Heart and lungs

Health & Medicine

Heart and Lungs Heart and Lungs The heart and the lungs are fundamental body organs responsible for both cardiovascular and respiratory systems respectively. Although they serve different functions, they work interdependently. The heart is a strong myogenic organ that is responsible for pumping blood in the blood vessels within animals. It uses rhythmic and repeated contractions to conduct this function. The main components of the heart are the connective tissue and the cardiac muscle that has the ability to pump blood (Kaminsky, 2011). This muscle apparently works involuntarily. The lung is a respiratory organ that carries oxygen into the bloodstream from the atmosphere and frees carbon dioxide from the bloodstream into the atmosphere. It is a vital organ that most breathing animals posses. Each of the lungs is situated in either side of the heart close to the spinal column. This is the case among animals with complex life forms such as mammals. The heart and lungs should operate efficiently to ensure enough oxygen reaches the organs. This forms the vascular and the respiratory systems. The lungs hold the air that is taken from the environment before releasing it into the blood. Thereafter, the heart circulates the blood into the entire body. The oxygenated blood flows to the body from the lungs as the deoxygenated blood flows from the body into the lungs (Scharf, Pinsky, & Madger, 2011). The whole process commences at the heart that has the two atria and ventricles. The veins in the right atrium and ventricle receive blood. Concurrently, the deoxygenated blood flows into the heart through the right atrium. The relaxation of the heart muscle then causes the release of blood into the right ventricle from the atrium. Consequently, right ventricle pushes the blood into the Pulmonary Artery via the Pulmonary Valve (Batzel, Kappel, Schneditz, & Tran, 2007). The pulmonary artery then delivers the blood to

the lungs where it undergoes purification. After the purification, the oxygenated blood rescinds to the heart through the Left Atrium (Batzel, Kappel, Schneditz, & Tran, 2007). The heart muscles relax again causing the left atrium to send the blood in to the left ventricle. In the end, the heart pushes the blood out delivering it to the entire body.

The lungs are the sites of respiratory gas exchange. These gases are oxygen and carbon dioxide. The bronchioles and alveoli deliver blood into the lungs. The bronchioles split from the trachea extending to the lobes of the lungs. It is fundamental to notice that the alveoli are tiny sacs surrounded by blood capillaries that enhance gaseous exchange. During the process of inhalation, oxygen fills the alveoli in the lungs. This oxygen goes to the blood cells found in the capillaries that are adjacent to the alveoli. During exhalation, the carbon dioxide present in blood moves to the alveoli where it is eliminated from the body. Consequently, blood undergoes purification and returns to the heart (Batzel, Kappel, Schneditz, & Tran, 2007).

The heart and the lungs are instrumental organs because they facilitate cardiovascular and gaseous exchange processes within the body. The heart pumps blood that is purified from the lungs. This makes the two organs mutually dependent on each other. The heart is sandwiched between the lungs based on their complimentary nature.

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