

# Tricuspid Atresia

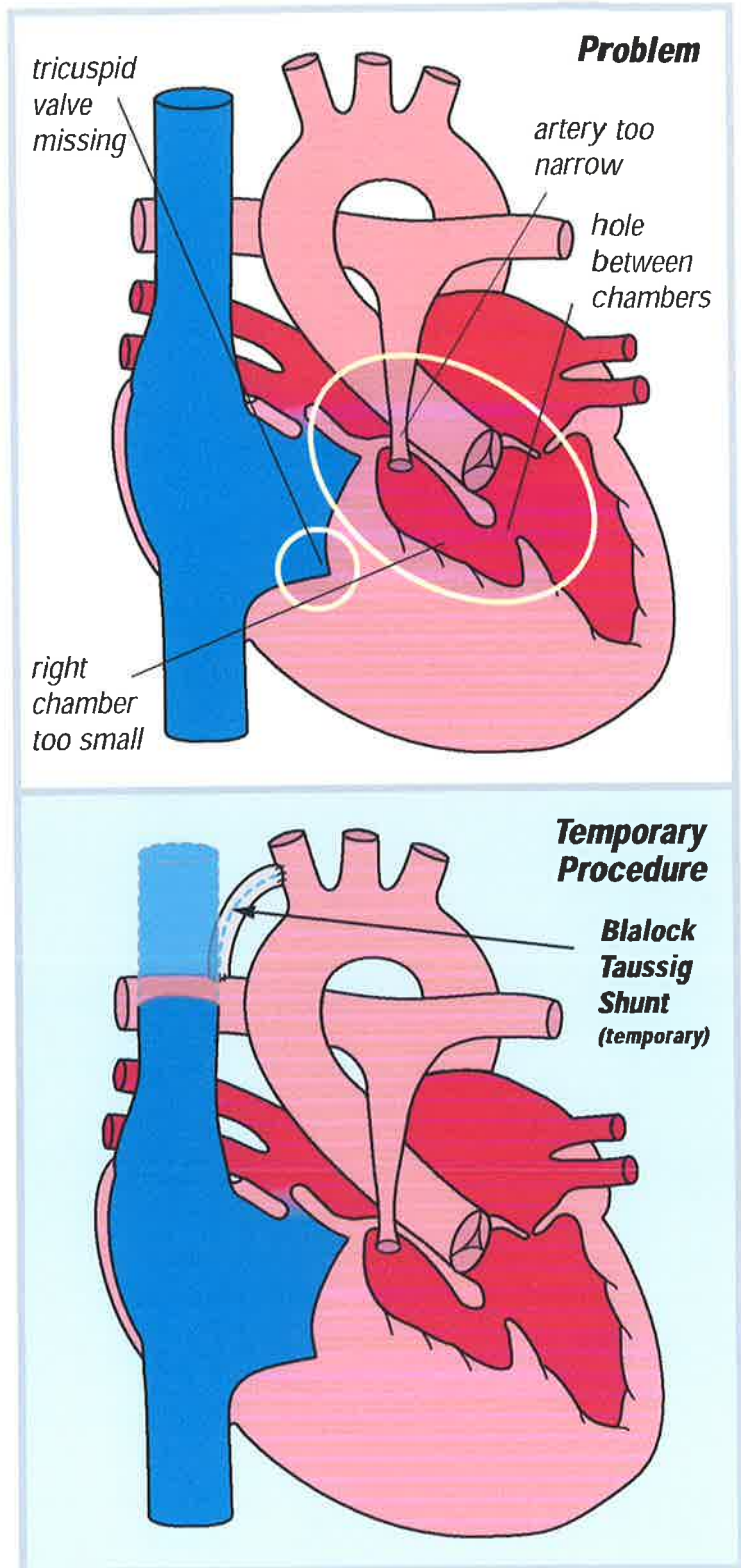
The tricuspid valve fails to develop. The bottom right heart chamber is small. The tricuspid valve is the valve that lets blood move from the top right heart chamber to the bottom right heart pumping chamber. There is generally a narrowing at the pulmonary artery valve (pulmonary stenosis). This narrowing restricts the blood flow to the lungs.

There is a hole between the top two chambers of the heart (atrial septal defect). There is also a hole between the bottom two chambers of the heart (ventricular septal defect). These holes are necessary for the child to survive until the surgery to correct the tricuspid atresia is done.

The surgery is most often done in stages:

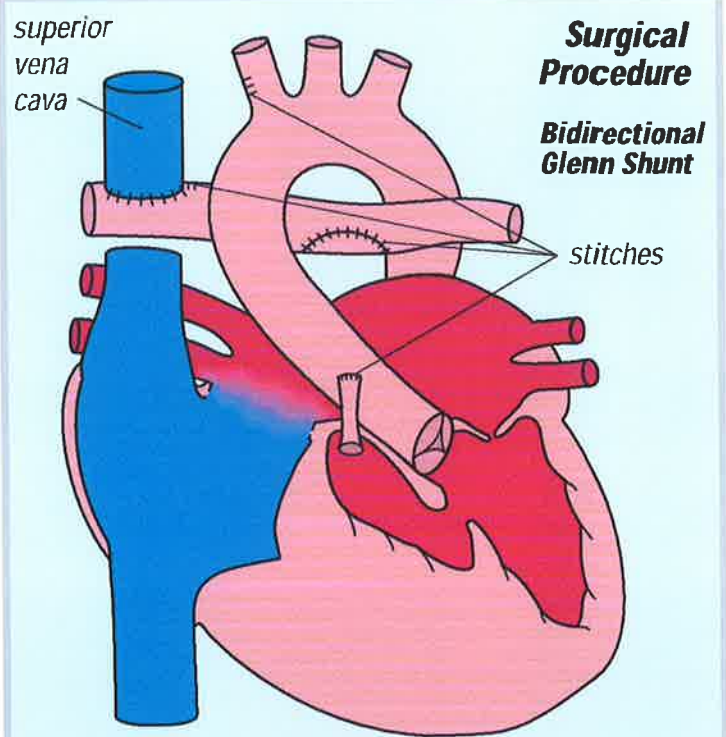
- Blalock Taussig Shunt—This is a small tube (shunt) that connects the aorta to the branch pulmonary artery. The shunt allows blood to flow to the lungs. It is placed through a thorotomy (side) incision.

*Continued on the next page.*

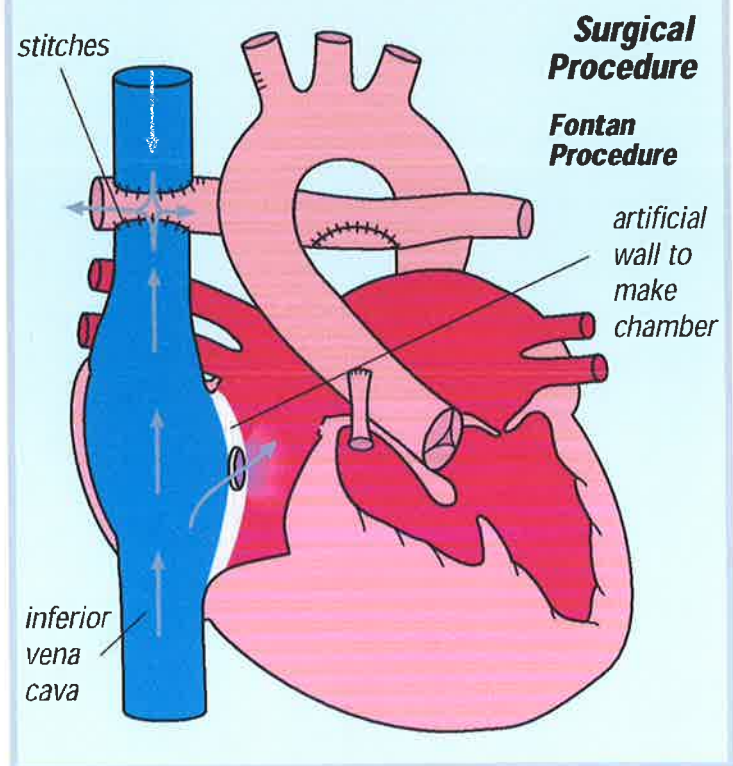


# Tricuspid Atresia

- Bidirectional Glenn Shunt—The main pulmonary artery is tied off and cut away. The superior vena cava is connected with the right pulmonary branch artery. The head and neck and upper body blue blood is sent to the lungs without going through the heart. The hole between the top two chambers is enlarged (atrial septectomy). The shunt from Stage I is removed. The Glenn Shunt reduces the work load on the heart. The Glenn Shunt operation is done through a median sternotomy (chest) incision.



- Fontan Procedure—The blue blood from the lower part of the body is directed to the lungs. This is done using the inferior vena cava, the right atrial wall and artificial material (Gortex®). A tube is fashioned through the top right part of the heart and connected to the right pulmonary artery branch. This rerouting allows the blue blood to enter the lungs without being pumped by the heart. The heart remains available to receive the red blood from the lungs and then pump it to the body. Sometimes several small holes (fenestrations) are placed in the tube to allow the heart and body to adjust gradually to the new blood flow system. These small holes close off on their own a few months after surgery.



The goals of the procedure:

- separate the red and blue blood
- have the blue blood enter the lungs directly
- have the heart itself as the pump to the body of oxygen-rich red blood

The Fontan Procedure is done through a median sternotomy (chest) incision.

