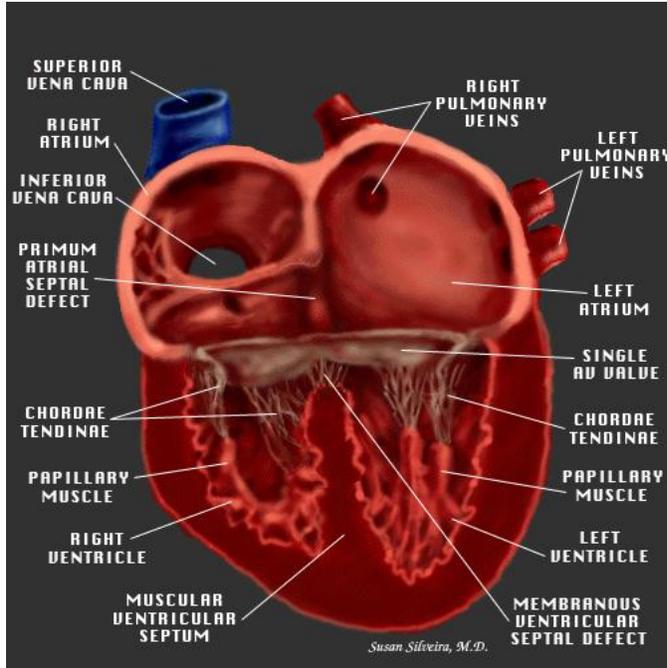


Atrioventricular Canal Defect, Complete

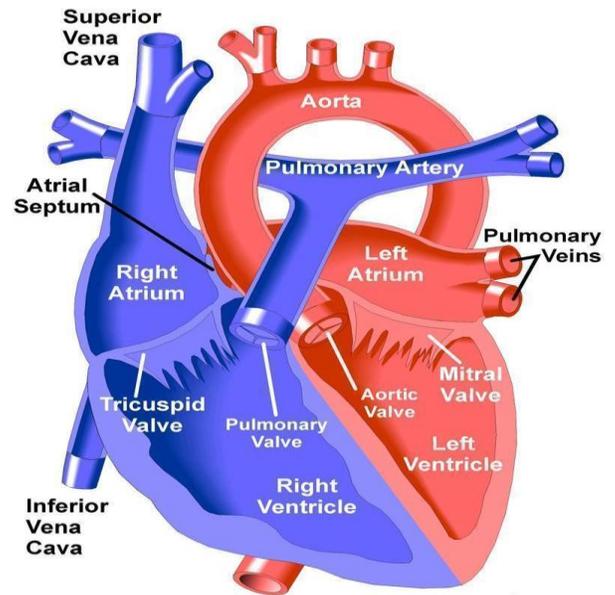


Anatomical Diagram

Incidence = 2 % of Congenital Heart Disease
Male:Female Ratio = 1:1

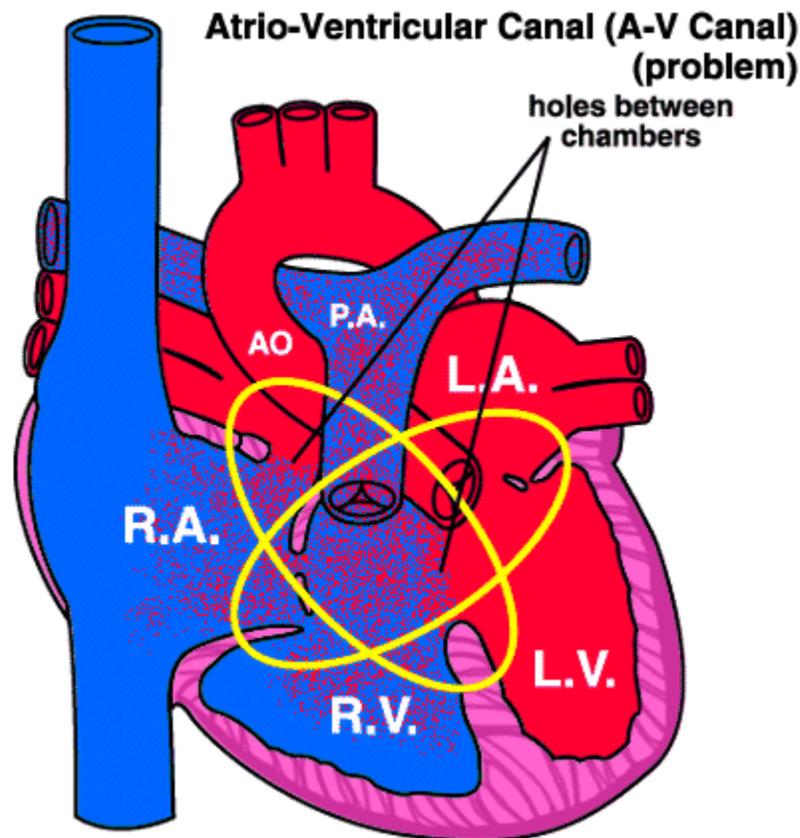
Normal Heart

- 1) Atrial Septal Defect. Premium Type
- 2) Inlet (Type III) Ventricular Septal Defect
- 3) Cleft and Deformity of Tricuspid Valve
- 4) Cleft and Deformity of Mitral Valve



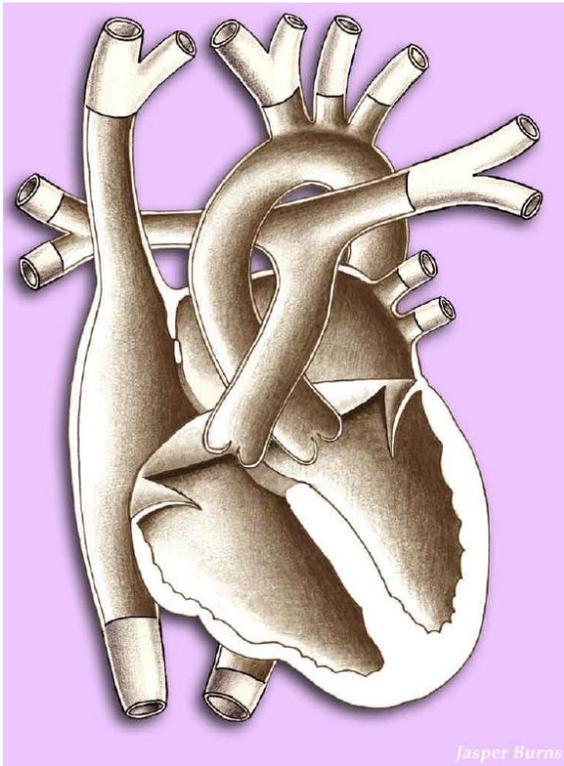
Description

The heart in this defect has four chambers, two normal valves, two valves which are abnormal, and two large holes in the heart. There is a hole in the lower part of the wall between the right and left collecting chambers (premature atrial septal defect). There is a large hole between the right and left pumping chambers (ventricular septal defect). The lung artery (pulmonary) and main artery (aorta) valves are normal. The valves between the collecting chambers and the pumping chambers are very abnormal. The abnormality can be minor with small slits or clefts in the valves or can be severe in which there is only one valve that goes across the whole heart. This defect does require open heart surgery to close the two holes and fix the valve abnormalities. The more abnormal the valve is the harder the surgery is. This defect can occur with Down's syndrome or in children with normal chromosomes.

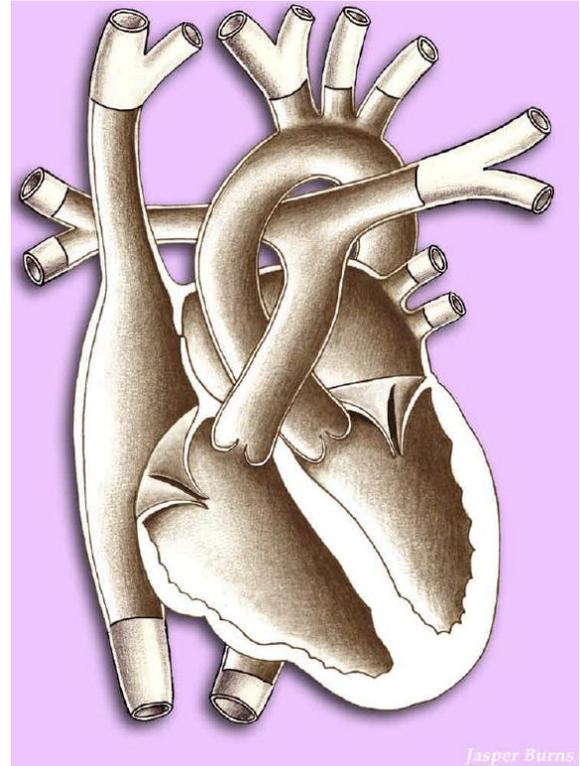


What Is It?

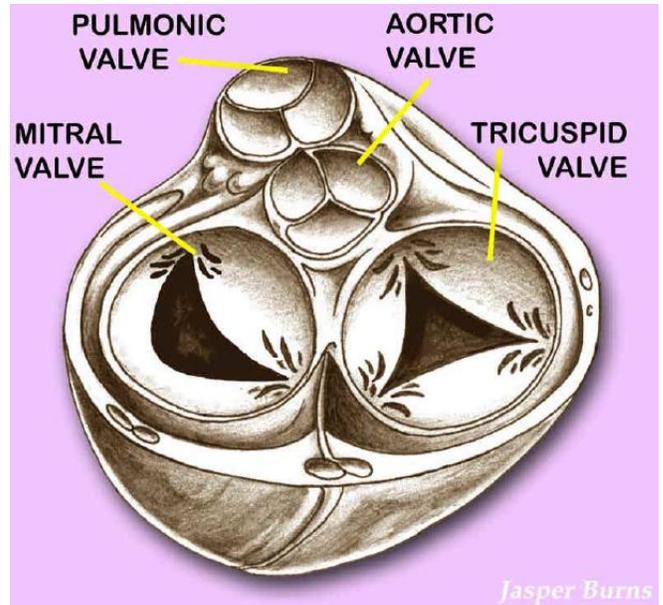
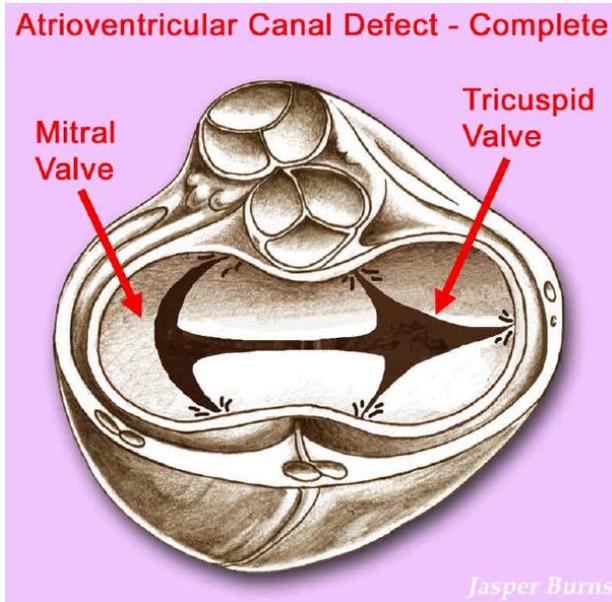
Atrioventricular Canal Defect is actually a combination of defects, involving malformations of the tricuspid and mitral valves. In some cases, the mitral and tricuspid valves are connected, forming a single opening. In addition to valvular defects, defects (in the form of holes) often occur in both the ventricular septum (VSD) and the atrial septum (ASD).



Atrioventricular Canal Defect, Complete



Normal Heart



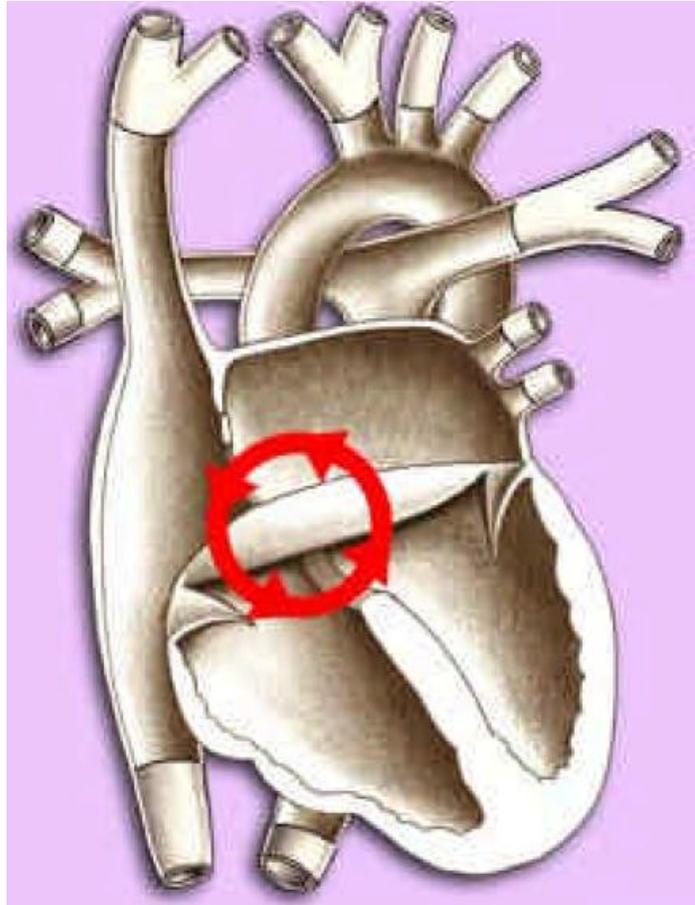
What Are Its Effects?

Atrioventricular Canal Defect, which often occurs in conjunction with Down Syndrome, allows the blood to move freely between the four chambers of the heart.

With this physiology, two different scenarios can occur. In some infants, resistance in the pulmonary arteries remains high. Therefore, even though there are large defects in the heart that allow the mixing of blood, the infants will have very little murmur and no symptoms.

In the other scenario, resistance in the lung arteries falls normally after birth. This allows an excess of blood to pass to the lungs and can cause heart failure, rapid breathing, and poor feeding.

This defect almost invariably requires surgical correction within a few months after birth.



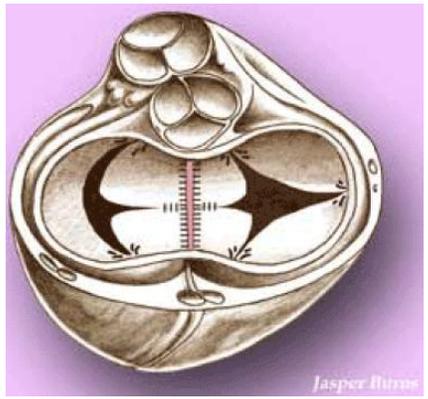
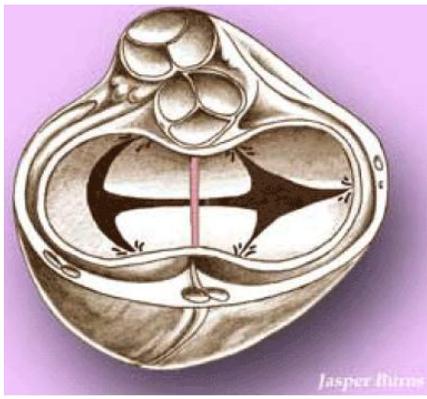
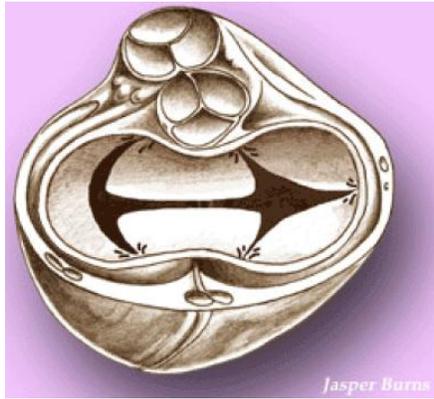
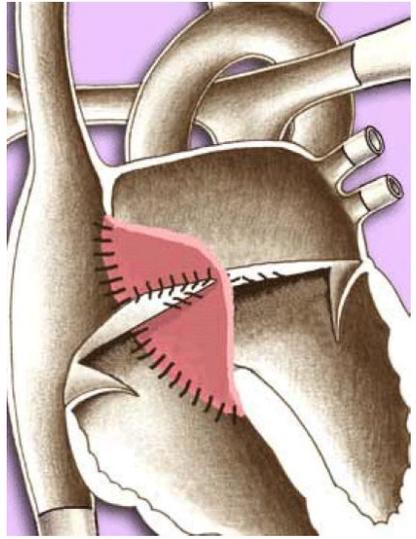
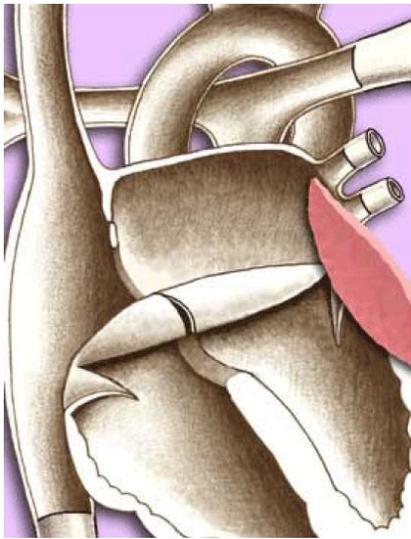
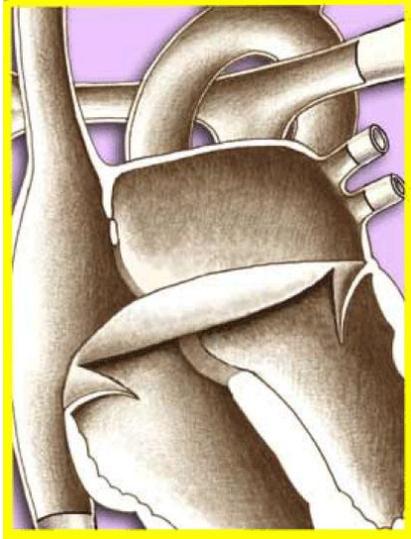
The defects in AVC, Complete allow the mixing of blood between all four heart chambers

How Is It Treated?

In AV Canal repair, the ventricular and atrial septal defects are closed with patches (or a single patch) made of a synthetic material. The malformations of the valves are repaired by suturing to the patched atrial and ventricular septa, which separate them.

In cases where the mitral and tricuspid valves are connected, forming a single opening, the patch of the ventricular septal defect is used to divide the two valves, which are then reduced in size by suturing.

In the illustrations below, a single patch (shown in pink) is used to close the ASD and VSD and to divide the mitral and tricuspid valves.



Surgical Repair of Atrioventricular Canal Defect, Partial