



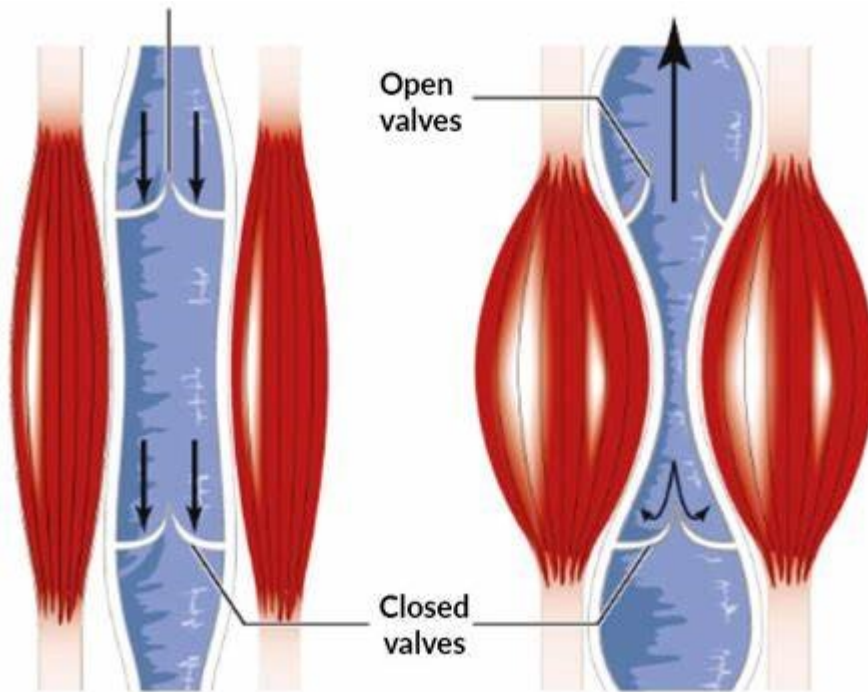
FRANKLY SPEAKING



Total Life Chiropractic - ... educating, adjusting and inspiring

Don't Forget Your "Second Heart"

Leg muscles provide an important pump action designed to recirculate venous blood to the heart; this pump action is referred to as the veno-muscular pump or calf muscle pump (or sometimes the "second heart").



Many health issues, including being overweight, obese, inactive and those that affect the foot, ankle, calf, knee, thigh, or the network of veins in the leg, may lead to impairment of the calf muscle pump. This results in a reduced venous return to the heart. Wearing high heels has also been shown to interfere with the calf muscle pump function and reduce venous return (Tedeschi-Filho, et al. J Vasc Surg, 2012).

Another factor in reducing the pump is the fact that most people are not climbing steep hills creating sufficient contractions. Most people tend to shuffle around or for the most part be inactive.

Calf Muscle Pump Overview

1. The foot pump initiates venous return of deoxygenated blood with each step; when the heel touches down, blood is pooled in the veins, and as the foot rolls forward the pooled blood is pumped upwards.
2. The gastric-soleus muscles (the calf muscles) pump applies pressure to the veins to push venous return to the knee, or popliteal pump.
3. The knee pumps blood into veins in the upper leg, where the thigh muscle pump pushes it further toward the groin and abdominal cavity, and on to the lungs and heart.

When this system is not functioning properly, blood pools in the veins. This results in increased venous pressure causing leg swelling, the development of varicose veins, higher risk of deep vein thrombosis, or in some cases, the development of leg wounds that are difficult to heal.

Studies on patients who had chronic venous insufficiency with leg wounds, showed that patients who developed a greater range of motion in their ankle and improved calf muscle strength, showed significant improvements in their ability to heal their ulcers. Why? Because they re-activated their calf muscle pump, moving static blood.

So, to avoid the ramifications of venous disease, or if you just want to improve general circulation, we encourage you to walk daily concentrating on activating the push off part of your gait. Also we recommend you ask your TLC chiropractor about our "2nd heart leg pump exercises" (60 sec) 3 x per day.