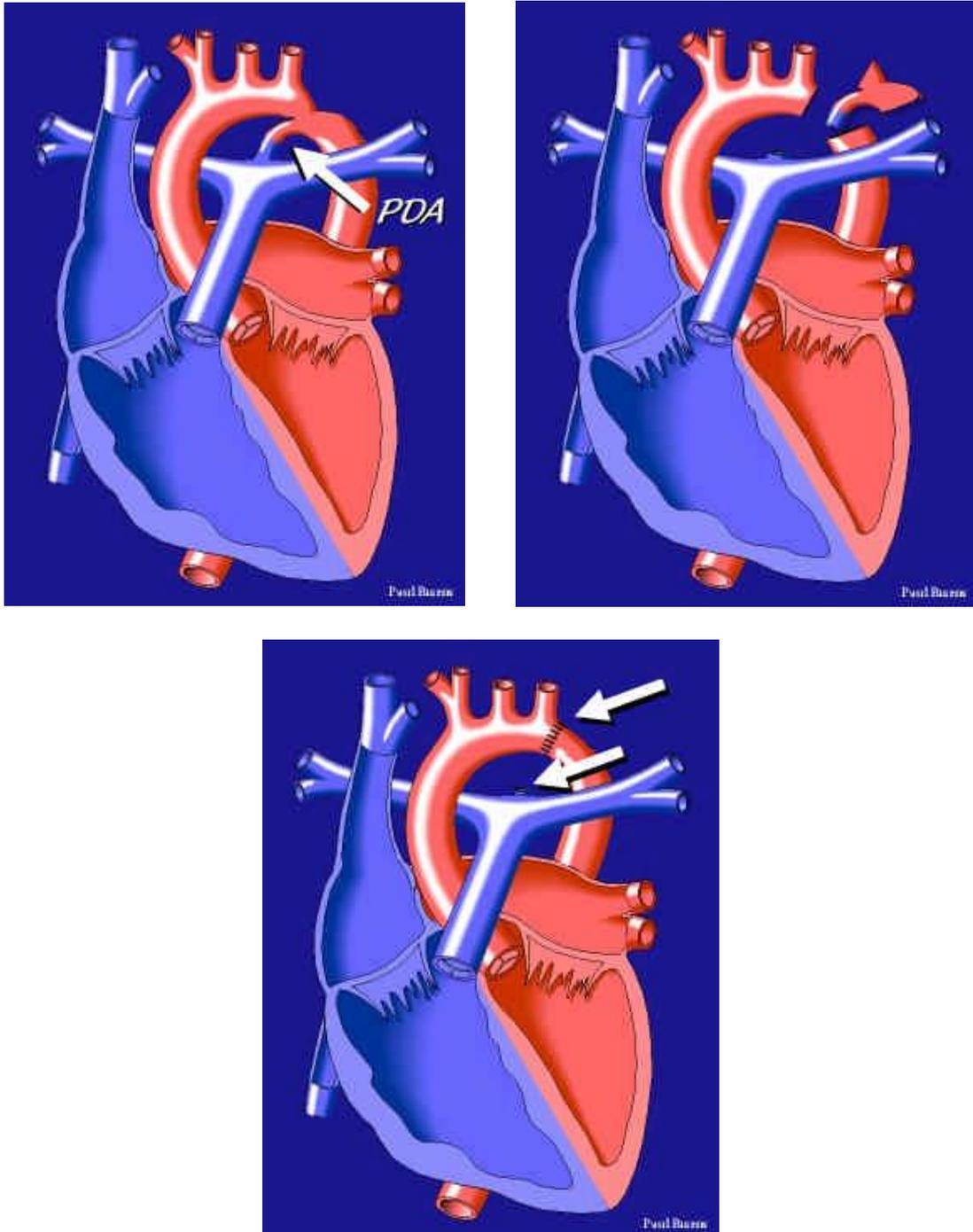
When this defect has been diagnosed, surgery may be performed to relieve the obstruction in the aorta. There are several ways to achieve this. A stent (rigid tube) may be inserted by means of a catheterization procedure to widen the affected part of the aorta and keep it open. In other cases, the obstructed section of the vessel may be removed.

In the illustrations below, the coarctation is repaired by removing the part of the descending aorta that contains the obstruction and suturing together the resulting ends (upper yellow arrow).

Notice that, as is usual in Coarctation of the Aorta, the narrowing is directly opposite the Patent Ductus Arteriosus (PDA), the small vessel that connects the aorta to the pulmonary artery. This vessel

normally closes soon after birth. In the case shown here, the PDA is removed with the constricted section of the aorta and closed off at the pulmonary artery (lower arrow).

If the aortic valve is deformed, it may also be repaired. Postoperative recovery is usually uncomplicated, involving a hospital stay of from 4 days to 1 week.



Surgical Repair of Coarctation of the Aorta