

Lymphatic System

by Sophia



WHAT'S COVERED

In this lesson, you will learn to identify the major structures and function of the lymphatic system. Specifically, this lesson will cover:

1. The Circulatory System

You can think of the **lymphatic system** as a second circulatory system. Instead of having blood pumped through its vessels, the **lymph vascular system** is filled with **lymph** and is a bit more passive.

➞ **EXAMPLE** When blood pumps through capillaries, some fluid leaks out of capillaries and lubricates our bodily tissues. This only goes one way; it's like squeezing water out of a sponge. If the fluid isn't eventually returned to the circulatory system, the blood will become too thick (just like a wrung-out sponge gets too dry) and our tissues will be under the pressure of too much surrounding fluid.

That's where the lymphatic system comes in: Its vessels (lymph vascular system) collect the fluid surrounding the organs when the pressure gets too high (in effect, when too much fluid has been squeezed out of the capillary "sponges"), and drain the excess fluid back into the blood vessels.



TERMS TO KNOW

Lymphatic System

A system of vessels, nodes, glands and lymph nodules that serves two major bodily functions: Completing the fluid cycle by returning excess tissue fluid into the blood and producing, maturing and storing cells of the immune system.

Lymph Vascular System

A system of lymphatic vessels that are used to circulate lymph back into the bloodstream; lymphatic vessels circulate lymph through lymph nodes to be filtered before entering the bloodstream.

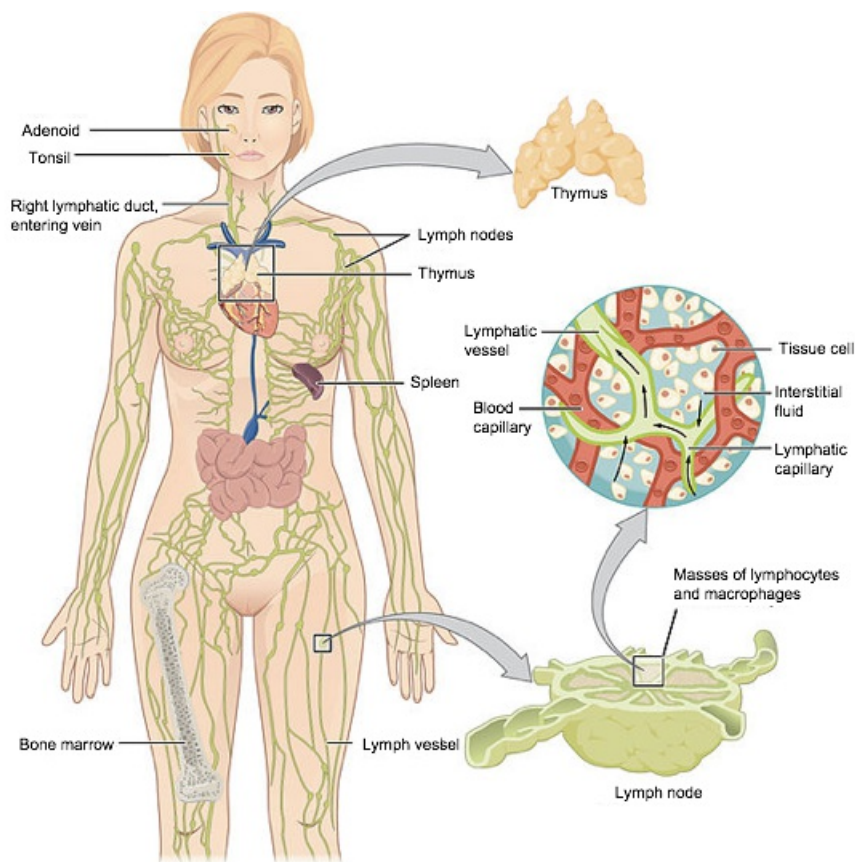
Lymph

A clear colorless fluid similar to plasma that circulates throughout lymphatic vessels on its way to the bloodstream; lymph contains far less protein than plasma.

2. The Immune System

The lymphatic system also works with the body's immune system. Various structures within the lymphatic system help play a role in the body's defense.

- **Lymph nodes:** Organs that are scattered and located throughout our body and filter lymph. Lymph nodes are filled with white blood cells. This gives the white blood cells a chance to take care of any disease-causing agents before the fluid enters back into the circulatory system.
- **Thymus:** Gland where T lymphocytes (a type of white blood cells that plays a role in immunity) mature, multiply and become specialized.
- **Spleen:** Another organ of our lymphatic system that has various important roles. It is a major production site for antibodies and helps dispose of old red blood cells, filters our blood, and stores lymphocytes.
- **Bone marrow:** An important part of the lymphatic system, it is where white blood cells are produced.
- **Tonsils:** Sample bacteria and viruses that enter the body through the nose and mouth and prime the rest of the immune system to fight them if necessary.



TERMS TO KNOW

Lymph Node

A bean-shaped organ of the lymphatic system that ranges in size from microscopic to the size of a kidney bean; lymph nodes contain dense populations of white blood cells, especially lymphocytes, and filter lymph as it flows through the node.

Thymus

A gland located in the mediastinum (the cavity between the lungs) just above the heart that matures T cells that were produced in the bone marrow.

Spleen

The largest lymphatic organ that acts as a lymph node by filtering blood as it flows through it. The spleen is located in the upper left quadrant of the abdomen; the spleen contains white and red pulp and is often called a blood reservoir.



SUMMARY

The lymphatic system works with two different systems of the body. For **the circulatory system**, the lymphatic system gathers fluids from tissues in the body and returns it to the circulatory system. Various structures in the lymphatic system play an important role in **the immune system**. Lymph nodes contain a large number of white blood cells and filter lymph before it is returned to the circulatory system. The thymus gland is where T lymphocytes mature and become specialized, the spleen creates antibodies, filters blood, and stores lymphocytes. This is how the lymphatic system works with both the circulatory system and immune system.

Keep up the learning and have a great day!

Source: THIS WORK IS ADAPTED FROM SOPHIA AUTHOR AMANDA SODERLIND



ATTRIBUTIONS

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Lymphatic System

A system of vessels, nodes, glands, and lymph nodules that serves two major bodily functions: completing the fluid cycle by returning excess tissue fluid into the blood and producing, maturing and storing cells of the immune system.

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and is often called a blood reservoir.

Thymus

A gland located in the mediastinum (the cavity between the lungs) just above the heart that matures T cells, not produces them.