

ORDER INFORMATION

Designation	Article number
Device	
VADOpnex Controller	VXSY-10-1
Foot pads	
1 foot pad, size medium (37-41), left	VXFP-01-1-M-LI
1 foot pad, size medium (37-41), right	VXFP-01-1-M-RE
1 foot pad, size large (42-47), left	VXFP-01-1-L-LI
1 foot pad, size large (42-47), right	VXFP-01-1-L-RE
1 pair of foot pads, size medium (37-41)	VXFP-02-1-M
1 pair of foot pads, size large (42-47)	VXFP-02-1-L
1 box with 5 pairs of VADOpnex foot pads, size medium (37-41)	VXFP-05-1-M
1 box with 5 pairs of VADOpnex foot pads, size large (42-47)	VXFP-05-1-L
Under-cast pads	
1 foot pad for VACOped/VACOped Diabetic (usable on both sides)	VXCP-03-1
Hand pads	
1 hand pad, left	VXHP-04-1-LI
1 hand pad, right	VXHP-04-1-RE



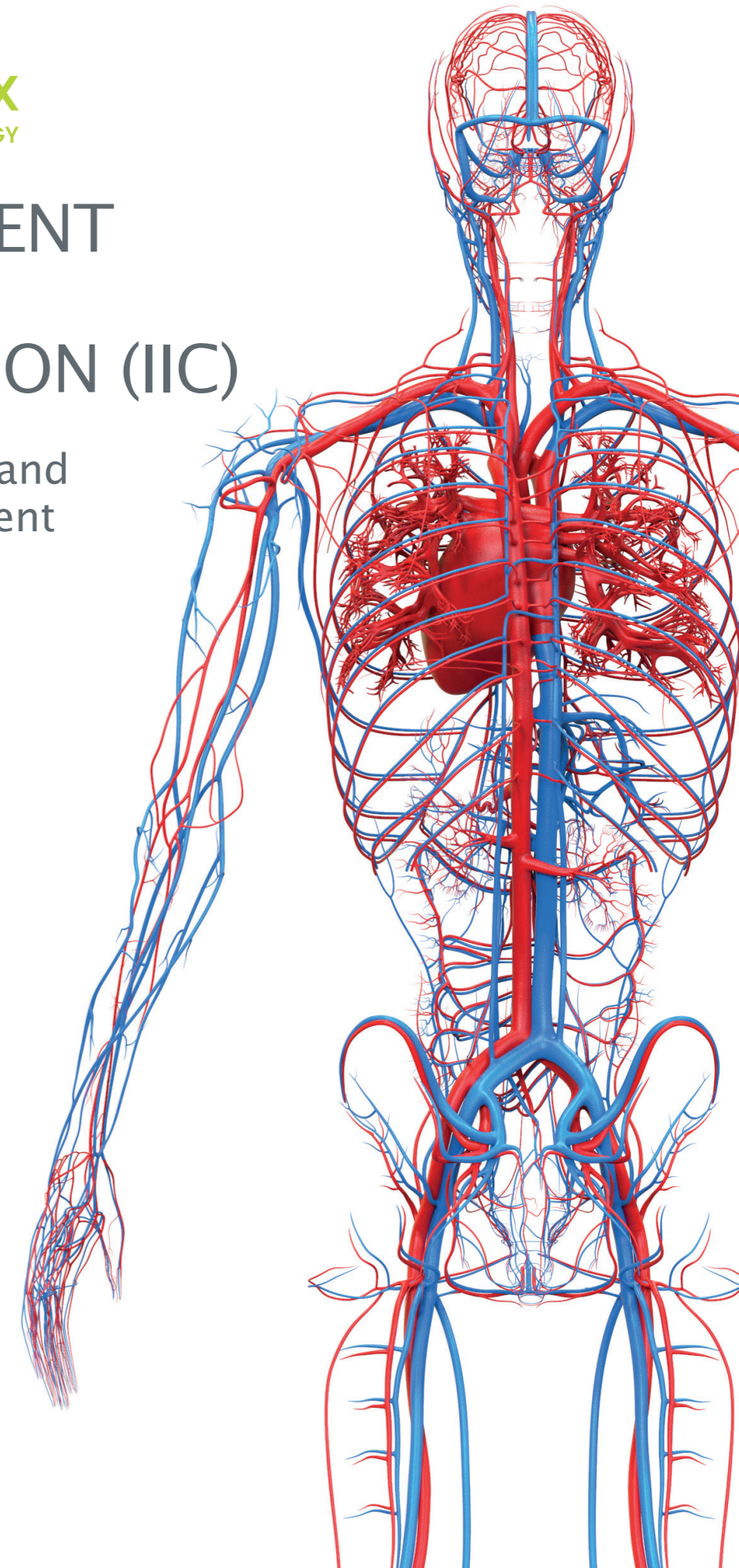
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Keeps you going.

OPED GmbH ■ Medizinpark 1 ■ 83626 Valley/Oberlaindern ■ Germany
Fon +49 (0)80 24/60 81 8-210 ■ Fax +49 (0)80 24/60 81 8-299 ■ mail@oped.de ■ www.oped.de
OPED AG ■ Hinterbergstrasse 26 ■ 6312 Steinhausen ■ Switzerland
Fon +41 (0)41/748 53 35 ■ contact@oped.ch ■ www.oped.ch

VADOpnex® by OPED
VASCULAR IMPULSE TECHNOLOGY

INTERMITTENT IMPULSE COMPRESSION (IIC)

Modern oedema and
vessel management



VADOpnex
VADOpnex

OPED
Keeps you going.

SIMPLE
FLEXIBLE
EFFECTIVE



SIMPLE USE

- Programs – pre-set
- NEW** ▪ **Intuitive touch display with new functions**
- Integrated information on the functional principle and pads



FLEXIBLE USE

- Use for the upper limb (hand, elbow and shoulder)
- Use for the lower limb (foot, knee and hip)
- Use in medical environment
- Can be used on both sides
- Use in home environment, with preset program and limited function also possible
- NEW** ▪ **Battery and mains operation**
- 24 hours a day/7 days a week



EFFECTIVE TREATMENT RESULTS

- Pre/post/intra-operative use
- Evidence-based treatment
- NEW** ▪ **Documentation of the treatment history, can be exported via communication interface**
- NEW** ▪ **Process optimisation – preset and customisable program settings**



Previous version – identical functional principle to the new device version

NEW



New device version – identical functional principle with many new features

INTERMITTENT PNEUMATIC COMPRESSION (IPC)

PHYSIOLOGICAL STIMULATION OF THE
VENOUS, ARTERIAL AND LYMPHATIC SYSTEM



REDUCE SWELLING



THROMBOSIS
PROPYLAXIS



ARTERIAL
CIRCULATION



WOUND/SOFT
TISSUE HEALING



PAIN REDUCTION

VADOplex [®] by OPED
VASCULAR IMPULSE TECHNOLOGY

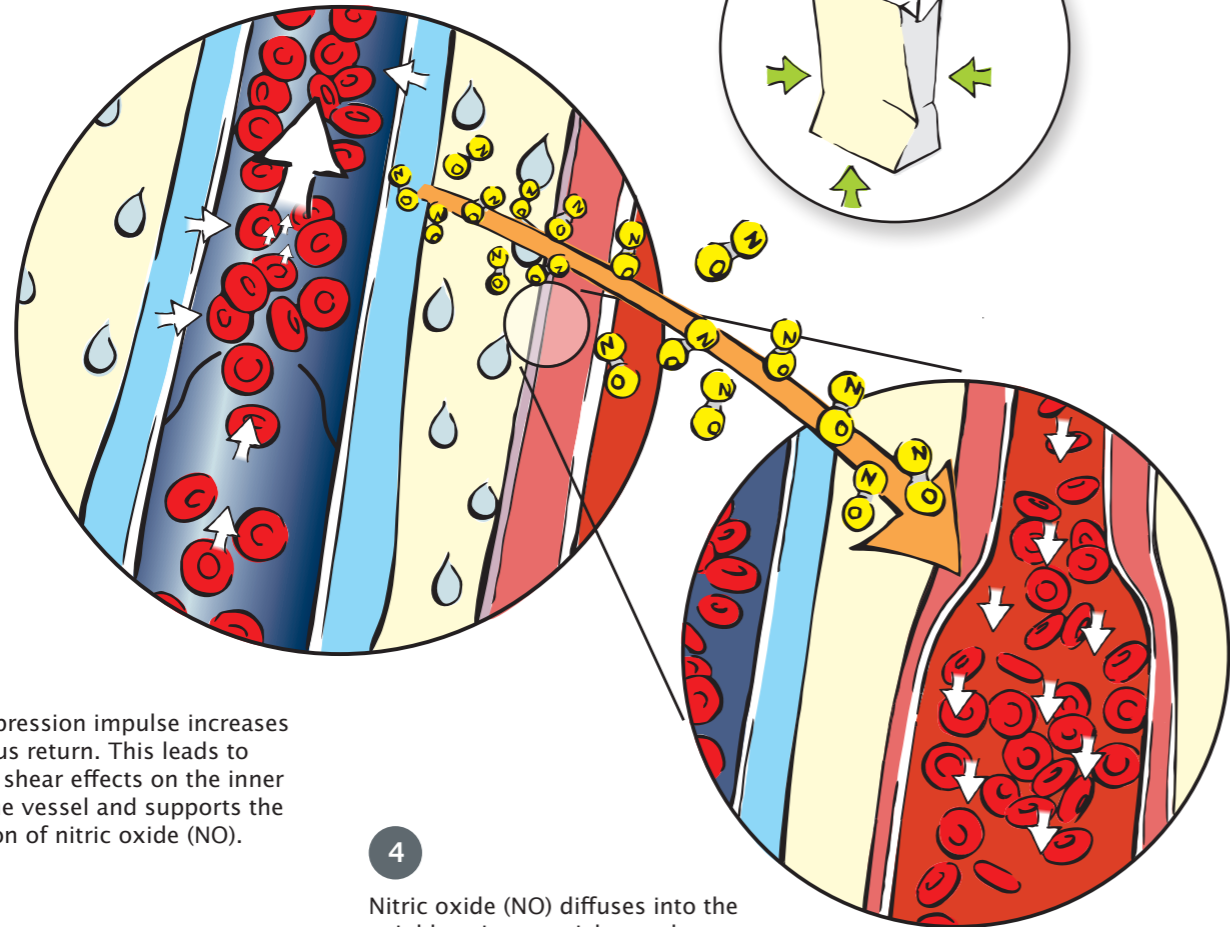
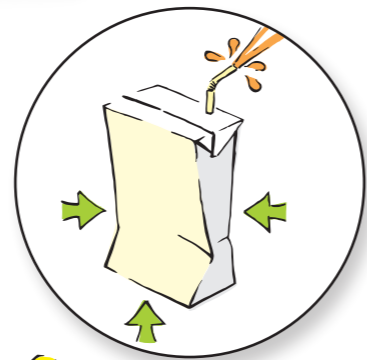
HOW IT WORKS

Intermittent pneumatic compression (IPC) with the special feature of intermittent impulse compression (IIC). Device for improving venous return and arterial flow by periodic air pulse compression of the upper and lower extremities.



1
VADOPlex generates a pneumatic compression impulse. The pressure build-up in the pad takes place in less than 0.4 seconds. The reservoir in the pad that fills up presses on the venous plexus of the sole of the foot or the network of veins in the hand. This process is repeated, depending on the programme, every 20 or 50 seconds.

2
The very rapid pressure impulse – triggered by the build-up of pressure in less than 0.4 seconds – leads to rapid drainage of the venous plexus in the foot or network of veins in the hand.



3
The compression impulse increases the venous return. This leads to powerful shear effects on the inner wall of the vessel and supports the production of nitric oxide (NO).

4
Nitric oxide (NO) diffuses into the neighbouring arterial vascular musculature. This leads to relaxation of the vascular musculature and a vasodilatation and thus to an increased blood flow in the arteries.

PAD ATTACHMENT POINTS



Hand pad



Foot pad



Under-cast pad

Upper extremities – on the network of veins in the hand with the hand pad

This allows not only acute oedema and wounds of the **HAND**, but also of the **SHOULDER**, **ELBOWS** and **ARMS** to be treated.

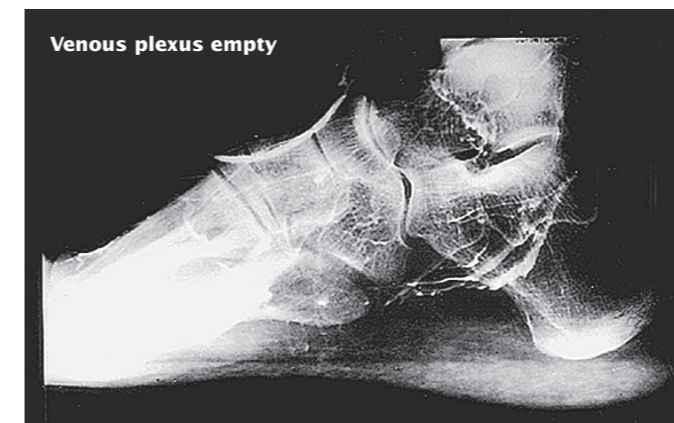
Tip: Without a fabric covering, the hand pad can also be used as an under-cast pad under the hand orthosis.

Lower extremities – on the venous plexus with the foot pad

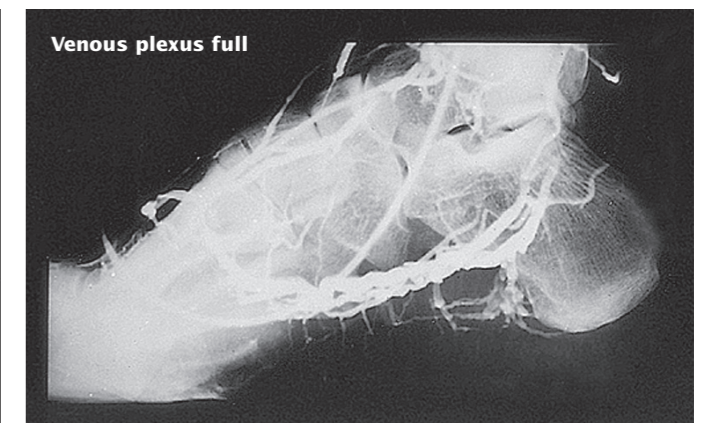
With this, not only can blood clots be prevented, but acute and chronic oedema and wounds of the **FOOT**, **LEG**, **KNEE** and **HIP** can also be treated.

WHY A FOOT PAD AND NOT THE CALF?

When used with the foot pad, the pressure impulse takes effect precisely where all of the deep leg veins come together: in the venous plexus of the sole of the foot. This supports effective stimulation of the venous return flow proximally.



Venous plexus empty



Venous plexus full

Can the foot pad not be used, e.g. in the case of large wounds in the area of the sole of the foot or following amputation?

Then contact us.

INDICATIONS



The use of this device requires the recommendation of the attending physician regarding the indication and the recommended duration of use. The following are examples of indications and their recommended duration of use.

Indication	Recommended duration of use
Rapid decongestion in acute oedema of the upper and lower extremities (e.g. post-traumatic and after surgery)	Post-traumatic: continuous After surgery: 6 to 8 hours daily (with interruptions if necessary)
Prevention of compartment syndrome following extensive extensive soft tissue damage	Continuous, without breaks
Prevention of deep vein thrombosis	6-18 hours daily* Depending on the degree of mobilisation and the use of further prophylactic measures
Rapid decongestion in chronic vascular oedema of the arms and legs (e.g. CVI, therapeutic support in chronic lymphoedema)	At least 4 hours daily for several weeks with interruptions if necessary
Ulcers of various aetiologies (venous, arterial, mixed)	
Diabetic foot syndrome (including with ulcer formation)	
Peripheral arterial occlusive disease (PAOD) and arterial circulatory disorders of the extremities (including in non-revascularisable situations)	

CONTRAINDICATIONS

The use of this device requires the recommendation of the attending physician regarding the indication and the recommended duration of use.

Absolute contraindications:

- In patients where increased backflow to the heart could have a negative effect, e.g. patients with decompensated heart failure or severe, non-adjustable hypertension
- Acute thrombophlebitis
- Acute deep leg vein thrombosis
- Full-blown compartment syndrome (with necrosis of the musculature)

Relative contraindications for the following cases - after weighing-up of the benefits and risks by the treating physician:

- Pulmonary embolism
- Severe infection of the treated extremity

*1 empfohlene Anwendungsdauer in Kombination mit weiteren Maßnahmen

Referenzen:

- Eisele R, Kinzl L, Koelsch T. Rapid-inflation intermittent pneumatic compression for prevention of deep venous thrombosis. J Bone Joint Surg Am. 2007 May;89(5):1050-6.
- Arabi YM, Al-Hameed F, Burns KEA, Mehta S, Alsolamy SJ, Alshahrani MS, Mandourah Y, Almekhlafi GA, Almaani M, Al Bshabshe A, Finfer S, Arshad Z, Khalid I, Mehta Y, Gaur A, Hawa H, Buscher H, Lababidi H, Al Aithan A, Abdukahil SAI, Jose J, Afesh LY, Al-Dawood A; Saudi Critical Care Trials Group. Adjunctive Intermittent Pneumatic Compression for Venous Thromboprophylaxis. N Engl J Med. 2019 Apr 4;380(14):1305-1315.

USAGE ENVIRONMENT



For ward-based use in the medical environment.

Operation and adjustment of the program are carried out by medical personnel.



For outpatient use in the home environment – also possible.

The patient is the user. The device is delivered with a preset program and limited functions according to physician in charge's prescription. All released functions are safe to use for the patient.



STUDIES

IIC - DEVELOPING IPC FURTHER

Intermittent impulse compression (IIC) like VADOPlex is a more advanced version of the intermittent pneumatic compression devices (IPC). It extends the possibilities of IPC by making use of the fundamental principles of human physiology. These relationships and therefore the special function of IIC were demonstrated by the British surgeon A.M.N. Gardner and his fellow Brit, radiologist R. H. Fox, and described in their reference work on angiology entitled „The Venous System in Health and Disease“^{*3}. The pair are regarded as the inventors of IIC and have significantly advanced its clinical application.

The rapid build-up of impulses by IIC within less than 0.4 seconds supports the body's own production of

- **Nitric oxide (NO), or endothelium-derived relaxing factor (EDRF)**
- **Prostacyclin, or prostaglandin I2 (PGI2), a derivative of arachidonic acid**

Their release – especially of NO – makes IIC special as NO and prostacyclin enhance the effect of pneumatic compression:

- **NO and prostacyclin improve thrombosis prophylaxis.**
- **NO and prostacyclin increase microcirculation.**
- **NO improves pain relief.**

GUIDELINE

Intermittent pneumatic compression (IPC, AIC)^{*4}

“In summary, it can be stated on the basis of the existing literature that IPC, when correctly indicated and applied – including additively – is an effective and safe therapy method, particularly for the treatment of various vascular and oedema diseases, wound healing, thrombosis prophylaxis and also for the treatment of PAOD, ...”

VASCULAR/WOUND MEDICINE

Peripheral arterial disease (PAD)

“IPC (foot, lower leg) leads to an increase in the walking distance, ulcer healing and to a lower amputation rate in patients with peripheral arterial disease.”^{*5}

Ulcus cruris (venous, arterial, mixed)

“When IPC is used in addition to compression bandaging (Kumar et al.), local therapy (McCulloch et al.) or in addition to a compression stocking in conjunction with local therapy (Smith et al.), venous ulcers heal more quickly.”^{*6}

Diabetic foot syndrome (including with ulcer formation)

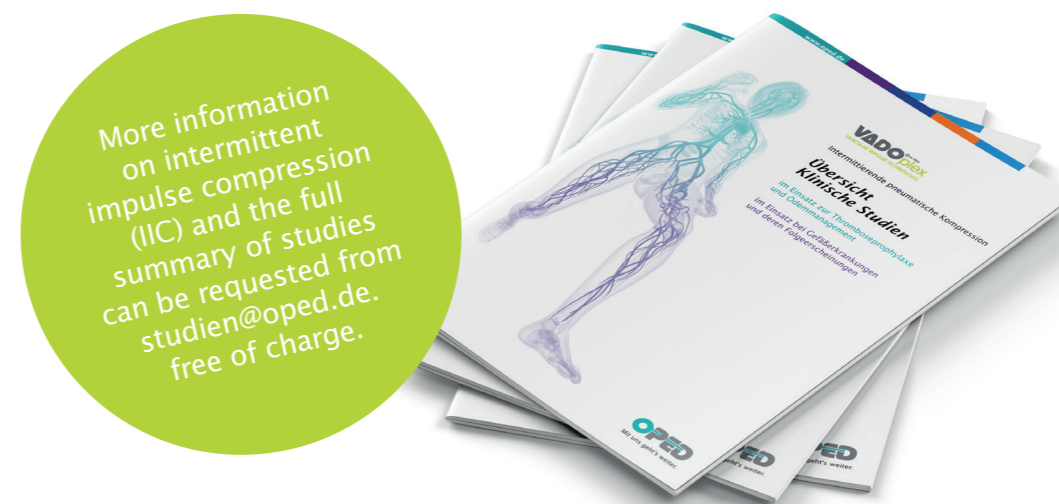
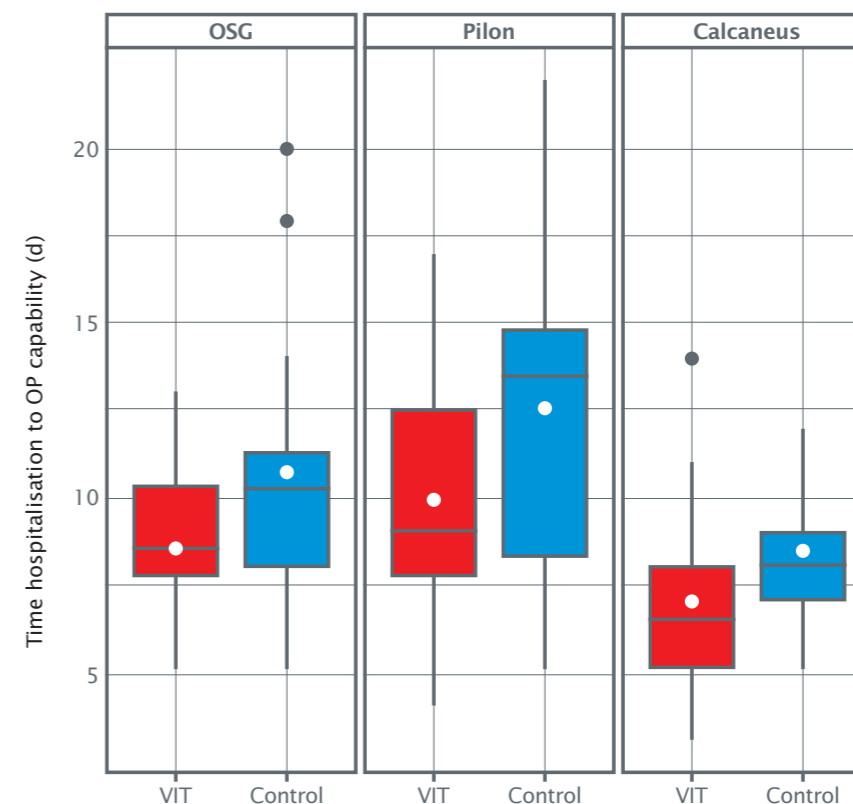
“IPC (foot) encourages wound healing in debrided diabetic foot infections. A daily, eight-hour course of IPC therapy given over 12 weeks promotes significantly faster wound healing in these patients.”^{*7}

TRAUMA SURGERY

VADOPlex study - Investigation of the swelling-reducing effect of vascular impulse technology (VIT/VADOPlex/IIC) in complex joint fractures compared to conventional measures.^{*8}

Results

- **Operability is achieved on average at least 2 days earlier**
- **Resolution of the swelling is accelerated**
- **Pain is reduced**
- **The use of analgesics and the number of revision procedures tends to be reduced**



*3 Gardner, A. M. N., Fox, R. H. (2001). The Venous System in Health and Disease (3. Aufl.). IOS Press

*4 S1-Leitlinie zur intermittierenden pneumatischen Kompression (IPK, AIK), AWMF-Registernummer: 037/007, Stand: 31.01.2018

*5 Labropoulos N, Wierks C, Suffoletto B. Intermittent pneumatic compression for the treatment of low extremity arterial disease: a systematic view. Vasc Med 2002; 7: 1418.

*6 Kahle B. Welche Evidenz gibt es für die intermittierende pneumatische Kompression bei CVI? Vasomed 29 (5): 2017:218-219

*7 Armstrong DG, Nguyen HC. Intermittent pneumatic compression promoted healing in foot infections. Arch Surg 2000; 135: 14059.

*8 Schnetzke M, El Barbari J, Schüller S, et al. „Vascular impulse technology versus elevation for the reduction of swelling of lower extremity joint fractures: results of a prospective randomized controlled study.“ Bone Joint J. 2021;103-B(4):746-754. Device: VADOPlex

EXAMPLES OF USE

Below are some practical examples of treatment with VADOPlex. To ensure the best possible care for your patient, we offer you not only the VADOPlex, but also a major treatment concept based around the foot, hand, knee or shoulder.

The VADOPlex foot-, hand- or undercast pads can be used with all OPED products.

FOOT VASCULAR MEDICINE



- For the removal of tissue fluid and for rapid and long-term wound healing of treatment-resistant ulcers (arterial, venous, mixed)
- Used in peripheral arterial disease (PAD) and arterial circulatory disorders affecting the lower limbs (even in cases of situations where revascularisation is not possible)
- Diabetic foot syndrome (including with ulcer formation)

FOOT



- For the prevention of blood clots
- Decongestion in acute oedema post-trauma, pre- and post-operatively, such as
 - Lower leg fractures
 - Ankle joint fracture
 - Upper ankle arthrodesis
 - Rear of the foot (Pes plano valgus correction, Pes cavo varus correction, arthrodesis of the mid-tarsal joint, tendon procedures)
 - Forefoot (Hallux valgus, Hallux rigidus, metatarsalgia)

HAND



- Post-traumatic, pre/post-operatively in complex injuries and fractures with acute oedema formation, such as distal radius fracture and forearm fracture
- Arthrosis of the thumb
- Complex regional pain syndrome (CRPS)
- Dupuytren's disease
- Infections following animal bites

SHOULDER



- Decongestion in acute oedema post-trauma, pre- and post-operatively, such as
 - Clavicular fracture (surgical treatment)
 - Proximal humerus fracture
 - AC joint separation (hook plate / arthroscopy)
 - Decompression/acromioplasty
 - Labrum reconstruction/capsule shift/SLAP/Latarjet
 - Arthroscopic re-fixation of the rotator cuff
 - Total shoulder endoprosthesis

KNEE



- For the prevention of blood clots
- Decongestion in acute oedema post-trauma, pre- and post-operatively, such as
 - Proximal femoral fracture
 - Total hip endoprosthesis
 - Tibial head fracture
 - Knee joint – meniscal suture
 - Knee joint – MPFL-plasty
 - Knee joint – cartilage transplantation (OATS, MACI)
 - Micro-fracturing
 - Replacement of the anterior cruciate ligament
 - Total knee endoprosthesis



WOULD YOU LIKE TO FIND OUT MORE ABOUT VADOPLEX?

If you would like to try VADOPlex out and need more information on the following subjects:

Ordering, positioning, example prescriptions, procedures, treatment plans and studies/guidelines

Then please call us on **+49 (0)80 24/60 81 8-210** or send an e-mail to **mail@oped.de** or your contact.