

Increasing foot circulation with the VeinOPlus Vascular device prevents diabetic foot ulcers

Problem: High blood glucose levels in diabetics can cause an increase in blood viscosity resulting in erythrocytes, platelets, and leucocytes adhering to the walls of the capillaries causing a narrowing and a reduction in blood flow. Over time, diabetes affects blood flow to all parts of the body, especially the feet which increases the risk for diabetic foot ulcers.

Reality: Poor blood flow to the feet contributes to foot ulcers in up to 50% of diabetics.

Management: Management of blood sugar levels can be pursued with daily exercise. Walking improves blood flow. However, not all patients can follow a prescribed regime of daily walking due to osteoarthritis, musculoskeletal problems, claudication limb pain, diabetic foot ulcers, and other factors, i.e., bad weather, age, or a lack of motivation.

Therapy: Stimulating calf muscle contractions every second when using the VeinOPlus Vascular helps activate the absorption and metabolism of glucose which decreases blood sugar levels, improves insulin sensitivity, and improves blood flow to the feet.

The VeinOPlus simultaneously emits two pain-free electrical stimulation signals in nano-seconds. The **TENS** signal reduces pain by stimulating the body's endorphins which activates the opiate receptors causing a natural analgesic effect. At the same time, the **NMES** signal stimulates the calf muscle fibers causing contractions every second, like what happens when walking. Each contraction rapidly drives venous blood and lymphatic fluid back to the heart, increases cellular metabolism which reduces viscosity, lowers blood sugar levels, and increases blood flow to the feet. Increasing circulation to the feet helps prevent diabetic foot ulcers from developing or accelerates the healing of foot ulcers.

Process: Thirty minutes of daily VeinOPlus therapy increases blood flow and vascular endothelial growth factor (VEGF). VEGF plays a role in developing new blood vessels called angiogenesis. VEGF also plays a role in improving permeability which further increases oxygen exposure to the cells. In 30-minutes, patients experience 1,800 contractions that rapidly increase venous and arterial blood flow (volume and velocity) in the capillaries. Rapid blood flow is associated with vasodilation and the release of nitric oxide (NO) that further dilates blood vessels, increases blood flow, and inhibits platelet adhesion by increasing metabolism of glucose. It's all about increased circulation!

Results: Daily electrical stimulation (ES) with the VeinOPlus for 30-minutes reduces blood sugar levels, improves ankle brachial index (ABI) readings which establishes improved circulation to the feet, and prevents the risk for diabetic foot ulcers. VeinOPlus therapy does not change heart rate or cause ischemic muscle pain. Completely safe!

New interventional tool: The VeinOPlus Vascular offers diabetics a new easy-to-use in-home therapy device that clearly improves circulation to feet and quality of care! In addition, the VeinOPlus increases walking distance without limb pain for individuals living with claudication limb pain. Great for reducing swelling after hours of standing!