

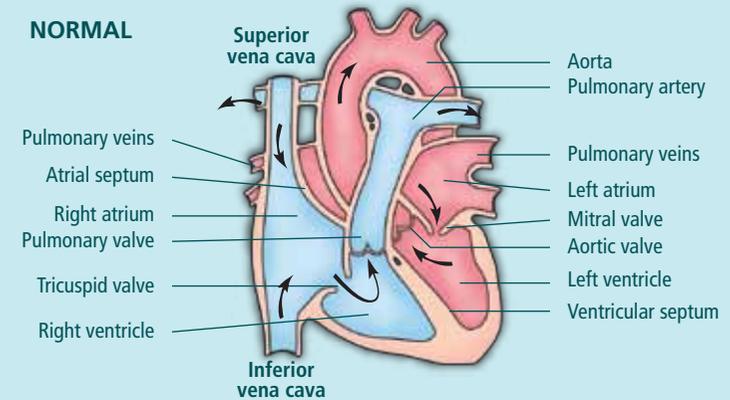
Coarctation of the Aorta (CoA)

WHAT IS IT AND HOW DOES IT AFFECT THE HEART?

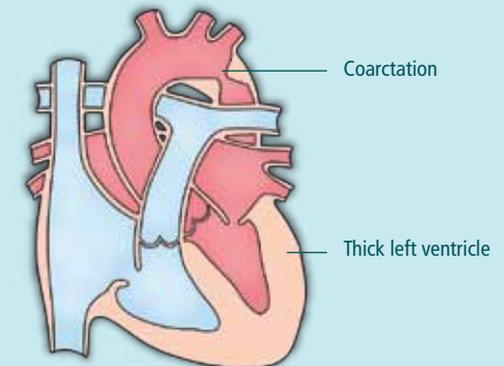
The aorta is the main artery that carries blood from the heart to the body.

A narrow area (stricture) is present in the aorta and leads to restricted blood flow to the lower part of the body. The blood pressure is much higher than normal in the left pumping chamber (left ventricle) and the heart must work harder to pump blood through the constriction in the aorta. This can cause thickening (hypertrophy) and damage to the overworked heart muscle.

NORMAL



COARCTATION OF THE AORTA



HOW WOULD THE COARCTATION AFFECT MY CHILD?

Onset of presentation depends on the severity of coarctation. The severity of the obstruction may progress with time.

If the obstruction is mild, symptoms may not occur as the heart is not overworked. In severe coarctation, symptoms can develop as early as the first week after birth. A baby may develop congestive heart failure or high blood pressure.

In some children and adolescents, coarctation is discovered only after high blood pressure or reduced pulses in the legs are found.

WHAT WILL HAPPEN TO MY CHILD IF UNTREATED?

If the obstruction is mild, the child will remain stable unless the severity of obstruction has progressed.

Severe coarctation presenting in neonatal period usually lead to congestive heart failure and eventually death within infancy.

Those who present after infancy will have a more gradual course. Hypertension is the early sign, congestive heart failure and tear in the aorta are the late complications.

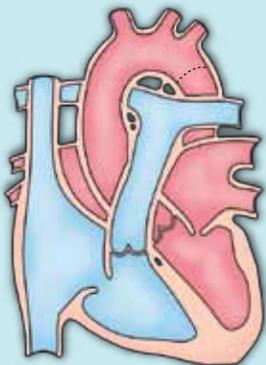
HOW CAN IT BE TREATED?

The coarctation obstruction can be relieved by surgery or catheterization.

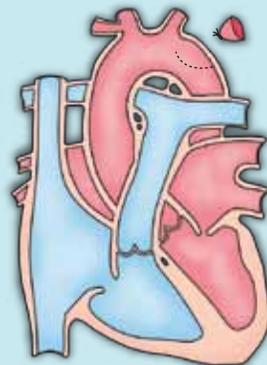
Surgical repair of coarctation

It is performed in young infant or those with long segment of narrowing. The operation involves a left thoractomy (incision on the side of the ribs). The repair can be done in several ways. One way is to remove the narrowed segment of aorta and sew both ends together (end to end repair). Another option is to sew a patch over the narrowed section using part of the blood vessel from the arm or a graft of synthetic material.

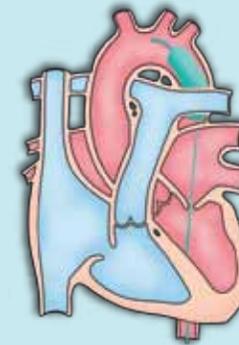
END TO END REPAIR



FLAP FROM ARM ARTERY

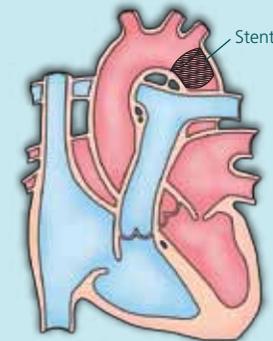


BALLOON ANGIOPLASTY



Transcatheter aortic balloon angioplasty

It is recommended for those bigger children with a discrete constriction. A special catheter with a balloon at the tip is inserted from the artery at the groin and the balloon is placed in the constricted area. The balloon is then inflated for a short time, stretching the constricted area open.



Transcatheter aortic stenting

It is an option for adolescent and adult with coarctation when the result following balloon angioplasty is not satisfactory. A stent is loaded in a catheter and is placed at the constricted area.

WHAT WILL HAPPEN TO MY CHILD AFTER SURGERY OR PROCEDURE?

The outcome after surgery is good. Rarely, coarctation of the aorta may recur and another procedure to relieve the obstruction may be needed. Also, blood pressure may stay high even when the aorta's narrowing has been repaired.

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WHAT HAPPENS
AFTER SURGERY?