

Atrioventricular Canal Defect (Endocardial Cushion Defect, Atrial Septal Defect)

Many terms are used to describe this complex defect.

Atrioventricular (AV) canal defect is a large hole in the center of the heart. It exists where the wall between the upper chambers joins the wall between the lower chambers. This septal defect involves both the upper and lower chambers. Also, the tricuspid and mitral valves that normally separate the heart's upper and lower chambers aren't formed as individual valves. Instead, a single large valve forms that crosses the defect.

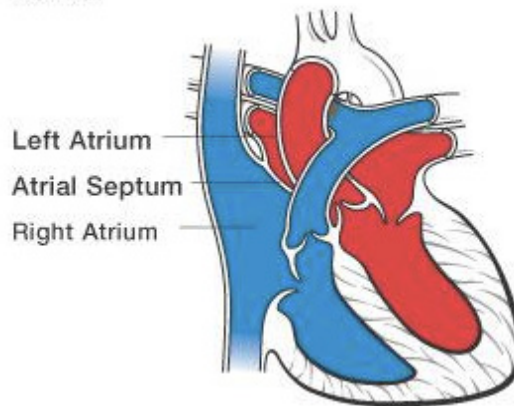
The large opening in the center of the heart lets oxygen-rich (red) blood from the heart's left side - blood that's just gone through the lungs - pass into the heart's right side. There, the oxygen-rich blood, along with venous (bluish) blood from the body, is sent back to the lungs. The heart must pump an extra amount of blood and may enlarge. Symptoms may occur at any time from birth to several months of age. Most infants with an atrioventricular canal don't grow normally. They also may become undernourished. Because of the large amount of blood flowing to the lungs, high blood pressure may occur there and damage the blood vessels.

In some infants, the common valve between the upper and lower chambers doesn't close properly. This lets blood leak backward from the heart's lower chambers to the upper ones.

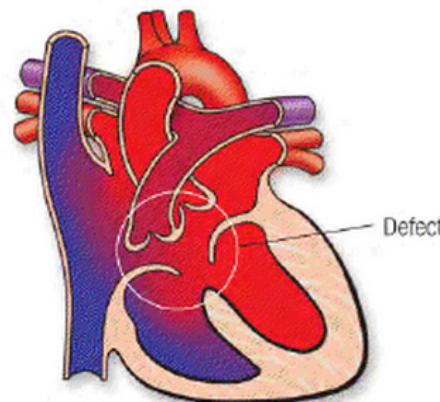
This leak, called regurgitation or insufficiency, can occur on the right side, left side, or both sides of the heart. With a valve leak, the heart pumps an extra amount of blood. It becomes overworked and enlarged.

In an infant with severe symptoms or high blood pressure in the lungs, surgery must usually be done in infancy. During the operation, the surgeon closes the large hole with one or two patches. Later the patch will become a permanent part of the heart as the heart's lining grows over it. The surgeon also divides the single valve between the heart's upper and lower chambers and makes two separate valves. These will be made as close to normal valves as possible.

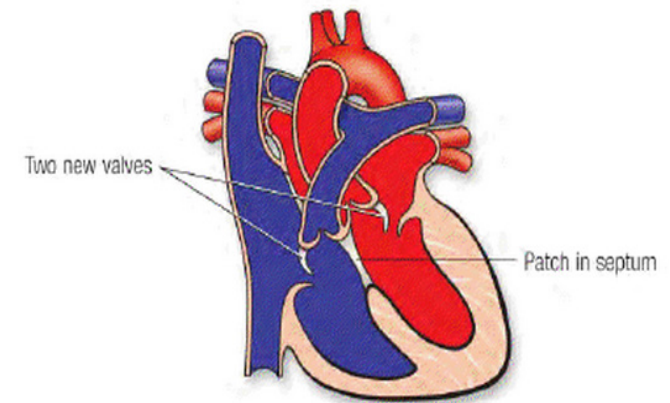
Normal



Atrioventricular Canal Defect



Septum Patch and New Valves



Surgical repair of an atrioventricular canal usually restores the blood circulation to normal. However, the reconstructed valve may not work properly. The valve structures can leak or narrow. Rarely, the defect may be too complex to repair in infancy. In this case, the surgeon may place a band around the pulmonary artery to narrow it and reduce the blood flow and high pressure in the lungs. This procedure is called pulmonary artery banding. When a child is older, the band is removed and corrective surgery is done. More medical or surgical treatment is sometimes needed.

After surgery your child must be examined regularly by a pediatric cardiologist. Children with atrioventricular canal defects risk an infection of the heart's walls or valves (endocarditis) before and after surgery. Antibiotics such as amoxicillin should be given before dental work and certain surgeries to help prevent endocarditis. Good dental hygiene lowers the risk of endocarditis too. For more information about dental hygiene and preventing endocarditis, ask your pediatric cardiologist.

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Canal Defect