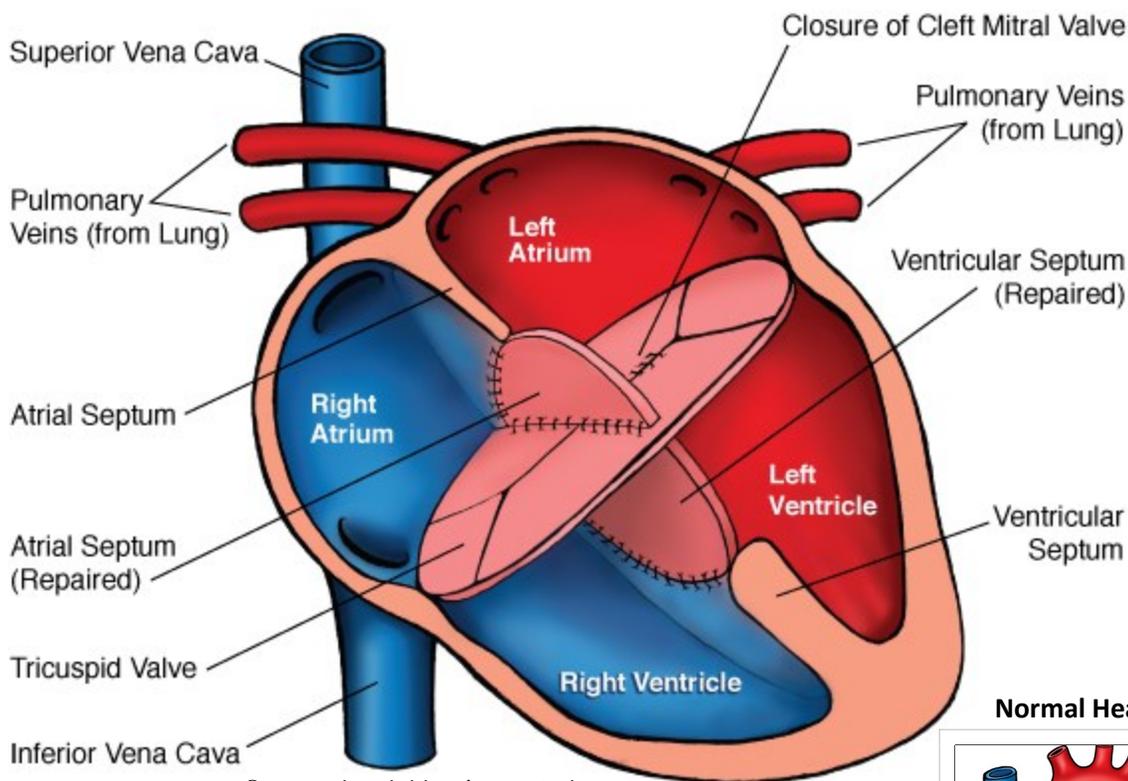


## Repair of Atrioventricular Septal Defect (AVSD)

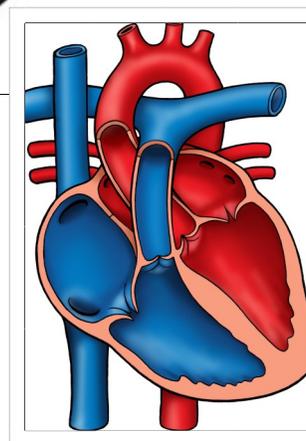


© 2012 The Children's Heart Clinic



**NOTES:**

**Normal Heart**



Children's Heart Clinic, P.A., 2530 Chicago Avenue S, Ste 500, Minneapolis, MN 55404  
 West Metro: 612-813-8800 \* East Metro: 651-220-8800 \* Toll Free: 1-800-938-0301 \* Fax: 612-813-8825  
 Children's Minnesota, 2525 Chicago Avenue S, Minneapolis, MN 55404  
 West Metro: 612-813-6000 \* East Metro: 651-220-6000

---

## Repair of Atrioventricular Septal Defect (AVSD)

Surgery to correct atrioventricular septal defects (AVSD) involves closing the communication between the ventricles (ventricular septal defect), and between the atrium (atrial septal defect). Repair of a complete AVSD is generally done in early infancy around 4-6 months of age. Transitional AVSD is usually repaired within the first two years of life. Partial AVSD is usually repaired later when the child is 2-3 years of age, because they lack the VSD component.

During surgery, a median sternotomy (incision through the middle of the chest) is performed. The patient is placed on cardiopulmonary bypass (heart-lung machine). The right atrium is opened and the common valve is inspected and tested for leaking (regurgitation). In the complete and transitional forms of AVSD there is a ventricular septal defect (VSD) component. If large, a patch made of Dacron® is used to close the defect (known as a two patch technique). If the VSD is small, it can be closed primarily with stitches (known as a modified single patch technique). Once the VSD is closed, stitches are placed through the common valve leaflets to close the space between the VSD and the valve. The valve is tested many times to assure correct division of the valve tissue into the new tricuspid and mitral valves. Once complete, a patch of the patient's own pericardium (sac surrounding the heart) is attached to the atrial (top chamber) side of the valve leaflets, between where the tricuspid and mitral valves meet. This step is also done in repair of partial AVSD. Once divided, both the tricuspid and mitral valves are tested for regurgitation. Stitches are then placed, if needed, to minimize tricuspid regurgitation. In AVSD, the mitral valve will have a "cleft," or area of division in one of the leaflets of the mitral valve (anterior leaflet). Stitches are used to close the mitral valve cleft, assuring that the size of the effective valve orifice is adequate for the patient's size. The valve is then tested and additional stitches are placed to minimize mitral regurgitation. Once complete, the remainder of the pericardial patch is sewn into place to close the atrial septal defect (ASD) component of the AVSD. At the completion of surgery, "blue," deoxygenated blood is separated from "red," oxygenated blood, similar to a normal heart's circulation.

### **Typical Post-Operative Course:**

- **Surgery Length:** 4 hours
- **Typical Lines:** Most patients will return to the Cardiovascular Care Center after surgery with a breathing tube, an arterial line to monitor blood pressure, a central venous line (for giving IV medicines and drawing labs), a peripheral IV, chest tubes to drain fluid, temporary pacing wires, and a foley catheter to drain urine.
- **Typical Post-Operative Recovery:** The breathing tube is generally removed within 24-48 hours after surgery. The arterial line is usually removed within a few days, once most IV medicines are stopped. The central venous line is removed once most IV medicines are stopped and labs no longer need to be drawn. Chest tubes are usually removed 24-48 hours following surgery, once the output of fluid is minimal.

**Typical Length of Stay:** A patient usually stays in the hospital for 5 days following repair of an atrioventricular septal defect

**Typical Home Medications:** Children will require one or more medications at home following repair of an AVSD such as:

- Diuretics (Lasix) to control fluid
- Afterload reducing agent (Enalapril, Captopril)
- Bacterial endocarditis prophylaxis is for 6 months after repair and long-term if residual valve leakage or mechanical valve placement.