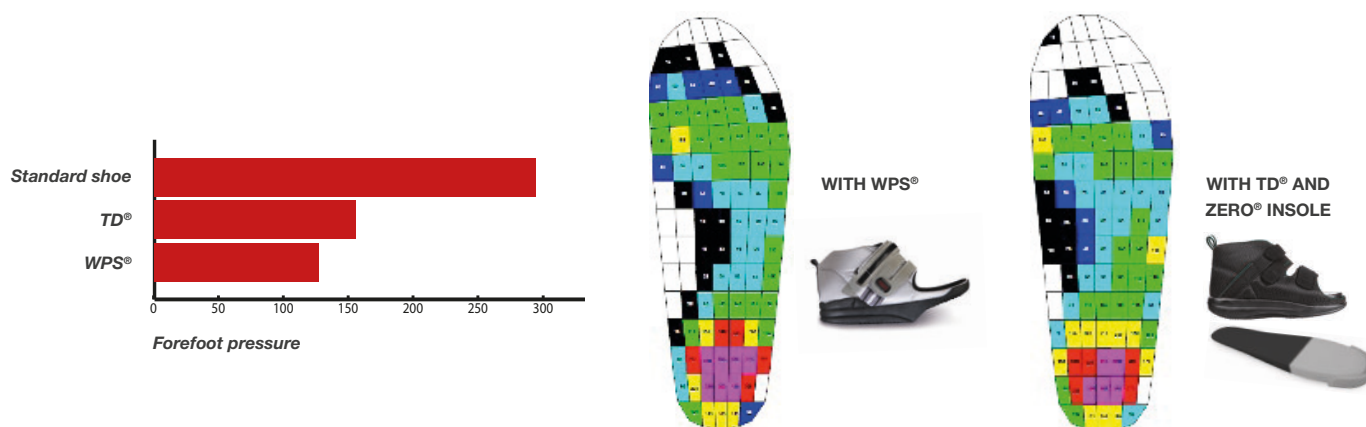


## PODartis® Research: Forefoot offloading shoes impact

Dr. Roberto Da Ros

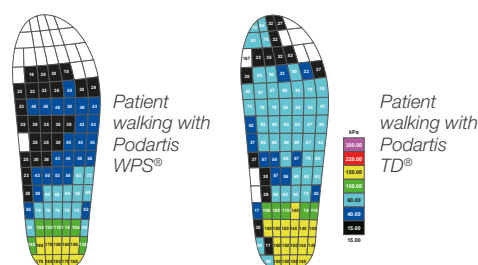
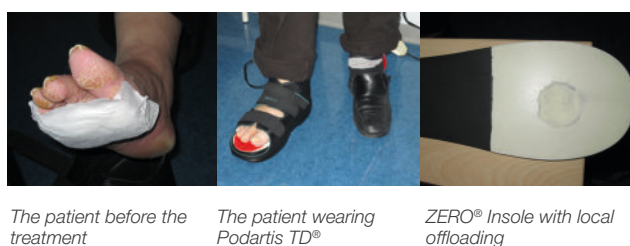


|                         | 2015 - presented at ISDF International Symposium on Diabetic Foot   |
|-------------------------|---|
| <b>AIM OF THE STUDY</b> | Evaluate offloading efficacy of two forefoot offloading shoes, <b>WPS® half shoe Podartis®</b> and <b>TD® Podartis®</b> , compared to normal shoe in diabetic patients. The transfer of load in contro-lateral foot and comfort of the patients were also analysed .  |
| <b>STUDY</b>            | <p>13 diabetic patients with lesions on forefoot were enrolled in the study.</p> <p>A sensor insole system with pressure detector (Pedar system, Novel) was used and they were inserted between foot and shoe insole. The plantar pressure was evaluated during three walking test</p> <ul style="list-style-type: none"> <li>- First test: both feet wore a standard shoe</li> <li>- Second test: ulcerated foot wore <b>WPS® half shoe</b>; the non-ulcerated foot wore the patient's standard shoe</li> <li>- Third test: ulcerated foot wore <b>TD®</b> (offloading shoe with rigid biomechanical outsole) with <b>ZERO® insole</b> with 8° of forefoot dorsiflection; the non-ulcerated foot wore the patient's standard shoe.</li> </ul> <p>The study involved the evaluation of plantar pressure peaks, the measurement of mean pressure in the contro-lateral foot, the evaluation of comfort with a visual analogue scale.</p> |
| <b>RESULTS</b>          | <p><b>WPS®</b>, compared to a normal shoe, reduced significantly ( 60% ) the forefoot pressure.</p> <p><b>TD®</b> with <b>ZERO®</b> insole reduced significantly the pressure peaks compared to a normal shoe (47%). No significant difference in reduction of pressure peaks between <b>WPS®</b> and <b>TD®</b> with <b>ZERO®</b> insole was found, but the perceived walking comfort was significantly higher with <b>TD®</b> rather than with <b>WPS®</b>.</p>   |
| <b>CONCLUSIONS</b>      | <b>WPS® Podartis®</b> and <b>TD® Podartis®</b> represent <b>two valid opportunities for the offloading of forefoot lesions</b> , with an important reduction of forefoot peak pressure. They were well tolerated without important transfer of load on contra lateral foot. <b>Patients wearing TD® Podartis® felt higher walking comfort</b> compared to WPS® Podartis® probably due to less postural discrepancy.   |



## Patient 1

Male, age 77, affected by diabetes and with open neuropathic ulcer on the 2ND and 3th metatarsal head of the right foot, covered with a bandage. Minor balance deficit. A significant reduction of pressures on the forefoot was recorded with Podartis WPS® (43%) with respect to the patient's standard shoes. The use of Podartis TD® combined with customized ZERO® insole lead to a reduction of pressure peaks on the forefoot by 26% with respect to the patient's standard shoes. Walking with Podartis WPS® was reported to be difficult and not comfortable. Podartis TD® used with ZERO® insole with a customized offload under the 3rd metatarsal head the **perceived walking comfort, safety and stability was significantly higher**.



# Clinical test on forefoot offloading shoes after the surgery.

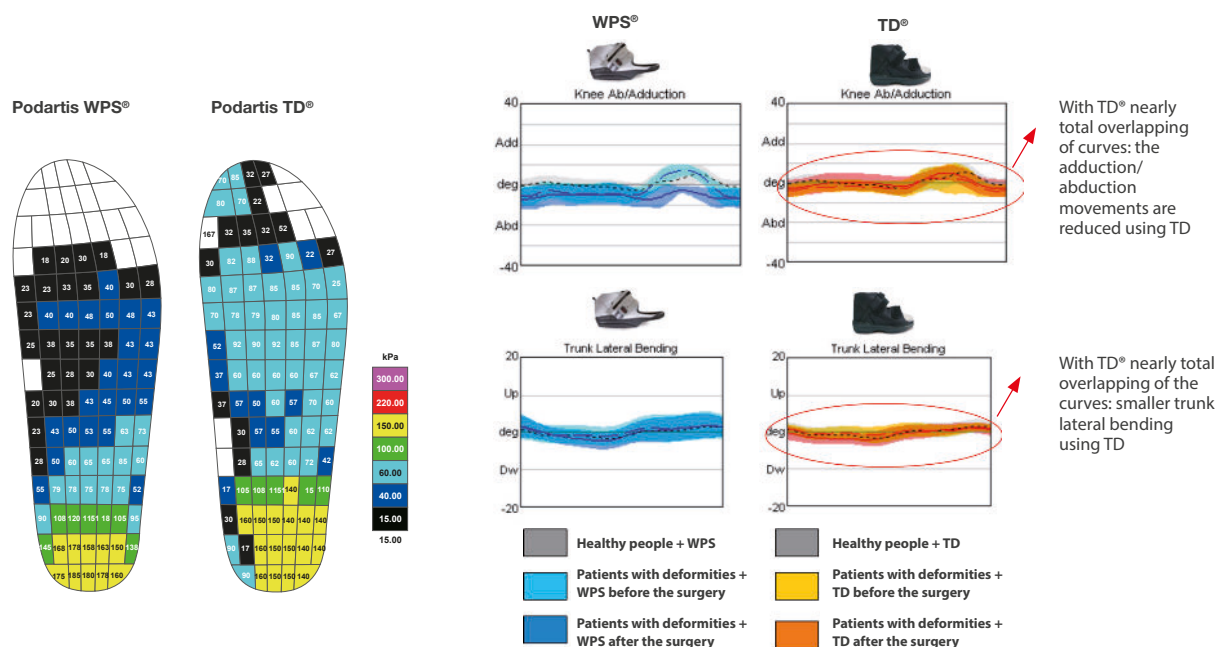
(IOR, Laboratory of Movement Analysis, Dir. Prof. Giannini, Bologna)



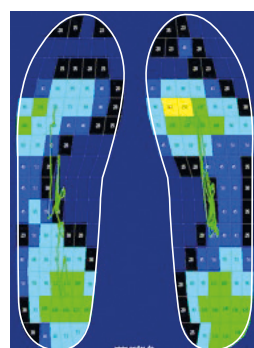
SERVIZIO SANITARIO REGIONALE  
EMILIA - ROMAGNA  
Istituto Ortopedico Rizzoli di Bologna  
Istituto di Ricovero e cura a carattere scientifico



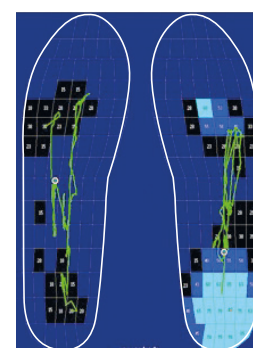
|                         |  |
|-------------------------|--|
|                         | <b>2014: updated and presented during ESM Boston Congress</b>  |
| <b>AIM OF THE STUDY</b> | Compare two types of post-surgery shoes. The WPS® Podartis talus and the TD® Podartis with biomechanical rigid outsole with the "ZERO®" 8° talism insole   |
| <b>STUDY</b>            | <p>Nr. of patients: 20<br/>female patients who underwent metatarsophalangeal osteotomy for hallux valgus deformity were analyzed together with a control group of healthy patients.</p> <p>Two different offloading shoe styles were compared: <b>WPS®</b> talus shoe versus <b>TD®</b> biomechanical fully rocker rigid outsole shoe with a <b>Zero®</b>. The evaluation of forefoot pressures was performed one month before and one moth after the surgery using sensor insole system (PEDAR Novel) in dynamic analysis, involving <b>going up and down a step.</b></p> |
| <b>RESULTS</b>          | <ul style="list-style-type: none"> <li>The shoes WPS® and TD® proved to have an efficacy in reducing the average values and the force peaks on the forefoot</li> <li>In kinematics, the TD® shoe allows a walk pattern similar to the natural gait thus reducing the risk of problems due to alterations in the step pattern</li> </ul>  |
| <b>CONCLUSIONS</b>      | <b>The TD® Podartis shoe with biomechanical rigid outsole, together with the ZERO® insole with 8° degree of forefoot dorsiflection is the ideal solution for diabetic people, seniors, people with movement deficit and active people.</b>   |



## Step-up, step-down: changes in the gait pattern



With Podartis TD® + ZERO® INSOLE: limited variation in the gait line



WITH Podartis WPS®: significant variations in the gait line

