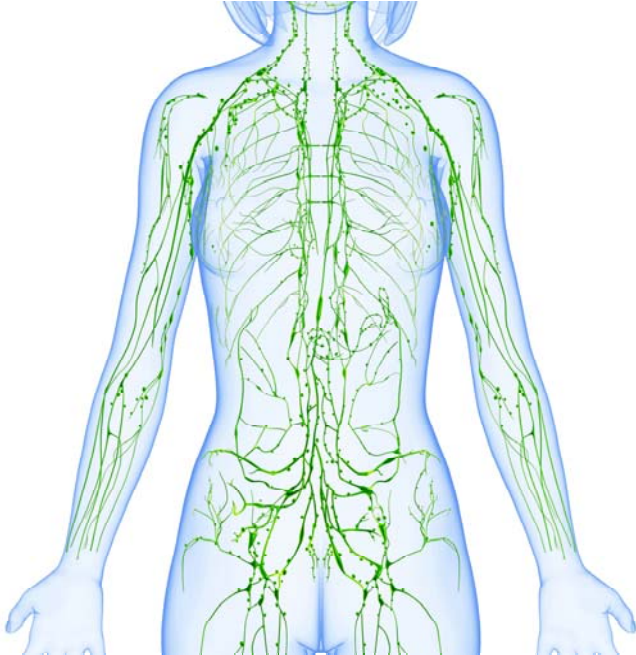


# Lymphatic System: Regulator of Lymph Vessel Growth Uncovered

Steven Castille, Bsc, MS, DNM

*Liteon Institute of Holistic Healing, Lafayette, LA, USA*



## Abstract

**BACKGROUND:** In addition to our network of blood vessels, humans have a network of vessels known as lymphatic vessels. These vessels have a role in many processes in the body, including regulating fluid levels in tissues and immune surveillance.

Although dysfunction in the lymphatic system contributes to human diseases such as the spread of cancer to other sites and lymphedemas (localized fluid retention and tissue swelling), little is known about the molecules that regulate the formation of new lymphatic vessels, a process known as lymphangiogenesis.

© 2013 Liteon. All rights reserved.

## Symptoms of a poorly-flowing lymphatic system:

Acne	Bad breath	Obesity or Overweight
Swollen limbs	Body odor	Lethargy
Bursitis,	Depression	Glandular fever
Joint stiffness	Dry skin	High blood pressure
Aches	Pains	Flue-like symptoms
Sinusitis	Asthma	Back pain
Chronic fatigue	Fibromyalgia	Rheumatoid arthritis
Lupus	Headaches	Hormonal imbalances
Digestive problems	Cancer	Atherosclerosis

## The Lymphatic System

- Your body contains about 50% more lymphatic fluid than blood.
- Your body has over 600 waste collection sites called lymph nodes.

The lymphatic system is likely the most critical body system and most people might not even know they have one. The lymphatic system is made up of tiny vessels that start at about the width of a single cell. They collect the fluid that forms between each cell in our body and they gradually move this fluid, along with waste materials (protein particles, fat particles and even viruses and dead or mutated cells) back towards the heart and blood stream so that the body can filter them out through the liver and kidneys. You can think of the lymph system like the roots of a tree. The fluid that is collected in these tiny veins is called lymph.

The lymph circulation is also a one-way circulation – it only return fluid to the bloodstream. The lymph system becomes particularly active during times of illness (such as the flu), when the nodes (particularly at the neck) visibly swell with collected waste products.

When the collectin terminals become blocked, it's like a bottleneck; lymph starts backing up in the system creating a toxic OXYGEN-DEPRIVED environment conducive to degeneration an disorder. Toxid lymph can be stored for a long time in the system. This is not a healthy condition. Moving stagnant lymph is a key to wellness. Once you clear up the lymph flow, which is an

essential component of the immune system, you can enhance the body's natural healing ability to clear up illness.

Your lymph system is actually a vital circulatory system with an extensive network of vessels throught the body. Your body contains about 50% more lymphatic fluid than blood. The system contains over 600 collection sites called lymph notes. The nodes are formed at the junction sites of the lymph vessel network.

## Lymphangiogenesis

Tumor cells have several routes that enable them to move from the primary tumor to distant tissues, a process called metastasis. It is metastasis of the primary tumor that kills most cancer patients. One of the least studied routes of metastasis is the lymphatic system. Many tumors produce factors that promote the formation of new lymphatic vessels (lymphangiogenesis). The newly formed lymphatic vessels enable tumor cells to travel from the primary tumor to the regional lymph nodes from whence they can spread throughout the body.



Dr. Steven T. Castille, Bsc, MS, DNM  
Biochemist, Clinical Herbalist, and Doctor of Natural Medicine

Director of Natural Medicine and Nutrition Science  
Research, Liteon Institute of Holistic Healing

Advancing the Science of Alternative, Natural, and  
Integrative Medicine