

# Lab work 9

[Health & Medicine](#)



Lab Work 9 Answers only.... Please put answers in simple writing term, because I study off of your answers as well. Thanks so much for your assistance with this.

1. Give the function for these formed elements

1a. Lymphocytes- A type of agranular leukocytes that mediate immune responses, including antigen- antibody reactions. Lymphocytes can be B cells (which primarily secrete antibodies) or T cells (which attack viruses, cancer cells, and transplanted tissue cells). Natural killer cells are also lymphocytic type that attack microbes and some tumor cells (Tortora and Derrickson 742).

1b. Eosinophils/ Basophils- Eosinophils (those that stain red) function mainly in allergic reactions by combating the effects of histamine. They also phagocytize antigen- antibody complexes and destroy parasitic worms. On the other hand, basophils (those that stain blue) likely to liberate heparin, histamine, and serotonin in allergic reactions that intensify overall inflammatory response (Tortora and Derrickson 743).

1c. Monocytes- A type of agranular leukocyte that functions mainly in phagocytosis after finally transforming into fixed or wandering macrophage (Tortora and Derrickson 742).

1d. Neutrophils- Function in phagocytosis which destroys invading bacteria with lysozyme and several oxidants to prevent accumulation in the system (Tortora and Derrickson 742).

1e. Erythrocytes (Red Blood Cells)- Hemoglobin within red blood cells transports most oxygen and part of carbon dioxide in blood (Tortora and Derrickson 742).

1f. Platelets- Function mainly in hemostasis by forming platelet plugs in <https://assignbuster.com/lab-work-9/>

damaged blood vessels to prevent excessive blood loss. They also release vasoactive chemicals that cause vascular spasm and blood clotting (Tortora and Derrickson 742).

2. Give the function of the following structures

2a. Pericardium- a fibrous tissue that covers the outside of the heart and some parts of the attached major blood vessels. Its main functions include protection, appropriate positioning, and facilitation of heart movement as it provides adequate lubrication necessary to reduce friction as the heart relaxes and contracts (Snell 71).

2b. Right Ventricle- receives unoxygenated blood from the right atrium and pushes it to the pulmonary circuit for reoxygenation (Snell 72).

2c. Septum- divides the heart longitudinally to prevent mixing of the unoxygenated and oxygenated blood. Its overlying tissue may also be involved in nerve conduction to regulate the rate and rhythm of the heart (Snell 73)

2d. Pulmonic Valve- functions to prevent backflow of blood from the pulmonary arteries after it has been filled with unoxygenated blood from the right ventricle (Snell 72)

2e. Right Atrium- receives unoxygenated blood from the systemic circulation and pushes it down the right ventricle (Snell 74).

2f. Mitral Valve- positions between the left atrium and left ventricle. It functions by rhythmic opening and closing to regulate the blood flow that enters the heart. It primarily prevents backflow of blood from the high-pressure left ventricle into the left atrium so that the blood will only flow towards the aorta (Snell 74).

3. Identify the following structures

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- 3a. Left brachial artery
  - 3b. Left brachiocephalic vein
  - 3c. Right common iliac artery
  - 3d. Right common carotid artery
  - 3e. Left femoral vein
  - 3f. Inferior vena cava
4. Give the function of a capillary.

The capillary (or capillary bed) is the site of the actual exchange of oxygen, carbon dioxide and other metabolic products between the blood and the tissues of the body. The diameter of the capillary is small enough to allow the erythrocytes to deliver its oxygen content to the tissues in exchange of carbon dioxide which is a byproduct of cellular respiration. Metabolic products, especially urea, are also transported to the blood by way of the capillaries. One end of the capillary is actually connected with an arteriole and the other end with a venule (Kumar 2010).

5. Define coagulation.

Coagulation is an important physiologic process undergone by the blood and the blood vessel as a response to an injury to prevent hemorrhage. The actual process of coagulation involves a complex interplay of several proteins and enzymes that activate a cascade system, resulting to the formation of a thrombus that quickly patch up damaged blood vessels. Although the coagulation system of the human body is constantly regulated, several conditions may result into over-expression of the factors that result in uncontrolled coagulation, which is pathologic, resulting to ischemic episodes in the microvascular component of some tissues (Tortora and Derrickson 743)

## Extra Credit

### EC-1 Define phlebitis

Phlebitis is an inflammation of the walls of a vein as a result of a direct injury, infection, or less commonly autoimmune disorders. While a venipuncture is a common procedure performed in the clinics, it can result to phlebitis and can be aggravated by infection if the procedure is not sterile. Phlebitis can lead to compromised circulation as the blood from the capillary bed cannot return to the circulation because of decreased diameter of the affected vein. The pressure build- up ultimately aggravates the circulatory compromise of the involved tissue. In severe cases, phlebitis may also lead to venous thrombosis and hemorrhagic infarction (Kumar 2010).

### EC-2 Define aneurysm

Aneurysm is a condition characterized by the ballooning of the artery at the site of an attenuated wall. The loss or weakening of the smooth muscle at the arterial wall is most often correlated with aneurysm. In some diseases such as hypertension, the increased pressure of the blood against the blood vessel wall contributes to an increased incidence of aneurysm. The rupture of an aneurysm is a fatal consequence that leads to a rapid cardiovascular collapse with a decreased circulating blood volume (Kumar 2010).

## References

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- Snell, Richard. Clinical Anatomy by Systems. New York: Lippincott Williams and Wilkins. 2009. Print.