What We Should Know About Our Lymphatic System

When you hear the term “circulatory system”, what comes to mind? Most of us think of the vascular system, the amazing array of arteries, veins, and capillaries through which each of our hearts pump 1,900 gallons of blood each day, in a circular loop. Few of us think of the other circulatory system—though it is twice as large as the vascular system. This second circulatory system, the lymphatic system, is just as vital to our health as the vascular system. When the lymphatic system is not working properly, our bodies cannot remove toxins; fight viral, fungal, and bacterial disease; or regulate the amount of fluid in our tissues.

Our two circulatory systems work together. Dr. John Douillard, DC, describes the lymphatic system in these terms: “It is like the drains in your house and the blood is like the faucets,” an apt description. The lymphatic system is also the filtration system and the factory that matures and differentiates lymphocytes (white blood cells, which fight disease).

Lymphatic vessels are found in all tissues of the body except for the central nervous system, the bone marrow, and tissues without blood vessels such as cartilage. It is a complex system that includes organs, nodes, and vessels that perform three primary functions:

- Fluid balance
- Fat Absorption
- Immunological Defense

Fluid Balance

When the heart pumps blood, the blood travels through arteries to arterioles (arterial capillaries), which connect to venules (capillaries of the veins). The blood then begins its journey back to the heart. But the vascular system is not a closed system. When the blood reaches the capillaries, fluid is released from the thin-walled capillaries and flows into all of the tissues in the body. This fluid, called interstitial fluid, bathes the tissues with nutrients and gases as it washes over the cells.

The cells absorb nutrients and oxygen and release their waste products back into the interstitial fluid. Ninety percent of the interstitial fluid is reabsorbed by the venous capillaries, to recombine with the blood and flow back to the heart. The other 10% of the interstitial fluid (2-3 liters a day), along with proteins and other particles too large to pass through the capillary walls, is taken up by the lymphatic system. This fluid, now called lymph, flows through the lymphatic system and is filtered through the lymph nodes before being returned, ultimately, to the bloodstream.

Removal of the cells' waste is critical. If the waste is not removed, cells quickly die. If the lymphatic system is not working properly, interstitial fluid builds up in the tissues, proteins are not properly returned to the bloodstream, large particles such as bacteria are not removed, all of the waste is not removed, and edema (swelling of the tissues—especially swelling in the feet and hands) results.

Fat Absorption

The villi in the small intestines are tiny projections that facilitate absorption of nutrients from our food. Each villus contains capillaries from the venous system and the lymphatic system. While the nutrients are passed into the bloodstream,

fats and fatty acids are absorbed by specialized lymphatic vessels. The lymphatic system carries the fats and fatty acids through its system until emptying them, along with lymphatic fluid, directly into the blood.

Immunological Defense

The lymph nodes, the spleen, and the thymus gland work together to defend the body from foreign invaders and pathogens.

Lymph nodes are encapsulated tissue situated in many parts of the body. The nodes have a blood supply, entering through an artery and exiting through a vein. The node receives blood plasma and checks it for foreign invaders. If needed, the node creates lymphocytes which go to the bloodstream to fight the foreign cells. The nodes also filter and purify the lymph fluid so that the fluid is clean when it is returned to the bloodstream.

Tonsils, adenoids, and Peyer’s patches are collections of lymph nodes strategically placed to fight foreign invaders. Tonsils fight disease at the throat, adenoids protect the body from inhaled pathogens, while Peyer’s patches protect the interior of the small intestines.

The spleen also contains lymph nodules. Although the spleen is a part of the lymphatic system, it filters blood, not lymph. But as the blood is filtered through the spleen, pathogens trigger a response from the lymph nodules. The spleen filters out and removes the dead, red blood cells from the blood along with foreign invaders.

Thymus

Lymphocytes, which originate in the bone marrow, reach maturity and differentiation in the thymus gland. Many remain

in the thymus gland, but others move throughout the lymphatic system, the peripheral tissues, and the blood. These are the cells that control immune reactions, and combat viruses and cancer cells.

Appendix

The appendix is also comprised of lymphatic tissue. Though it does not appear to have a lymphatic function; we do finally understand its purpose. The appendix stores bacteria for the gut. If the gut bacteria is compromised, the appendix releases bacteria to begin the process of repopulation.

Circulation of Lymph

The lymphatic vessels have valves (much like vascular veins) to keep the fluid moving in the right direction and the vessels themselves help move fluid forward. The lymphatic system doesn’t have a big pump like a heart to force fluid through the vessels. Instead, our bodies rely on our muscles to move the fluid. Our diaphragms and rib cage as well as the blood pumping through our bodies, do assist in this movement. But body movement and exercise is the primary method of moving lymph. A sedentary lifestyle decreases lymph flow by 94%.

Why Is It Important To Move Our Lymph?

Lymph contains lymphocytes, (white blood cells: T-cells, B-cells, and natural killer cells) that seek out and kill pathogens. As the fluid is filtered through the nodes, a concentration of lymphocytes clean up the fluid before it is returned to the blood.

If the fluid is backed up and not flowing properly, it becomes viscous. The flowing fluid can thicken until it becomes the

consistency of cottage cheese. Fluids and waste is not properly drained from the cells, bacteria and other foreign invaders are not properly filtered and destroyed, and disease, including cancer, may result.

How to Move Lymph Through the Body and Assist the Lymphatic System

The major way to move lymph through the body is through movement of any kind. Walking, bending, stretching—any and all movement will assist with lymphatic movement. To really get it moving, bounce. Jump up and down, jump rope, or for the best result, bounce on a rebounder for 15-20 minutes a day. (See the link below.)

You will also benefit from massage, including self massage. (See the link below.) This will assist with flow and move any viscous fluid through the system. Find a massage therapist who is certified in lymphatic massage.

Be sure to hydrate well with clean (preferably spring) water.

Beets, berries, and cherries all stimulate the lymphatic system. A healthy diet consisting of 80% raw vegetables and fruits supports healthy lymphatic function as well as general health.

One of Ayurveda medicine’s most popular blood purifiers, Manjistha, is known to be an excellent lymphatic tonic. Astragalus, echinacea, goldenseal, pokeroot, or wild indigo root tea are recommended. Detoxifying the blood, hot and cold hydrotherapy, candida cleansing, and rebounding are important components to detoxifying the lymph.

So get off the couch, jump up and down, and eat right to detox your lymphatic system. It’s the least you can do for a system that works so hard to protect you.

Recommended Supplements:

- Shillington’s Blood Detox
- Formula SF722
- Shillington’s Intestinal Cleanse
- Shillington’s Echinacea +

Further Reading:

- *80% Raw Food Diet*
- *How to Cure Candida*
- Self Massage Technique – YouTube
- Rebounder Exercises – YouTube

Sources:

- The Lymphatic System – YouTube
- Sandy Ellis, Structure and Function of the Lymphatic System: an Overview, British Journal of Community Nursing, April 1, 2006
- Alder, Richard, PhD, *Lymphatic System*, Salem Press Encyclopedia of Science, September, 2013
- Lymphatic System: Facts, Functions & Diseases