

# Transposition of the Great Arteries (TGA)

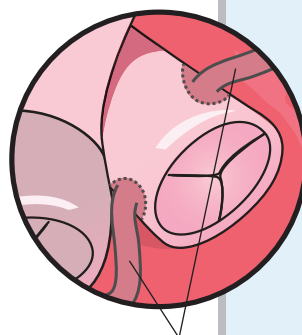
## With Ventricular Septal Defect

The two main blood vessels coming out of the heart, the pulmonary artery and the aorta, are in the opposite position of where they should be (transposed). There is a hole between the bottom two chambers of the heart (ventricular septal defect or VSD). There may also be a hole between the top two chambers of the heart (atrial septal defect or ASD). There may also be a connecting blood vessel between the aorta and the pulmonary artery (patent ductus arteriosus or PDA). Although essential at birth, the PDA normally closes itself shortly after birth.

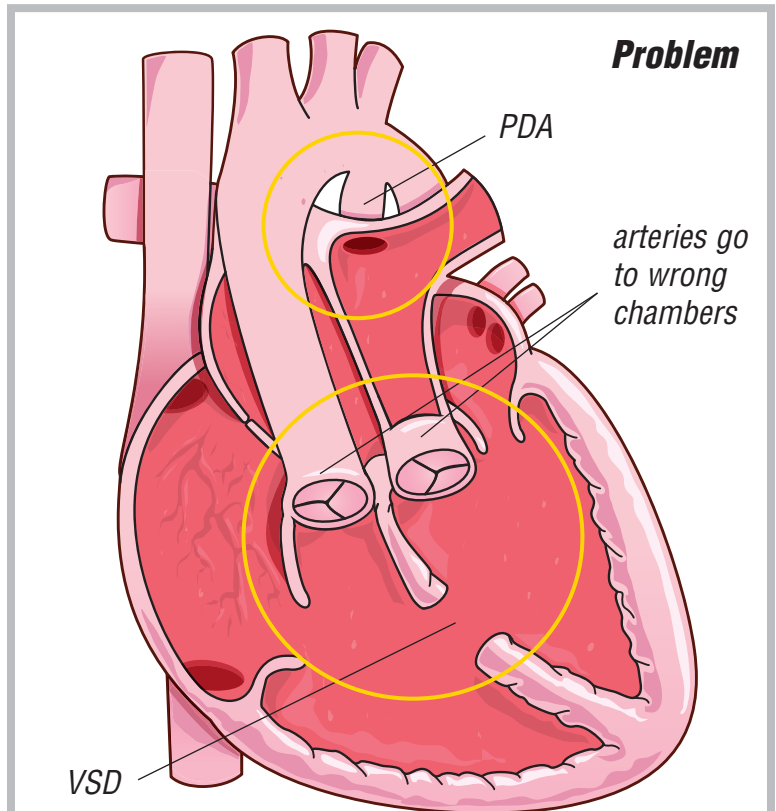
When the aorta and pulmonary artery are in the opposite position, the body receives unoxygenated (blue) blood instead of the oxygenated (red) blood it needs. The lungs receive red blood rather than the normal blue. The holes between the bottom and top two chambers of the heart allow some mixing of red and blue blood so that the child can survive until the surgical repair is done.

To correct the problem, the aorta and the pulmonary artery are moved to their proper position (arterial switch). The VSD is closed using a patch. If there is an ASD, it is closed using a patch or stitches. The PDA is tied off and/or cut. The **coronary arteries must also be moved** during this operation. The coronary arteries are the very small blood vessels that supply the heart muscle itself with oxygen-rich blood.

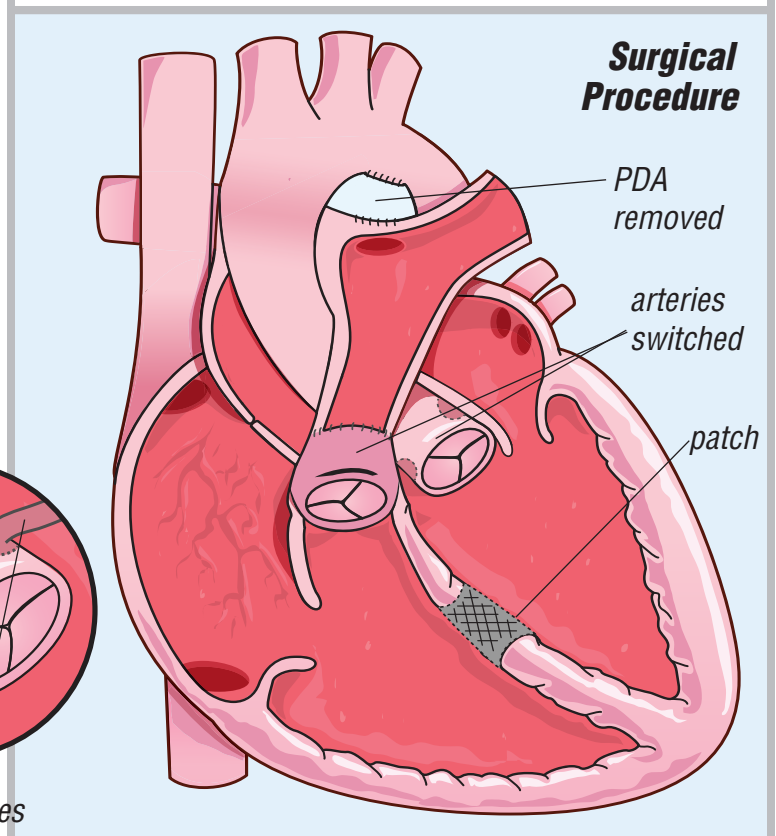
The surgery is done through a median sternotomy (chest) incision.



coronary arteries switched



Problem



Surgical Procedure