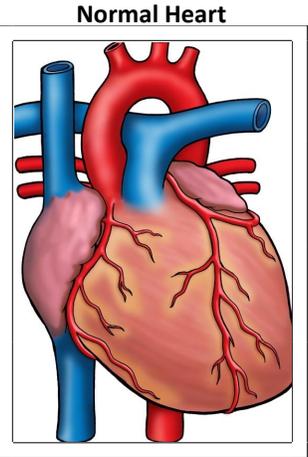
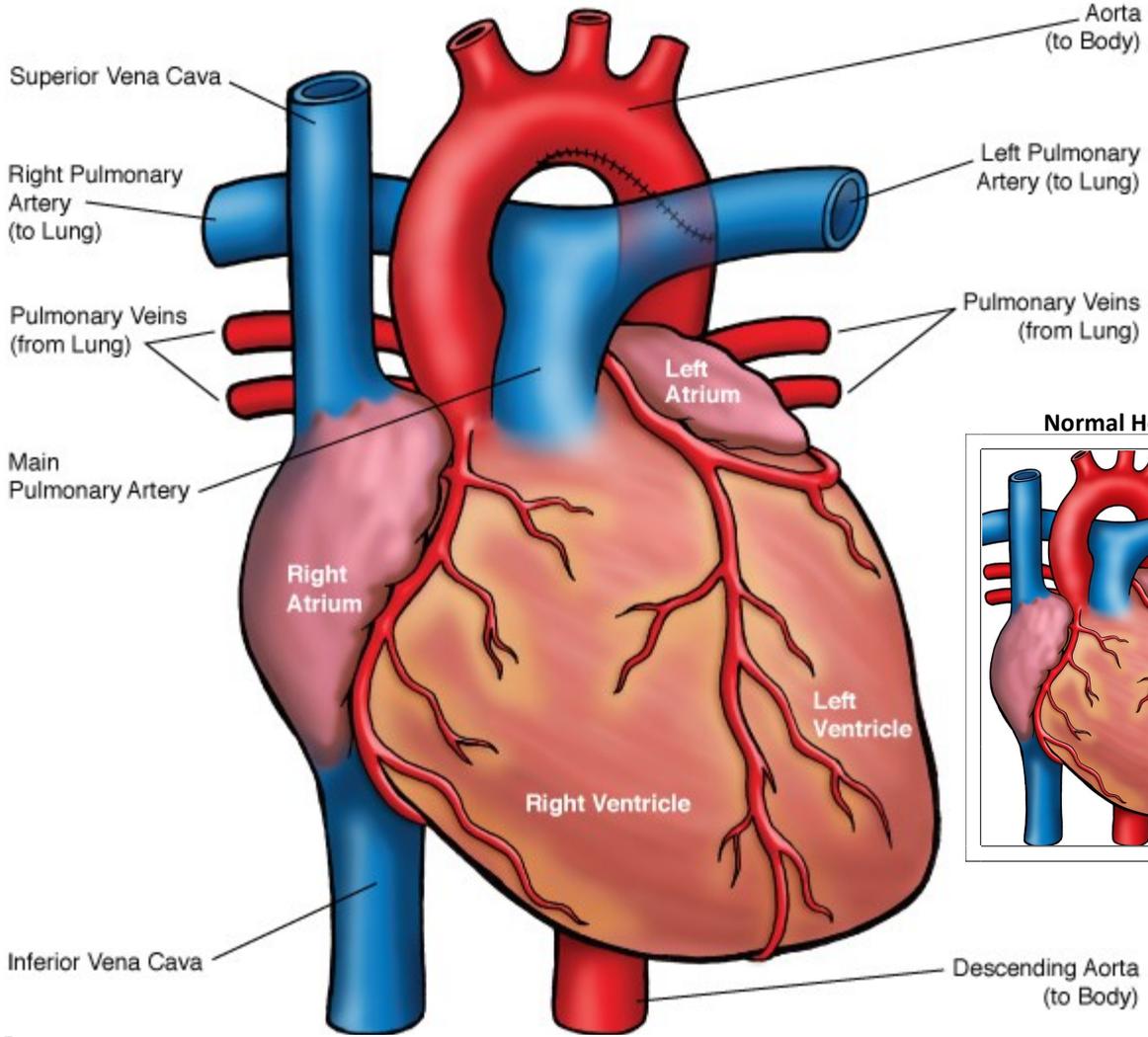




# Coarctation Repair: Resection with Extended End to End Anastomosis



**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

---

## Surgical Repair of Coarctation of the Aorta (see [coarctation of the aorta](#))

**Resection with end to end anastomosis:** A lateral thoracotomy incision is made toward the back of the patient's left chest. The patent ductus arteriosus (PDA), if present, is ligated (tied off with suture). Clamps are placed on the aorta above and below the narrowed segment, so that blood can still flow to the upper body and head. The coarctation segment is cut out and the two ends of the aorta are sewn back together.

**Resection with extended end to end anastomosis:** This procedure is used when there is a coarctation of the aorta with arch hypoplasia (narrowing of the transverse aortic arch). This is similar to the resection with end to end anastomosis. However, after the coarctation segment is removed, an incision is carried out onto the undersurface of the transverse arch. The descending aorta, with its open end beveled to match the incision on the aortic arch, is then sewn to the underside of the transverse aortic arch.

**Patch aortoplasty:** The same incision explained above is used and the PDA, if present, is ligated. Clamps are placed on the aorta above and below the narrowed segment, so that blood can still flow to the upper body and head. An incision is made lengthwise through the coarctation segment and a patch, often made of Gore-Tex® (Gore) is then sewn over the incision to increase the diameter of the narrowed aorta.

**Reverse subclavian flap (often combined with resection and extended end to end anastomosis):** This surgical method is used for narrowing of the aorta between the left carotid artery and left subclavian artery (distal arch hypoplasia). The same incision explained above is used and the PDA, if present, is ligated. The left subclavian artery is ligated at the apex of the chest cavity. Clamps are placed on the aorta above and below the narrowed segment, so that blood can still flow to the upper body and head. Resection and extended end to end anastomosis is usually performed first. After that is completed, the subclavian artery is transected and an incision is made down the side of the artery to the level of aorta, then up onto the left carotid artery. The subclavian artery is then folded down over this incision and sewn onto the top of the aortic arch, thereby augmenting the size of the distal aortic arch.

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

- **Surgery Length:** Surgery usually takes 2-3 hours.
- **Typical Lines:** Most children will return to the Cardiovascular Care Center with a breathing tube, a central venous line (to give IV medicines and draw labs), a foley catheter in their bladder to collect urine, an arterial line to monitor blood pressures, and a chest tube to drain fluid.
- **Typical Post-Operative Recovery:** Generally, the breathing tube is removed shortly after surgery, or the following morning. The chest tube is usually removed within 24-48 hours, once fluid output is minimal. Many patients will have elevated blood pressures after coarctation repair that will require medication to control. The arterial line is removed once the patient is off of IV medications to control their blood pressure. The central line is removed once IV medicines and labs no longer are needed.
- **Typical length of hospital stay:** A child usually stays in the hospital for 7-10 days. Length of stay is usually longer if the patient requires surgery as a newborn; as they will need a period of time learning to eat after the operation.

**Typical Home Medications:** Children may require one or more medications at home following repair of coarctation of the aorta such as:

- Diuretics (Lasix) to control fluid
- Medications to control high blood pressure (Enalapril, Captopril) for several weeks to months following surgery