

# Intermittent Impulse Compression in Vascular & Plastic Surgery



## Post Liposuction Oedema

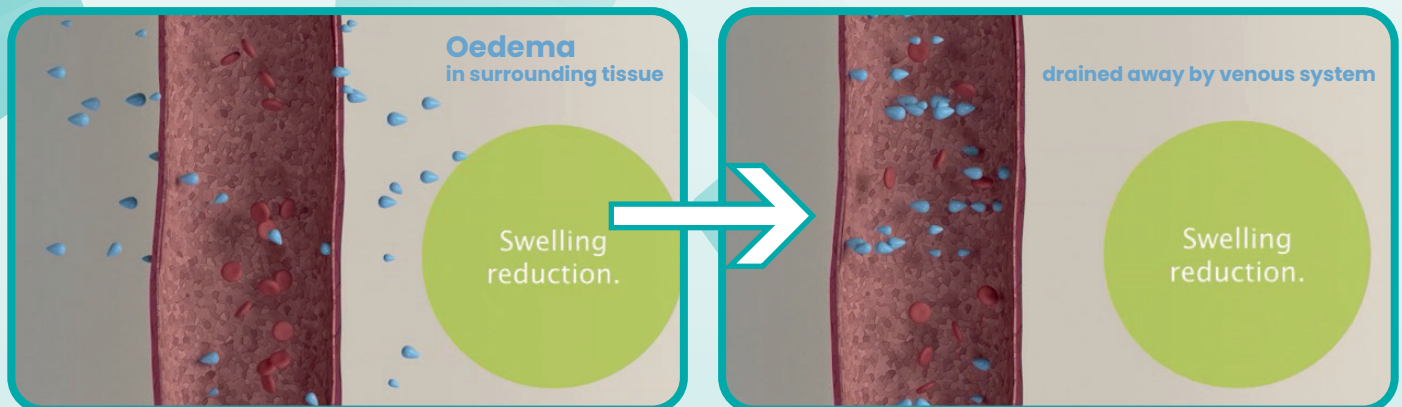


### Pathomechanism

Even with the tissue friendly water assisted liposuction (WAL) procedure, severe serous edema occurs postoperatively due to the damage to the tissue as well as to the natural lymph vessels. Alternatively to the damaged lymphatic system, this oedema can also be removed via the venous system.

Active impulse compression with VADOPlex in addition to compression stockings and manual lymph drainage is particularly useful in the first 15 days postoperatively, where the most severe swelling occurs. This will also significantly relieve the patient's pain.

### Way of Action



The pneumatic impulse of the VADOPlex System (IIC) is applied intermittently to the plantar venous plexus and induces a jet-like blood flow through the deep leg vein system. The edema in the surrounding tissue diffuses through the thin vessel walls into the venous system and is drained away with the blood flow.

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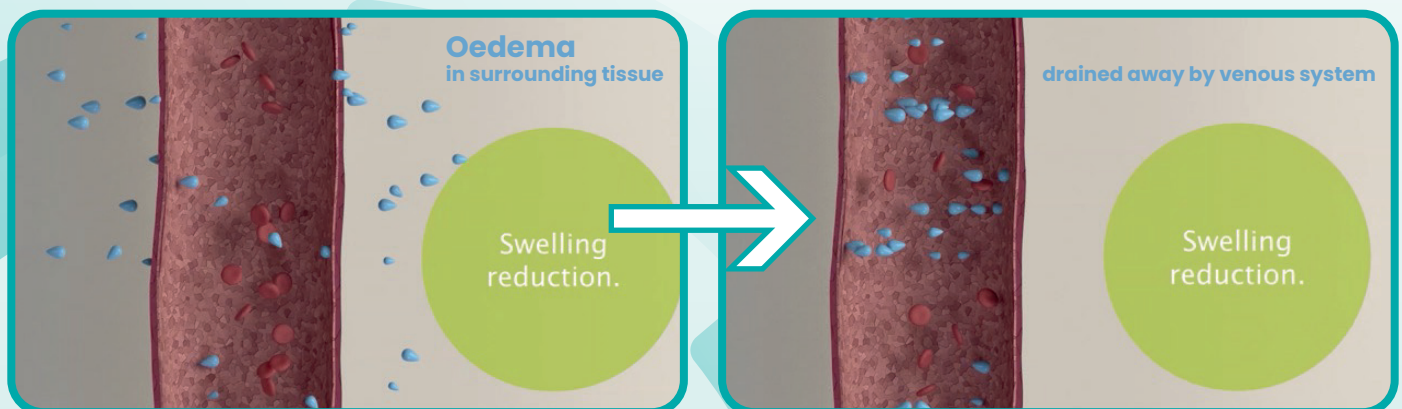
## Re-Perfusion Oedema



### Pathomechanism

Due to the significant increase in blood volume in the leg veins as a result of the revascularization, there is a significant formation of oedema and overloading of the natural lymphatic system in the first few days postoperatively. This serous edema can also be removed via the venous system, which leads to a rapid and significant reduction in swelling and pain.

### Way of Action



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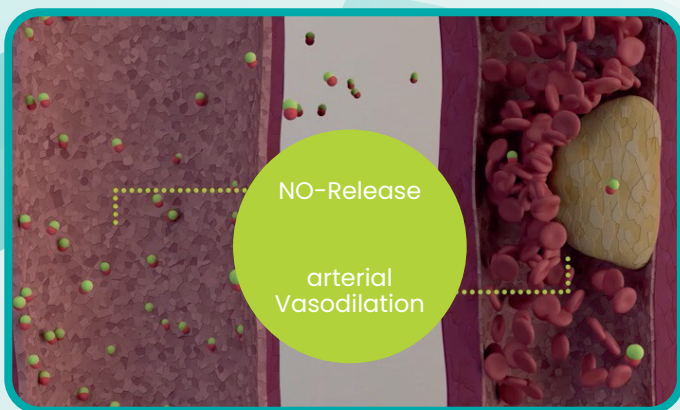
## Peripheral arterial occludent Disease (pAOD)/ Ischemia & its associated Diseases Pain and Ulcerations



### Pathomechanism

Due to inflammatory and aging processes, structures in the walls of the arteries change. This reduces or occludes the lumen of the arteries, followed by reduced oxygenation and nutrition of the tissue. This lack leads by time to destructive processes on the nerves and tissue, followed by nerve pain and ulceration.

### Way of Action



The special impulse compression of VADOPlex induces a fast, jet-like blood flow in the deep veins like no other IPC device. The blood flow is so fast, that it causes shear forces to the endothelium, which, as a consequence, relieves nitric oxide (NO). This NO diffuses into the surrounding tissue until it hits the walls of the smaller and bigger arteries, specifically the smooth muscle layer in the walls. NO has a relaxing effect on these smooth muscle cells, so that by relaxing, the arterial lumen gets wider and hence more arterial blood will flow into the area. This enhances micro- and macro-circulation, improving oxygenation and nutrition, leading to a positive effect on pAOD, ischemia and associated diseases such as pain and ulcerations.