

Tetralogy of Fallot (TOF)

With Adequate Pulmonary Annulus

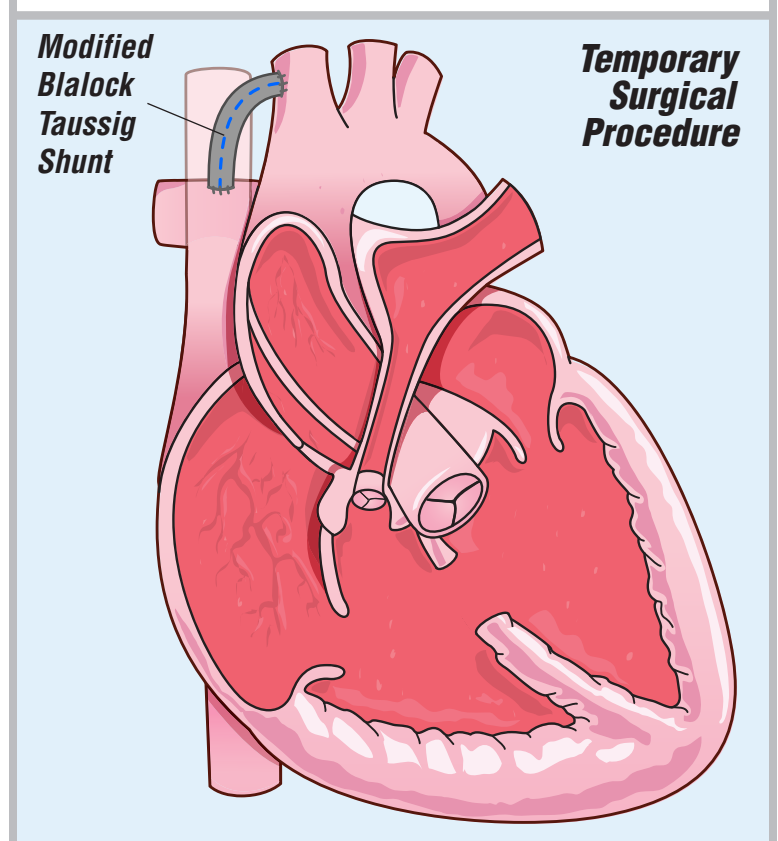
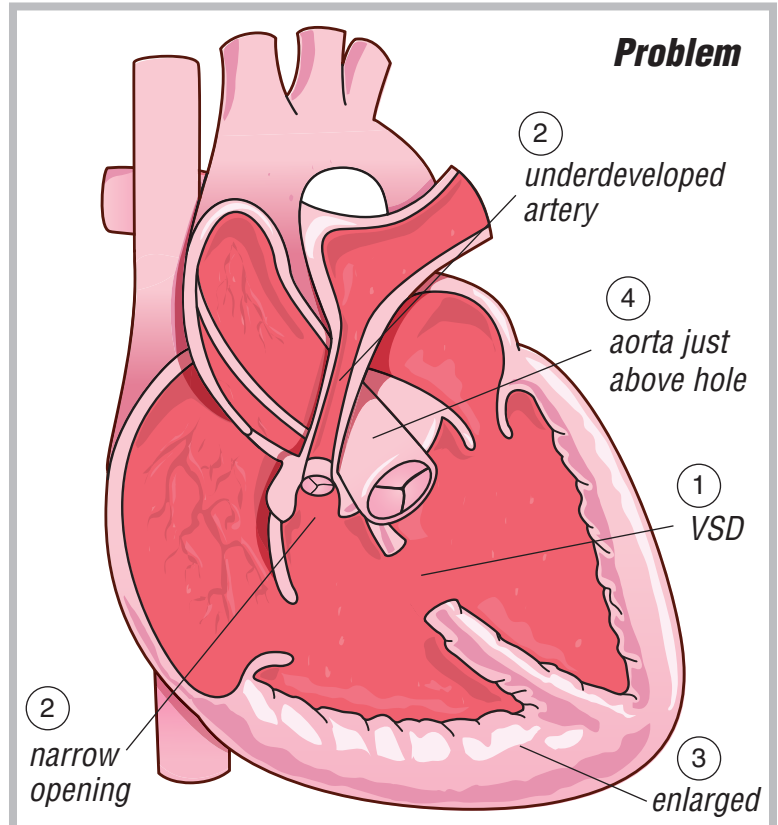
There are 4 heart problems:

1. a hole between the bottom 2 chambers of the heart (ventricular septal defect or VSD)
2. there is some narrowing of the pulmonary artery but the pulmonary valve (although small) is adequate
3. an enlargement of the bottom right side of the heart
4. aorta is lined up just over the hole between the bottom 2 chambers

There is mixing of red and blue blood through the hole between the bottom chambers of the heart. Blood going to the lungs is restricted by the narrowing under the pulmonary valve. This protects the lungs from getting too much blood flow. The bottom right side of the heart becomes enlarged because it must hold too much blood and try to squeeze it through the narrowing.

If an infant is too sick or the pulmonary arteries are too small for the corrective surgery, a temporary surgery may be done. In that case, a small tube (either from a blood vessel of the infant or artificial material) is placed from the subclavian artery into the pulmonary artery (Modified Blalock Taussig Shunt). The tube (shunt) allows blood to enter the lungs at all times. The shunt is removed at the time of the correction.

The shunt is placed through a thoracotomy (side) incision.



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To correct the problem, the hole between the bottom two chambers (VSD) is closed. This is most often patched using a synthetic material. The muscle tissue below the pulmonary valve is cut away and a patch is placed over the area. This allows blood from the bottom right heart chamber to flow into the lungs as it should.

When the pulmonary artery is narrowed it is hard for the blood to leave the bottom right heart chamber and go to the lungs for oxygen. Surgery is done to widen the narrowing by using a football-shaped patch. The patch is either a small piece of pericardium (the sac that the heart sits in), homograft (human tissue) or a synthetic material. If a shunt was placed earlier, it is also removed.

The corrective surgery is done through a median sternotomy (chest) incision.

