

# Facts & Figures

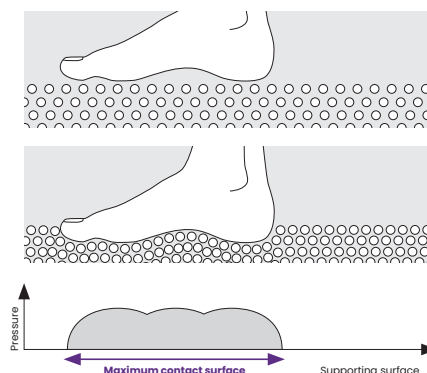
## Treatment Comparison and Study Results



### Product information

#### Total contact offloading with Vacuum Technology

- Vacuum cushion, filled with small styrofoam beads, mould perfectly to the individual patient anatomy.
- When air is removed from the cushion, it becomes rigid; providing a total contact surface which effectively supports the foot while relieving pressure.
- Re-adjustment can be performed as often as necessary.
- Pressure is evenly distributed through the maximum contact surface. Beads are fixated, without applying pressure to the limb.



#### The Strap Lock For Safety - To make it non-removable

- VACocast/VACOped/VACOpedes Diabetic can be made non-removable by using the strap lock\*
- To aid concordance with treatment
- Dressings can be accessed and product can be relocated



\* Optional, not in standard set

### Guidelines

#### VACocast Diabetic and VACOped Diabetic fulfill the IWGDF Guidelines as non-removable and removable knee high devices!

Bus et al. Guidelines on offloading foot ulcers in persons with diabetes (IWGDF 2023 update).

#### Guidelines of the International Working Group on the Diabetic Foot (IWGDF)

Recommendation for healing a neuropathic plantar forefoot or midfoot ulcer in a person with diabetes:

#### 1<sup>st</sup> Choice Offloading

"... use a **non-removable knee-high offloading device as first choice** of offloading treatment to promote healing of the ulcer (Strong Recommendation)"

"... choose either a **total contact cast** or a **non-removable knee-high walker** (Conditional; Moderate)"

#### 2<sup>nd</sup> Choice Offloading

"... if a non-removable knee-high offloading device is contra-indicated or not tolerated, consider using either a **removable knee-high** or **ankle-high offloading device** as the **second choice** of treatment... (Conditional; Moderate)"

"... **do not use... conventional footwear** or **standard therapeutic footwear** over an offloading device... (Strong, Low)"

#### 3<sup>rd</sup> Choice Offloading

"... if offloading devices are not available, consider using **felt foam in combination with appropriately fitting footwear** as the **third choice** of offloading (Conditional; Very low)"

"... if an knee-high or ankle-high offloading device is used, consider also using **a shoe lift on the contralateral limb** to improve the person's comfort and balance while walking in the device (Conditional; Very low)"



IWGDF Guidelines 2023: <https://iwgdfguidelines.org/wp-content/uploads/2023/07/IWGDF-2023-06-Offloading-Guideline.pdf>

# Facts & Figures

## Treatment Comparison and Study Results

### Studies & Measurements

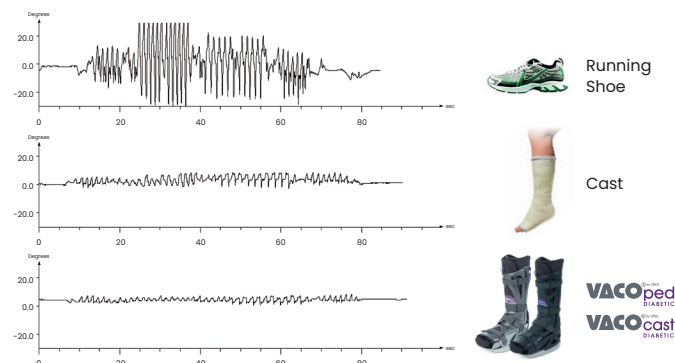


#### Vacuum Offloading Orthoses – stable as a cast

Mitternacht J, Schaff P. Biomechanical study. 1994 Aug./Sept.

The diagram shows the amplitude of flexion/extension in the ankle joint while stair climbing (electronic goniometer)

\* The biomechanical study was done with VACOped. The results can be transferred to VACOped Diabetic and VACOcast Diabetic as the product essentially correspond in structure.



#### High healing rates and excellent patient satisfaction with VACOcast Diabetic

Bowen G, Spruce P. Evaluating a removable knee cast walker within the diabetic foot pathway. The Diabetic Foot Journal. 2019; 22(3): 52–9

##### Objective

Evaluation of a removable cast walker in the diabetic foot pathway to determine the potential outcomes and costs in wounds where a non-removable device was contraindicated, or not acceptable to the patient.

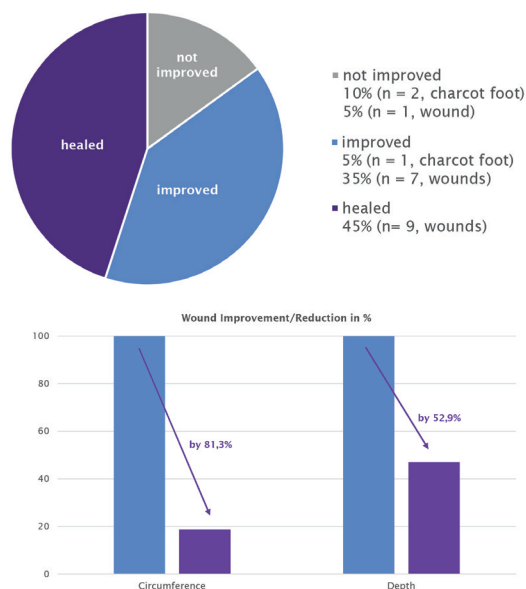
##### Patients and method

- 20 patients with diabetes (17 with foot ulcers, 3 with charcot foot)
- Treatment in VACOcast Diabetic for up to 8 weeks

##### Results

- 16 out of 17 ulcers improved or healed within 8 weeks!
- Reduction of wound circumference by 81,3%
- Reduction of wound depth by 57,9 %

**Conclusion: Superior Outcome in the Treatment of the Diabetic Foot Syndrome with VACOcast Diabetic.**



#### Significant re-distribution of plantar pressure with Vacuum Offloading Orthoses

Nagel A, Rosenbaum D. Off-loading strategies in diabetic foot syndromeevaluation of different devices. Gait Posture. 2009 Jul; 30(1):11–5.

##### Objective

Investigation of the pressure-relieving effects of two vacuum orthoses (VACOped Diabetic, VACOpedes Diabetic) in patients with diabetes mellitus.

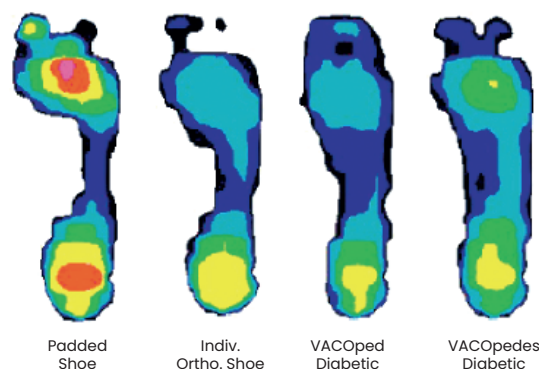
##### Patients and method

- 20 patients with diabetes mellitus with plantar callosities, but no ulceration.
- Plantar pressure distribution was measured with sensor insoles during walking in two different VACO-orthoses, a postoperative shoe and a common "Health Shoe".

##### Results

- Significant decrease of the the maximum force & peak pressures under the rearfoot and forefoot with VACOped Diabetic/VACOpedes Diabetic
- Contact area increased in the midfoot with the vacuum orthoses

**Conclusion: Using VACOped/VACOpedes Diabetic significantly benefited re-distribution of plantar pressure and the roll-over process.**



# Facts & Figures

## Treatment Comparison and Study Results



### Studies & Measurements

#### Vacuum Offloading Orthosis shows most homogenous Distribution of Forces compared to TCC and other Devices

Götz J et al. Off-loading strategies in diabetic foot syndrome-evaluation of different devices. Int Orthop. 2017 Feb;41(2):239-246

##### Objective

Assessment of different offloading devices compared to walking in barefoot condition and in normal shoes.

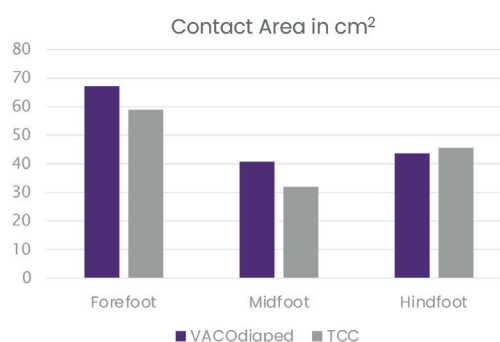
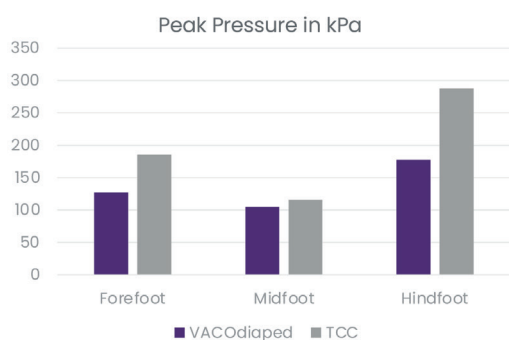
##### Patients and method

- Pedobarographic examination was performed while walking: 20 patients with Diabetes and peripheral neuropathy, 10 healthy probands
- Devices tested: Post-op shoe "Hannover", Fior&Gentz o Total Contact Cast (TCC), Aircast Diabetic Pneumatic Walker o Standard shoe "Cascadia 4", Brooks, VACODiaped (former VACOped Diabetic), barefoot

##### Results

- "The most **effective reduction of force** was achieved by **TCC (75%)** and **VACODiaped (64,3%)** with the VACODiaped resulting in the **most homogenous distribution** of forces all over the foot."
- "A customized device like the TCC is still the most proven offloading device. However, a removable cast walker being based on vacuum pads and a cushioning sole, provides better results concerning force distribution."

**Conclusion: The comparison of offloading devices show the most homogenous distribution of forces over the foot with VACOped Diabetic.**



\* VACODiaped = former name of VACOped and VACOcass Diabetic

#### VACOcass Diabetic – accelerated ulcer healing

Cole W. Offloading diabetic foot ulcers with the next generation of pressure relief. W. Cole Today's Foot Clinic. 2020 Feb.

##### Case Study 1

**VACOcass Diabetic applied (with lock).**  
**Ulcer healed within 28 days.**

- 48 year old male, 6 month history of neuropathic plantar ulcer at 1st metatarsal head
- Patient had tried and failed multiple advanced wound care
- TCC was removed after discomfort & pain, then application of VACOcass Diabetic



##### Case Study 2

**VACOcass Diabetic applied (with lock).**  
**Ulcer healed after 6 weeks.**

- 45 year old female, with a surgical wound dehiscence of plantar left midfoot for 9 weeks
- Patient had tried and failed several advanced wound therapies with TCC
- The patient was transitioned into the VACOcass Diabetic locking boot due to complaints of leg cramping in the TCC

