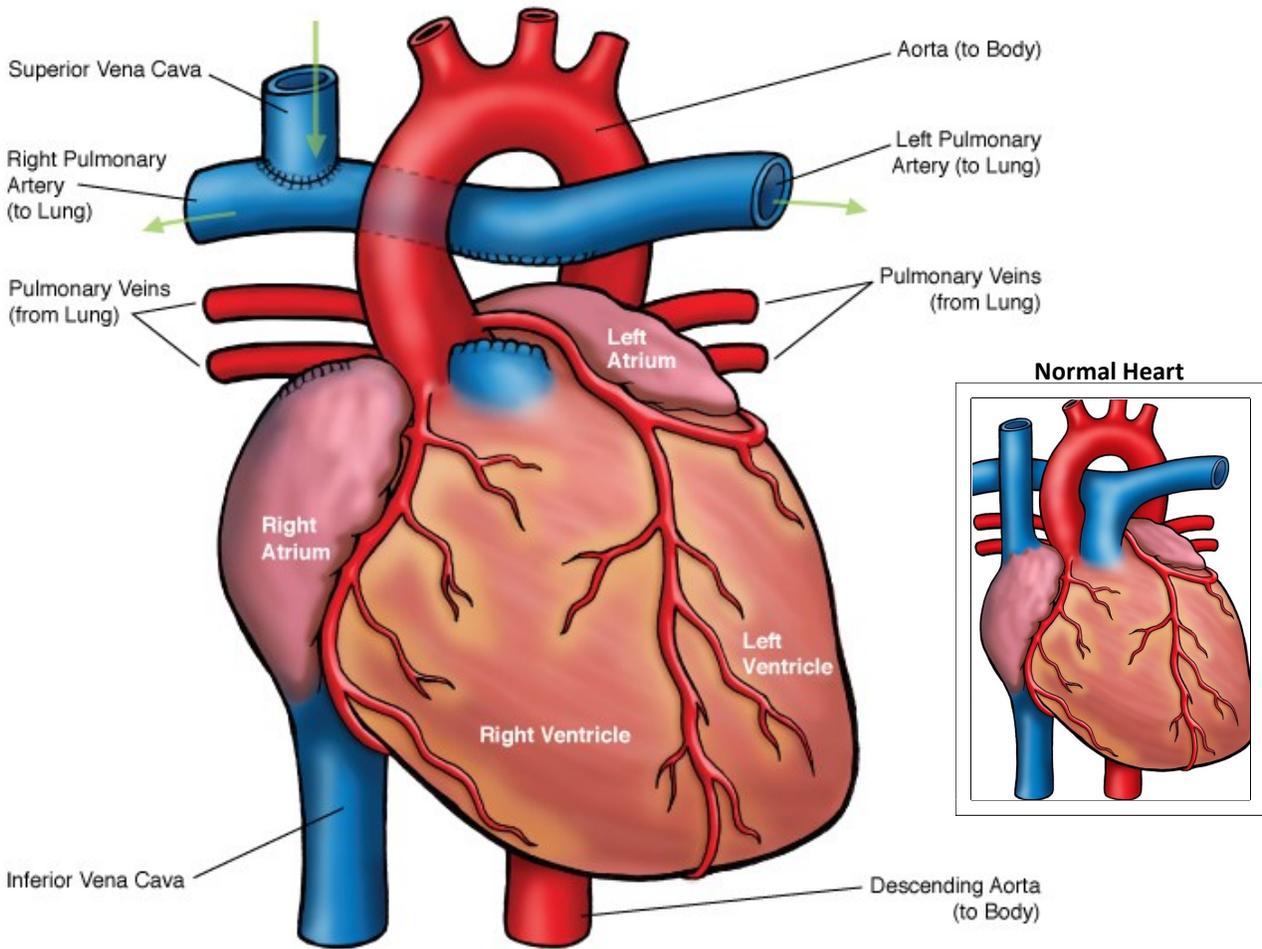




# Bidirectional Glenn Shunt (Cavopulmonary Shunt)



**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 Hospitals and Clinics of MN, 2525 Chicago Avenue S, Minneapolis, MN 55404  
 West Metro: 612-813-6000 \* East Metro: 651-220-6000

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## **Bidirectional Glenn Shunt (Cavopulmonary Shunt) (BDG)**

The bidirectional Glenn shunt (BDG) is often the second procedure done in the pathway of single ventricle palliation. Surgery is usually done between 4-6 months of age. This surgery allows deoxygenated, “blue” blood from the head to drain passively to lungs. This procedure can be done with or without the heart-lung machine (cardiopulmonary bypass), depending on the patient’s anatomy and prior procedure, if any.

A median sternotomy (incision through the middle of the chest) is done through the patient’s previous incision, if one exists. Depending on the operative plan, cardiopulmonary bypass may or may not be utilized. The superior vena cava (SVC) is divided from the right atrium. An incision is made on the pulmonary artery. The SVC is then sutured to the incision on the pulmonary artery. If the patient also has a left-sided SVC, the procedure is repeated on the left (*bilateral* bidirectional Glenn shunt). If used, bypass is then stopped and the chest incision is closed.

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

- Surgery Length: 3-4 hours
- Typical Lines: Most children 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 the day of surgery or the following morning. 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. Shortly after surgery, the child is placed on heparin to prevent clots from forming in the new cavopulmonary connection. Once the child is eating well, aspirin is started and the heparin is stopped. Children will sometimes have a headache and “fussiness” after the Glenn due to resulting higher venous pressure in the head and upper extremities. These symptoms, if present, are temporary and gradually subside over a period of days to weeks, but may require medicine for comfort while hospitalized.
- Typical Length of Stay: A child usually stays in the hospital for 5-7 days following a BDG.

**Typical Home Medications:** Children will require one or more medications at home after the BDG such as:

- Diuretics (Lasix) to control fluid
- Anticoagulant (aspirin, Lovenox) to prevent clotting
- Afterload reducing agent (Enalapril, Captopril)