

The Normal Heart

The normal mature heart consists of two separate sides with separate purposes. The right side (right atrium, right ventricle and pulmonary artery) receives oxygen-depleted or "blue" blood returning through the veins from the head and arms via the superior vena cava, and from the legs and organs via the inferior vena cava. "Blue" blood collects in the right atrium, a thin walled chamber of the heart, before the one-way tricuspid valve opens to let it flow into the right ventricle.

The muscular right ventricle pushes "blue " blood through the pulmonary artery to the lungs, where it becomes oxygenated or "red" before returning to the left side of the heart (left atrium, left ventricle, and aorta). The pulmonary veins return the "red" blood to the thin-walled left atrium before passing through the mitral valve into the left ventricle.

The left ventricle is the most powerful and thickest muscular chamber of the heart, pushing freshly oxygenated blood out through the aorta and its branch arteries, to meet the demands of the head, arms, legs and organs. The first branches of the aorta are the coronary arteries, which arise close to the heart and are essential to supply the muscle of the heart itself. When the heart and other organs of the body have consumed the oxygen, blood is again "blue" and makes its return through veins to the right side of the heart to begin the cycle anew.