

General Functions of the Lymphatic System

Introduction

The lymphatic system is a multipurpose collection of organs, vessels, tissues, and a fluid called lymph. Lymphatic vessels transport the lymph through the body. Lymphatic tissues, lymphatic organs, and specialized reticular tissue containing large numbers of lymphocytes and various other phagocytes monitor this fluid and play a critical role in the defense of our body from foreign pathogens and even our own cancerous cells.

Major Functions of the Lymphatic System

The lymphatic system is a multifaceted organ system with a great variety of functionality including fluid balance, formation of lymph, lipid absorption and transport, and immunity.

Fluid Balance

In a single day, about 30 L of fluid will leave the blood in the systemic capillaries into the interstitial fluid. Of this 30 L, only about 27 L will return to the blood. As we will see in the coming weeks, the amount of substances entering an area of the body must equal what comes out, lest edema should occur. As such, lymphatic capillaries will act to collect the remaining fluid in the form of lymph.

Formation of Lymph

This lymph will be composed of a mixture of water, ions, and various proteins. It is the result of the filtration of blood plasma and the absorption of interstitial fluids. This lymph will give the means of transport of pathogens to lymph nodes to eliminate infection and can aid in the production of lymphocytes.

Lipid Absorption and Transport

Lacteals are lymphatic structures found within the lining of the small intestine. These lacteals will absorb lipids and various other substances that we will learn about in AP4. When the lipids enter the lacteals, they will pass through the lymphatic vessels until they reach the veins. This lipid containing lymph is known as chyle and will appear white.

Immunity

Foreign bodies such as pathogens and microorganisms will be filtered from the lymph via lymph nodes and from the blood via the spleen. Lymphocytes that are produced within the lymphatic system are capable of targeting and destroying pathogens, preventing infection. When discussing many infectious diseases, it is important to note that these diseases may produce symptoms associated with the lymphatic system due to its role in fighting infection and filtering blood and lymph.

