

**PHYSIOLOGY OF HUMAN LYMPHATIC CONTRACTILITY:  
A HISTORICAL PERSPECTIVE**

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“On emptying them [lymphatics] in the living animal, I have seen them contract so much that it was with the greatest difficulty I could distinguish them from the fibres.”

Albrecht van Haller  
(circa 1750)

*ABSTRACT*

*The lymphatic system is a transport system that has important roles in fluid/macromolecule homeostasis, lipid absorption, metastasis and immune function. It accomplishes these roles via the generation of a regulated lymph circulation which is dependent upon valves and pumps to overcome the normal fluid pressure gradients. Lymphatic contractility plays crucial roles in the regulation and generation of lymph transport. Whereas our understanding of lymphatic contractility in humans is somewhat limited, a number of studies both in situ and in vitro have provided important insights into the presence and modulation of lymphatic contractility. These studies have clearly demonstrated that lymphatic vessels from a number of different human tissues possess both tonic and phasic changes in contractility. These changes in contractility are presumably involved in the generation and regulation of lymph flow. It has been shown that human lymphatic contractility can be influenced by a number of neural and humoral agents as a means to control lymph transport. However our understanding of the physical and chemical factors which regulate both the spontaneous pumping activity and the vessel tone are more limited. An understanding of the factors which regulate human lymph transport could provide valuable information on human biology that could be of benefit to the treatment and prevention of diseases.*