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Human Circulatory System

The organ system of human beings which is responsible for the transport of materials inside the body is called circulatory system. The various organs of the circulatory system in humans are: Heart, Arteries, veins and Capillaries. Blood is also considered a part of the circulatory system, so, the human circulatory system consists of the heart, arteries, veins, capillaries and blood.

The heart is roughly triangular in shape. It is made of special muscle called cardiac muscle. The size of our heart

is about the same as our 'clenched fist'. The heart has four compartments called 'chambers' ~~inside~~ inside it. The upper two chambers of heart are called atria and the lower two chambers are called ventricles. The two atria receive blood from the two main veins and the two ventricles transport blood to the entire body and the lungs. The left atrium is connected to the left ventricle through a valve V_1 . Similarly the right atrium is connected to the right ventricle through another valve V_2 . These valves prevent the backflow of blood into atria when the ventricles contract to pump blood out of the heart to the rest of the body.

The heart beats circulates the blood in the human body.

▶ The pulmonary vein brings the

oxygenated blood from the lungs into the left atrium of the heart.

2) when the left atrium contracts, the oxygenated blood is pushed into the left ventricle through the valve V₁.

3) when the left ventricle contracts, the oxygenated blood is forced into the main artery called aorta. This main artery has many small arteries which go into different body organs. The smaller arteries further branch into capillaries.

4) when the oxygenated blood passes through the capillaries of the body organs, then it gives oxygen to the body cells. Since, the blood lose O_2 here or blood gets deoxygenated. The deoxygenated blood from the body organs enters into the

main vein called vena cava. The main vein carries the deoxygenated blood to the right atrium. DATE

5) When the right atrium contracts, deoxygenated blood is pushed into the right ventricle through the valve V_2 .

6) When the right ventricle contracts the deoxygenated blood is pumped into the lungs through the pulmonary artery. In the lungs deoxygenated blood releases its CO_2 into the air.

Double Circulation

Such animals like mammals and birds having four chambered heart have double circulation in which the blood passes through heart twice in one complete cycle of the body. In the human circulatory system the pathway of the blood from the heart to lungs and back to the

heart is called pulmonary circulation, and the pathway of blood from heart to rest of the body and back to the heart is called systemic - circulation. These two types of circulation taken together make double circulation.

Human Heart Diagram

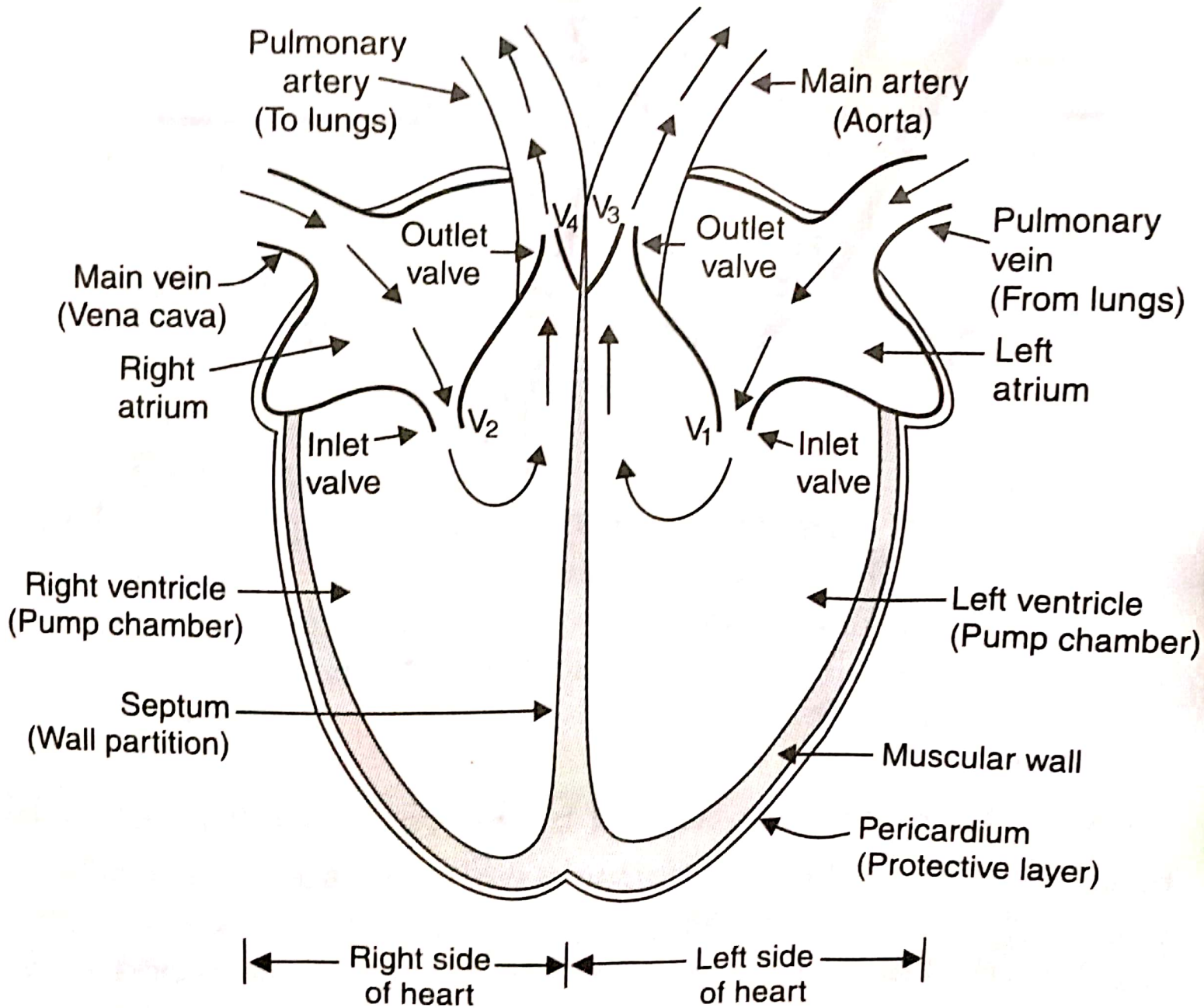


Figure 85. Diagram to show the inside structure of human heart.