



## Addressing a hot topic

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Welcome to another Diabetes Digest. As we know all too well, the burden of diabetic foot complications is huge and sadly growing. Diabetic foot ulceration places a huge socioeconomic burden on health resources and it is the causal event that leads to the vast majority of diabetes-related, lower-extremity amputations. This is even more concerning when around 7,000 people with diabetes in the UK are affected by foot ulceration at any one time (Game, 2018). The mainstay treatment regimen for these lesions is ensuring good arterial inflow, infection control and offloading. The elephant in the room regarding foot ulcer management is which dressing product is most effective and appropriate. This has been a hot topic at many conferences and there are, as I am sure you are aware, literally hundreds of products available with little robust evidence to guide choice.

With this in mind, I want to bring your attention to a paper recently published by Edmonds et al in the *Lancet*, which reports the outcome of a large multicentred, randomised double-blind dressing trial in diabetic foot ulcers. This study is unique as it only included patients with neuroischaemic foot ulcers, which are the most difficult to heal. The study was conducted in 43 hospital-based specialist centres across Europe (UK, Spain, France, Italy and Germany). A total of 240 subjects

were recruited after a 2-week screening run in period. Ulcers had to be Texas grade 1 or 2C and banded into wound areas of 1–5 cm<sup>2</sup> and 5–30 cm<sup>2</sup>. Standard care was given to both the active and control arm. Offloading was standardised across all sites to both study groups. Subjects were randomised (1:1) via a computer-generated code to the study dressing containing sucrose octasulfate or an identical dressing without sucrose octasulfate. The study period was for 20 weeks with a primary outcome of patients healed within 20 weeks, additionally validated quality of life and depression questionnaires were completed. After 20 weeks, 48% ( $n=60/126$ ) of the study dressing group had healed versus 30% ( $n=34/114$ ) in the control group. Additionally, ulcers healed more quickly in the study dressing group with a median duration of treatment being 135 days [IQR 56–141] for the control group and 115 days [IQR 56–141] for the study dressing group.

I would recommend this paper to be read fully and consider its impact upon your local guidelines. ■

Edmonds M, Lázaro-Martínez JL, Alfayate-García JM et al (2018) Sucrose octasulfate dressing versus control dressing in patients with neuroischaemic diabetic foot ulcers (Explorer): an international, multicentre, double-blind, randomised, controlled trial. *Lancet Diabetes Endocrinol* 6(3): 186–96

Game F (2018) Treatment strategies for neuroischaemic diabetic foot ulcers. *Lancet Diabetes Endocrinol* 6(3): 159–60

## J Wound Care

### Perception of diabetic foot ulcers among general practitioners in four European countries: knowledge, skills and urgency

Readability ✓✓✓✓  
Applicability to practice ✓✓✓✓  
WOW! Factor ✓✓✓

**1** This study examined general practitioners' (GPs') awareness and perception of diabetic foot ulcers (DFUs) in four European countries, as well as determining differences in these countries relating to DFU management.

**2** GPs in the UK, France, Germany and Spain were given a two-part quantitative, online questionnaire, with the first part looking at perception and knowledge relating to the pathogenesis and management of DFUs, while part two was utilised in the collection of data on DFU cases.

**3** A total of 600 questionnaires were collected (150 from each of the four countries) from the first stage of the study, while 1,188 patient cases were collected from part two. Differences were found between GPs in the four countries with 49% of French GPs deeming neuropathy as the main cause of DFU development, while in Germany and the UK, 82% and 83% of GPs, respectively, thought this was the case. Multidisciplinary teams (MDTs) organised DFU care in 83% and 84% of cases in Spain and the UK, respectively.

**4** Despite the presence of international guidelines, the authors found that it would be beneficial to roll out clear and specific competencies for clinicians involved in the management of DFUs.

Garcia-Klepzig JL, Sánchez-Ríos JP, Manu C et al (2018) Perception of diabetic foot ulcers among general practitioners in four European countries: knowledge, skills and urgency. *J Wound Care* 27(5): 310–9

## J Wound Care

### Ultrasound-assisted debridement of neuroischaemic diabetic foot ulcers, clinical and microbiological effects: a case series

Readability ✓✓✓✓  
 Applicability to practice ✓✓  
 WOW! Factor ✓✓

- The authors outline a case series centring on neuroischaemic diabetic foot ulcers (DFUs) and the evaluation of sequential wound debridement when using an ultrasound-assisted wound debridement (UAW) device.
- Sequential wound debridement with UAW was examined through a prospective, single-centre study, involving 24 neuroischaemic DFUs, during a 6-week treatment period. Every second week of treatment, soft tissue punch biopsies were taken — before and after wound debridement sessions. The case series found a significant bacterial load reduction in DFU tissue samples following UAW debridement; this was correlated with improved wound conditions and significant reductions of wound size.
- Wound tissue quality scores improved significantly from a mean score of  $2.1 \pm 1.3$  points at patient inclusion, to  $5.3 \pm 1.7$  points ( $P=0.001$ ). Meanwhile, the mean wound size at week zero was  $4.45 \text{ cm}^2$  and  $2.75 \text{ cm}^2$  at week 6 ( $P=0.04$ ). Wound debridement was found to significantly cut bacterial counts
- The case series found a significant bacterial load reduction in DFU tissue samples following UAW debridement; this was correlated with improved wound conditions and significant reductions of wound size.

Lázaro-Martínez JL, Álvaro-Afonso FJ, García-Álvarez Y et al (2018) Ultrasound-assisted debridement of neuroischaemic diabetic foot ulcers, clinical and microbiological effects: a case series. *J Wound Care* 27(5): 278–86

## Diab Vasc Dis Res

### Interobserver reliability of the ankle-brachial index, toe-brachial index and distal pulse palpation in patients with diabetes

Readability ✓✓✓✓  
 Applicability to practice ✓✓✓✓  
 WOW! Factor ✓✓✓✓

- A prospective pilot study was conducted in diabetic patients to examine interobserver reliability related to the ankle-brachial index, toe-brachial index and distal pulse palpation, dependent on clinician training.
- Three clinicians with differing experience assessed the two indexes and the distal pulses in 21 patients, with measurements supervised and recorded by a fourth clinician.
- While moderate agreement was reached relating to the palpation of posterior tibial arteries ( $K=0.45$ ,  $P<0.001$ ), low agreement was found in dorsalis pedis arteries ( $K=0.33$ ,  $P<0.001$ ). Moderate agreement between the three clinicians was found in the measurement of ankle-brachial index in individuals with medial arterial calcification ( $K=0.43$ ,  $P<0.001$ ), whereas low level agreement was discovered in those with normal ankle-brachial index ( $K=0.4$ ,  $P<0.001$ ). Moderate agreement was found in patients with a normal toe-brachial index ( $K=0.4$ ,  $P<0.001$ ), as well as in those with medial arterial calcification ( $K=0.60$ ,  $P<0.001$ ).
- The palpation of distal pulses, ankle-brachial index and toe-brachial index determination in diabetic patients are not highly reproducible/reliable between clinicians with different experience levels.

Álvoro-Afonso FJ, García-Morales E, Molines-Barroso RJ et al (2018) Interobserver reliability of the ankle-brachial index, toe-brachial index and distal pulse palpation in patients with diabetes. *Diab Vasc Dis Res* 1:1479164118767599

## Diabet Med

### Clinical examination and non-invasive screening tests in the diagnosis of peripheral artery disease in people with diabetes-related foot ulceration

Readability ✓✓✓✓  
 Applicability to practice ✓✓✓✓  
 WOW! Factor ✓✓✓✓

- As the preeminent method for detecting or excluding peripheral artery disease is currently unknown, this study looked at the utility of clinical examination and non-invasive bedside tests in peripheral artery disease screening in diabetes-related foot ulceration.
- The study focused on 60 people who presented with new-onset ulceration with the clinicians examining: accuracy of pulses, ankle pressure, toe pressure, toe-brachial index (TBI), ankle-brachial pressure index (ABPI), pole test at ankle, transcutaneous oxygen pressure and distal tibial waveform on ultrasound. The gold standard diagnostic test was found to be  $>50\%$  stenosis in an artery or monophasic flow distal to calcification in any ipsilateral vessel on duplex ultrasound.
- The highest positive likelihood ratios were for toe pressure (17.55) and the pole test at the ankle (10.29), while the lowest negative likelihood ratios were for tibial waveform assessment (0.15) and TBI (0.24). Negative and positive likelihood ratios of pedal pulse assessment (0.75, 1.38) were poor.
- Both TBI and distal tibial waveforms were deemed useful for selecting patients requiring diagnostic testing.

Vriens B, D'Abate F, Ozdemir BA et al (2018) Clinical examination and non-invasive screening tests in the diagnosis of peripheral artery disease in people with diabetes-related foot ulceration. *Diabet Med* doi: 10.1111/dme.13634

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