
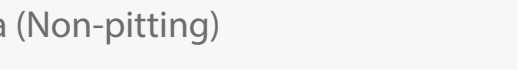

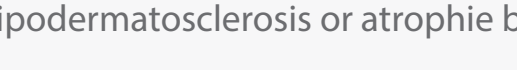


THE VENOLYMPHATIC CONNECTION

In biopsies, patients with CVI show structural lymphatic changes, including collapsed lumens and disturbance of lumen opening lamellae, resulting in reduced function.¹

This chart illustrates how lymphatics can be impacted at each clinical stage of the Comprehensive Classification System for Chronic Venous Disorders (CEAP).

CHRONIC VENOUS DISEASE (CVD) CLINICAL STAGE		LYMPHATIC INVOLVEMENT SHOWN VIA NEAR INFRARED FLUORESCENCE LYMPHATIC IMAGING (Images courtesy of Eva M. Sevick-Muraca, Ph.D.)	SECONDARY LYMPHEDEMA (LE) (PHLEBOLYMPHEDEMA) CLINICAL STAGE
C0	No Clinical Signs	Despite a lack of visible symptoms, lymphatic impairment and dermal lymph backflow can begin as early as C0. ²	STAGE 0: Latent No clinical signs
C1	Telangiectasias or Reticular Veins		
C2	Varicose Veins		
C3	Edema (Pitting) 	Lymphatics are unable to accommodate the excess venous filtrate, so swelling occurs. ³ Extended venous filtrate overtaxes lymphatics, resulting in protein buildup and permanent damage and/or obstruction. ³	STAGE 1: Pitting Edema Soft swelling, resolves with elevation or overnight STAGE 2: Non-pitting Edema Spongy swelling caused by fibrosis, possible hyperkeratosis and scaly skin, does not resolve with elevation
	Edema (Non-pitting) 		
C4	C4a: Pigmentation or Eczema 	Exaggerated immune reactions like stasis eczema and allergic contact dermatitis are indicative of compromised lymphatic immune function. ⁴ Dermal backflow follows hemosiderin staining. ² Chronic inflammation and fibrosis are indicative of a buildup of fluid and proteins that the lymphatics are unable to clear due to insufficiency or failure. Fibrosis indicates protein-rich build up from lymphatic insufficiency, regardless of swelling.	Left unmanaged, LE could progress to: STAGE 3: Lymphostatic Elephantiasis Extensive and/or disfiguring fibrotic swelling, blistering and ulcerations, lymphorrhea, hyperkeratosis, papillomas, and recurrent infections
	C4b: Lipodermatosclerosis or atrophie blanche 		
C5	Healed Venous Ulcer	Scar tissue disrupts lymphatic drainage.	
C6	Active Venous Ulcer	Open wound disrupts superficial lymphatics and lymph fluid leaks from the ulcers.	

TREAT EARLY

1. Scelsi R, et al. Morphological changes of dermal blood and lymphatic vessels in chronic venous insufficiency of the leg. *Int Angiol.* 1994 Dec;13(4):308-11.
 2. Rasmussen JC, et al. Lymphatic transport in patients with chronic venous insufficiency and venous leg ulcers following sequential pneumatic compression. *J Vasc Surg Venous Lymphat Disord.* 2016 Jan;4(1):9-17. doi: 10.1016/j.jvsv.2015.06.001. Epub 2015 Jul 16.
 3. Mortimer PS, Rockson SG. New developments in clinical aspects of lymphatic disease. *J Clin Invest.* 2014;124(3):915-921. doi:10.1172/JCI71608.
 4. Ruocco E, et al. Phlebolymphe'dema: disregarded cause of immunocompromised district. *Clin Dermatol.* 2012 Sep-Oct;30(5):541-3. doi: 10.1016/j.clindermatol.2012.04.004.