

VENOUS LEG ULCERS  
and  
CEAP CLASSIFICATION SCALE

**What are venous leg ulcers?**

Venous leg ulcers are open sores that develop on the legs when blood pools in the veins due to chronic venous disease. VLU's are late indicators of chronic venous insufficiency (CVI) and venous hypertension.

**Causes**

When the veins in the legs don't pump blood back to the heart properly, blood backs up and builds pressure. CVI may develop due to blood reflux, obstruction, or both mechanisms, causing macro- and micro-circulatory dysfunction. This can be caused by excess weight, which can damage the skin. Other risk factors include a history of deep vein thrombosis (DVT) or difficulty walking.

**Symptoms include:**

Pain, itching, and swelling in the affected leg

Discolored or hardened skin around the ulcer

Foul-smelling discharge

**Treatments include:**

Leg elevation

Compression

Wound care

Antibiotics for infected ulcers

Compression stockings to prevent further ulcers

Additional treatments for severe ulcers, such as growth factor therapy, hyperbaric oxygen therapy, or skin grafts(dehydrated amniotic membranes)

How do growth factors affect wound healing?

Growth factors applied topically to wounds can accelerate healing by stimulating granulation tissue formation and enhancing epithelialization. This has been suggested by several different studies of topically applied growth factors.

Amniotic membranes contain the following components:

Layers

The amniotic membrane is made up of three layers: the epithelium, basement membrane, and stroma.

Collagen

The membranes contains collagen 5 and collagen 7, which is similar to the collagen in the cornea and conjunctiva.

Contains hyaluronic acid and cytokines, which help reduce inflammation.

Antimicrobial components

Anti-inflammatory factors

Amniotic membranes secrete anti-inflammatory factors such as transforming growth factor-beta (TGF  $\beta$ ), fibroblast growth factor, and granulocyte colony-stimulating factor (GCSF).

## **Prevention**

To help prevent venous leg ulcers, you can:

Maintain a healthy weight through diet and exercise

Avoid sitting or standing for long periods