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CO84-004-e

Data-driven directions for effective footwear provision in diabetic patients with a history of foot ulcerationS. Bus^{a,*}, M. Arts^a, M. De Haart^a, R. Waaijman^a, R. Dahmen^b, H. Berendesen^c, F. Nollet^a^a Department of Rehabilitation, Academic Medical Center, University of Amsterdam, Amsterdam, Amsterdam^b Department of Rehabilitation, Slotervaart Hospital, Amsterdam^c Department of Rehabilitation, Reinier de Graaf Gasthuis, Delft

*Corresponding author.

Keywords: Diabetes Mellitus; Diabetic foot; Ulcer prevention; Therapeutic footwear; Footwear modification; Offloading; Footwear design**Introduction.**– Diabetic feet are offloaded with custom-made footwear to prevent foot ulcers. This study evaluates the offloading effectiveness of modifying custom-made footwear and aims to provide directions for effective footwear provision.**Methods.**– Eighty-five neuropathic diabetic patients with a healed plantar foot ulcer were provided with new custom-made footwear. This footwear was evaluated with in-shoe pressure measurements at three-monthly intervals for 15 months or until ulceration, and modified when peak pressure was ≥ 200 kPa. The effect of modifications on in-shoe peak pressure at these high-pressure target locations and at 8 anatomical foot regions was assessed and summarized in an offloading-effect matrix.**Results.**– All footwear modifications significantly reduced peak pressure at the target locations (range -6.7% to -24.0% , $P < 0.05$). Repositioning a metatarsal pad or bar (-15.9%), applying local cushioning (-15.0%), and replacing the insole top cover (-14.2%) were the most effective single modifications. Combining the latter with a trans-metatarsal bar (-24.0%) or with local cushioning (-22.0%) were the most effective combined modifications.**Discussion.**– In high-risk diabetic patients, significant offloading can be achieved at high-risk foot regions by modifying custom-made footwear. These results provide directions for effective offloading to be used in custom-made footwear design and evaluation for diabetic patients.<http://dx.doi.org/10.1016/j.rehab.2014.03.1385>

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Treatment of diabetic foot ulcers by a non-amovable windowed fiberglass cast without opening until healing: A prospective study of 177 cases

G. Ha Van

CHU Pitié-Salpêtrière, Paris, France



ulcers (DFU) by a windowed fiber glass cast (WFC) without opening the cast until healing.

Methods.– A prospective non-randomised study of 177 diabetic foot ulcers treated by a non-amovable windowed fiber glass cast. Patients were followed until complete healing.**Results.**– Duration of the ulcers: 604 ± 808 days (64% more than 6 months). Average surface was 4.6 ± 6.5 mm² and depth: 10.4 ± 10.8 mm. The time of wearing of the WFC was 92.7 days ± 90.1 . The healing rate was 83.6%. The duration of treatment by WFC was 96 days. Twenty-nine patients did not heal (16.4%). The inclusion of 21 patients with moderate peripheral vascular disease (12%) and 24 patients after osteotomy (14%) did not modify significantly the healing rate: respectively of 81% ($P = 0.970$) and 70.8%, ($P = 0.128$). Complications: 26 changed WFC, 14 ulcers with moderate infection. The amputation rate of toes was 2% without major amputation and phlebothrombosis. Treatment of DFU (even chronic and deep) by a WFC without opening the cast gives an excellent healing rate.**Conclusion.**– The importance of off-loading the treatment of DFU is well confirmed by this study.<http://dx.doi.org/10.1016/j.rehab.2014.03.1386>**Posters**

P489-e

Diabetic foot: Clinical profile and prevalence of amputationsM. Hadj Habib^{*}, A. Kenniche, K. Mami

CHU, Sidi Bel Abbes

*Corresponding author.

Keyword: Diabetic foot amputation**Method.**– Study of clinical and developmental profile of 77 diabetic patients admitted for diabetic foot during the year 2012. Descriptive cross-sectional survey.**Result.**– The distribution by sex: F: 32% H: 68%. Mean age 62.6 years (± 11.3). Duration of diabetes: mean 12.9 years (± 8.9). Diabetes Type 2: 97%. Mean BMI: $24 (\pm 4.1)$. Balance Diabetes: average HbA_{1c} 9.2 (± 2). Length of stay: average 37 days. Lesions were due to inappropriate footwear in 22% of cases and in 13% of fungal case. The types of lesions were dominated by gangrene (59%), followed by abscesses (18%) and ulceration (9%). There was a healing response to care in 38% of patients, 62% underwent amputation level amputations toes: 33%, legs 33%, metatarsal: 23%, thighs 11%.**Discussion.**– The diabetic foot affects men. Most patients were unbalanced. Overweight had no impact on the appearance of lesions. The foot lesion revealed diabetes in 12% of cases. The diabetic foot requires a multidisciplinary approach and strengthening prevention through education of diabetic patients.<http://dx.doi.org/10.1016/j.rehab.2014.03.1387>