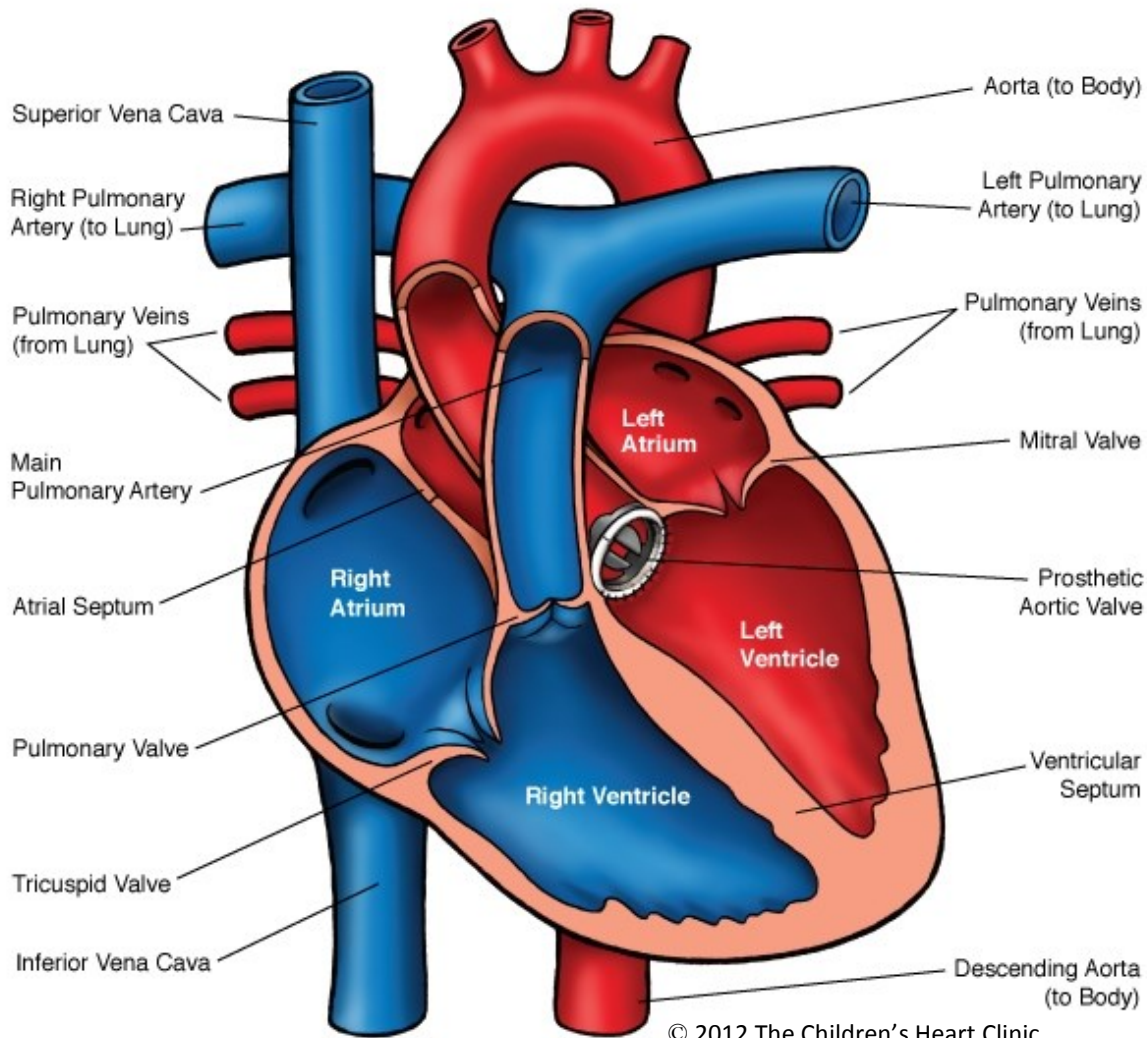


Aortic Valve Replacement (AVR): Prosthetic Valve



NOTES:

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

Aortic Valve Replacement (AVR)

Aortic valve replacements are done either to fix a narrowed (stenotic) or leaky (regurgitant) aortic valve. Many patients may have had prior surgical repairs or catheter-based interventions, depending on their type of heart defect. Less commonly, patients without prior intervention may need their aortic valve replaced, if required.

There are different types of valves that can be used to replace an aortic valve. Either a bio-prosthesis (valve made of tissue from a human, cow, or pig) or a mechanical prosthesis can be used depending on the surgical plan.

A median sternotomy (incision through the middle of the chest) is done through the patient's prior incision, if present. The patient is placed on cardiopulmonary bypass (heart-lung machine). The aorta is opened and the aortic valve is removed. An appropriately sized prosthesis is selected and is sewn into place. The valve is tested to assure for adequate leaflet motion after placement. The aorta is then closed.

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, a foley catheter to drain urine, and occasionally, temporary pacemaker wires.
- **Typical Post-Operative Recovery:** The breathing tube is usually removed shortly 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. The patient is placed on heparin shortly after surgery to prevent clots from forming on the newly placed aortic valve. If a mechanical prosthesis was placed, the patient is transitioned to Coumadin and Aspirin, which are oral medications used to prevent clotting in the blood. A value known as the International Normalized Ratio, or INR, is followed to make sure that the dose of Coumadin is correct. Excessively high INR levels can cause spontaneous bleeding, and low INR levels can lead to clot formation. Once the INR level is therapeutic, the heparin is stopped. If a tissue valve was placed, the patient will be put on Coumadin for a few months, then transitioned to Aspirin.
- **Typical Length of Stay:** A patient usually stays in the hospital for 5 days following an AVR.

Typical Home Medications: Patients will require one or more medications at home following an AVR such as:

- Diuretics (Lasix) to control fluid
- Anticoagulant (Coumadin, Lovenox, and/or Aspirin) to prevent clotting
- Bacterial endocarditis prophylaxis is required.