**Lymphatic System Information**

The lymphatic system is an extensive drainage network that helps keep bodily fluid levels in balance and defends the body against infections.

The lymphatic system is made up of a network of **lymphatic vessels**. These vessels carry **lymph** — a clear, watery fluid containing protein molecules, salts, glucose, urea, and other substances — throughout the body.

The spleen is located in the upper left part of the abdomen under the ribcage. It works as part of the lymphatic system to protect the body, clearing worn-out red blood cells and other foreign bodies from the bloodstream to help fight off infection.

**Why Are the Spleen and Lymphatic System Necessary?**

One of the lymphatic system's major jobs is to collect extra lymph fluid from body tissues and return it to the blood. This process is important because water, proteins, and other substances are continuously leaking out of tiny blood capillaries into the surrounding body tissues. If the lymphatic system didn't drain the excess fluid from the tissues, the lymph fluid would build up in the body's tissues and they would swell.

The lymphatic system also helps defend the body against germs like viruses, bacteria, and fungi that can cause illnesses. Those germs are filtered out in the **lymph nodes**. Most of the lymph nodes are found in clusters in the neck, armpit, and groin area. Nodes are also located along the lymphatic pathways in the chest, abdomen, and pelvis, where they filter the blood. The nodes house **lymphocytes**, a type of white blood cell. Some of those lymphocytes make **antibodies** that fight off germs and stop infections from spreading by trapping disease-causing germs and destroying them.

The spleen also helps the body fight infection. The spleen contains lymphocytes and another kind of white blood cell called **macrophages**, which engulf and destroy bacteria, dead tissue, and foreign matter and remove them from the blood passing through the spleen.

**Fighting Infection**

Lymph fluid enters the lymph nodes, where macrophages fight off foreign bodies like bacteria, removing them from the bloodstream. After these substances have been filtered out, the lymph fluid leaves the lymph nodes and returns to the veins, where it re-enters the bloodstream.

When a person has an infection, germs collect in the lymph nodes. If the throat is infected, for example, the lymph nodes of the neck may swell. That's why doctors check for swollen lymph nodes (sometime called swollen "glands" — but they're actually lymph nodes) in the neck when your throat is infected.

**Diseases and Disorders**

* **Lymphomas.** These cancers start in the lymph nodes when lymphocytes undergo changes and start to multiply out of control. The lymph nodes swell, and the cancer cells crowd out healthy cells and may cause tumors (solid growths) in other parts of the body.
* **Tonsillitis.** Tonsillitis is caused by an infection of the tonsils, the lymphoid tissues in the back of the mouth at the top of the throat that normally help to filter out bacteria. When the tonsils are infected, they become swollen and inflamed, and can cause a sore throat, fever, and difficulty swallowing. The infection can also spread to the throat and surrounding areas, causing pain and inflammation. Someone with repeated tonsil infections may need to have them removed in a procedure called a [tonsillectomy](http://kidshealth.org/teen/infections/common/tonsillectomy.html).