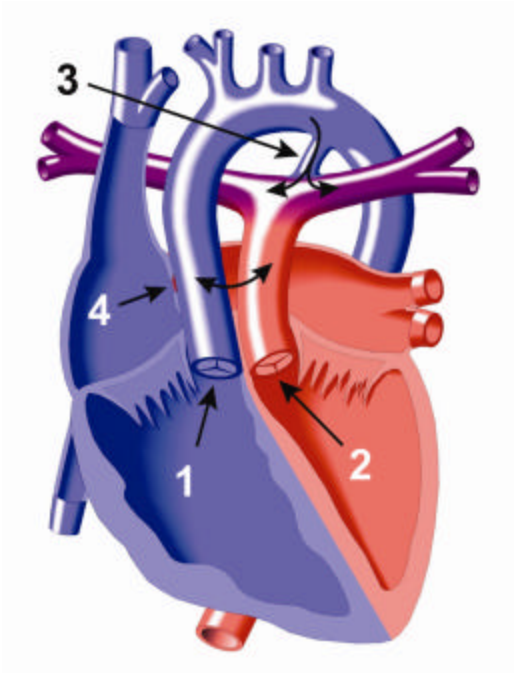
Transposition of the Great Arteries D-Type

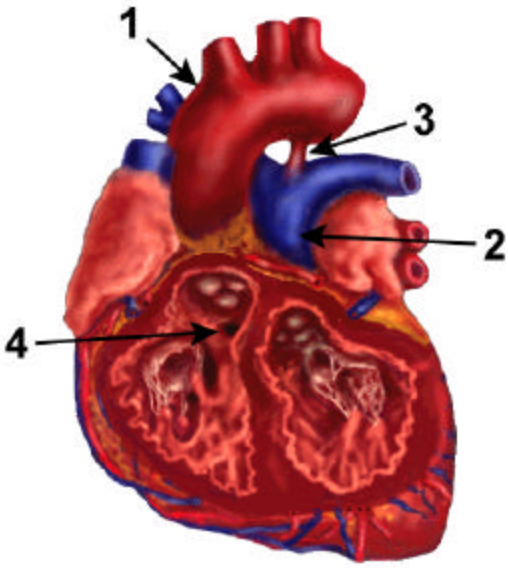
In this defect, which accounts for 5% of the cases of congenital heart disease, the two main arteries (aorta and pulmonary artery) are connected to the wrong chambers of the heart. This condition is more common among males, affecting 3 boys to every 1 girl.

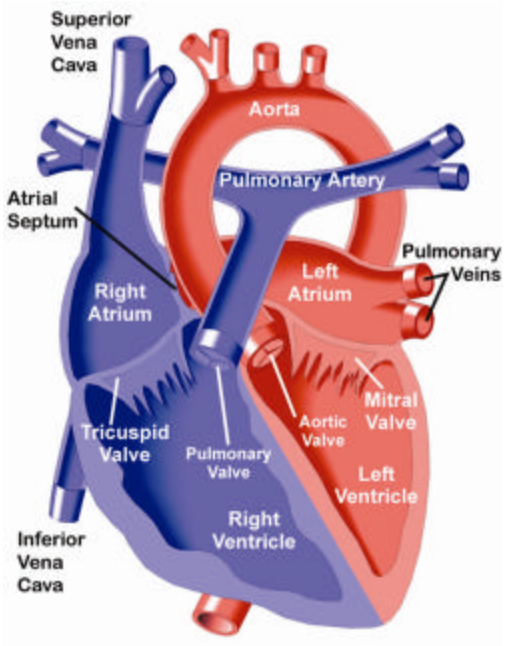
In TGA, the aorta leaves the right ventricle (rather than the left as in a normal heart) and takes blue (unoxygenated) blood to the body while the pulmonary artery leaves the left (rather than right) ventricle and takes red (oxygenated) blood to the lungs. This defect will require surgery, usually in the first week of life.

After birth, the infant is kept alive by the mixing of oxygenated blood from the left atrium with unoxygenated blood in the right atrium. This is possible because of an opening called the Foramen Ovale in the atrial septum (the muscle wall that divides the two atria). The Foramen Ovale provides one way for blood to mix, but it is often not enough. The Ductus Arteriosus, which connects the aorta and pulmonary artery in the fetal and newborn heart, also provides a way for deoxygenated (blue blood) to mix with the oxygenated (red blood).

The Foramen Ovale and Ductus Arteriosus are features of the fetal heart that usually close soon after birth. Though these may allow enough mixing of blood to keep an infant alive initially, Transposition of the Great Arteries would still prove fatal if measures are not taken to increase the amount of this mixing of the two circulations.







Above:
1. Aorta anterior and to the right of the pulmonary artery and arises from the right ventricle.
2. Pulmonary artery posterior and to the left of the aorta and arises from the left ventricle.
3. Patent ductus arteriosus.
4. Patent foramen ovale.

Left: Normal Heart