

## Wounds digest

In this section, a brief synopsis is presented of a range of recently published articles that may be of interest to healthcare professionals working in the wound care setting. The aim of this round-up is to provide an overview, rather than a detailed summary and critique, of the research papers selected. Full references are provided should you wish to look at any of the papers in more detail.

### 1 The impact of the Shanley Pressure Ulcer Prevention Programme on older persons' knowledge of, and attitudes and behaviours towards, pressure ulcer prevention

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| Readability                 | ✓ | ✓ | ✓ |   |   |
| Relevance to daily practice | ✓ | ✓ | ✓ | ✓ | ✓ |
| Novelty factor              | ✓ | ✓ |   |   |   |

- This study aimed to explore the effects of the Shanley Pressure Ulcer Prevention Programme (SPUPP) on older people's knowledge, attitudes and behaviours about pressure ulcer (PU) prevention, in a multicentre, open-label, randomised controlled trial.
- The SPUPP is a multimedia programme delivered using electronic media, hard copy materials, activities and patient diaries. It addresses the key tenets of PU prevention and consists of five separate sessions delivered over 5 weeks.
- The study population consisted of older people living in the community who attended either a day care centre or a retirement group and were at risk of PUs due to reduced mobility. A total of 64 people, 32 in each group, took part in the study. Of these, 75% ( $n=48$ ) were female, with a mean age of 81.9 years (SD 5.56 years).
- The impact of the programme was assessed using the patient knowledge of and attitude and behaviour towards PU prevention instrument (KPUP). There were no differences between the intervention and control groups in mean scores during the pretest stage. At post-test, the mean scores for the intervention group were higher than the control group, 16.87 (SD 1.88) versus 12.41 (SD 3.21), respectively.
- The authors concluded that the SPUPP impacted positively on knowledge scores of the participants and positively influenced attitudes and behaviours towards PU prevention.

Shanley E, Patton D, Avsar P, et al (2022) The impact of the Shanley Pressure Ulcer Prevention Programme on older persons' knowledge of, and attitudes and behaviours towards, pressure ulcer prevention. *Int Wound J* 19(4): 754–64

### 2 Good clinical outcomes following minor foot amputations in people with diabetes: a retrospective clinical audit of associated factors

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| Readability                 | ✓ | ✓ | ✓ | ✓ |  |
| Relevance to daily practice | ✓ | ✓ | ✓ | ✓ |  |
| Novelty factor              | ✓ | ✓ | ✓ |   |  |

- This retrospective audit compared patient-based clinical outcomes to amputation healing outcomes 12 months after minor foot amputation in people with diabetes.
- Hospital admission and community outpatient data were extracted for all minor foot amputations in people with diabetes in 2017 in the

Central Coast Local Health District in New South Wales, Australia, an area with the second highest diabetes rates in the state and high rates of amputation.

- The authors identified 85 minor foot amputations involving 74 people. At the 12-month follow-up 74% ( $n=56$ ) of the minor foot amputations healed, 63% ( $n=41$ ) of the participants achieved a good clinical outcome (healed, no more proximal amputations or death within the follow-up period), and the mortality rate was 18%. Poor clinical outcomes were associated with those aged >60 years (RR 5.75, 95% CI 0.85–38.7,  $P=0.013$ ), those undergoing a further surgical debridement procedure during their hospital stay (RR 2.42, 95% CI: 1.3 to 4.4,  $P=0.005$ ) and those who did not attend podiatry clinics post amputation (RR 2.3, 95% CI: 1.2 to 4.1,  $P=0.010$ ).
- To improve patient-based clinical outcomes after minor foot amputation, targeted follow-up in a high-risk foot clinic, and tailored discharge treatment plans for people aged >60 years or those undergoing a debridement procedure may be considered.

Linton C, Searle A, Chuter V (2022) Good clinical outcomes following minor foot amputations in people with diabetes: a retrospective clinical audit of associated factors. *J Am Podiatr Med Assoc* [Online ahead of print]

### 3 Effectiveness of microcurrent therapy for treating pressure ulcers in older people: a double-blind, controlled, randomized clinical trial

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| Readability                 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Relevance to daily practice | ✓ | ✓ | ✓ |   |   |
| Novelty factor              | ✓ | ✓ | ✓ | ✓ | ✓ |

- The aim of this study was to assess the effectiveness of microcurrent therapy for healing pressure ulcers in older people in a multicentric, randomised clinical trial.
- Both groups received therapy following a standardised protocol for ulcer treatment. The experimental group received 10 hours of microcurrent therapy daily for 25 days, while the control group received a sham microcurrent stimulation.
- The healing-related variables studied were the Pressure Ulcer Scale for Healing (PUSH) and the surface, depth, grade, and number of ulcers that healed completely. Three evaluations were conducted: pre-intervention, 14 days following the start of the intervention, and 1 day after the intervention was completed. In total, 30 participants met the inclusion criteria ( $n=15$  in each group).
- The improvement in the PUSH at 14 days and the end of the intervention period was 16.8% and 25.3% greater in the experimental group versus the control group, respectively.
- The reduction in wound area at 14 days and the end of the intervention was 20.1% and 28.6% greater in the experimental group versus the control group, respectively.

- The authors concluded that microcurrent therapy improves the healing of pressure ulcers in older adults.

Avendaño-Coy J, Martín-Espinosa NM, Ladriñán-Maestro A et al (2022) Effectiveness of microcurrent therapy for treating pressure ulcers in older people: a double-blind, controlled, randomized clinical trial. *Int J Environ Res Public Health* 19(16): 10045

#### 4 Healing process, pain, and health-related quality of life in patients with venous leg ulcers treated with fish collagen gel: a 12-week randomized single-center study

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|-----------------------------|---|---|---|---|--|
| Readability                 | ✓ | ✓ | ✓ | ✓ |  |
| Relevance to daily practice | ✓ | ✓ | ✓ |   |  |
| Novelty factor              | ✓ | ✓ | ✓ | ✓ |  |

- The aim of the study was to assess the effectiveness of fish skin collagen and its impact on healing, pain intensity, and quality of life in patients with venous leg ulcers (VLUs).
- Adults with VLUs who were randomised to either tropocollagen gel treatment ( $n=47$ ) or placebo ( $n=45$ ). The gel was applied to the periwound skin for 12 weeks.
- Both groups received standard wound care, including class 2 compression therapy and wound hygiene procedures.
- The healing rate ( $\text{cm}^2/\text{week}$ ) and quality of life were assessed using the Skindex-29 and CIVIQ scales. In the tropocollagen group, more ulcers healed, and the healing rate was faster.
- In both study groups, patients showed a significant improvement in quality of life after the intervention, but there was a greater improvement in the tropocollagen group.
- In the tropocollagen group, the greatest improvements were related to physical symptoms and pain.
- The authors concluded that the study demonstrated that the application of fish collagen gel to the periwound skin improves the healing process and quality of life in patients with VLUs. The 12-week treatment with collagen reduced the severity of physical complaints, pain, and local skin symptoms, which determined the quality of life in patients with VLUs to the greatest extent.

Mościcka P, Cwajda-Białasik J, Szewczyk MT, Jawień A (2022) Healing process, pain, and health-related quality of life in patients with venous leg ulcers treated with fish collagen gel: a 12-week randomized single-center study. *Int J Environ Res Public Health* 19(12): 7108

#### 5 Weight-bearing physical activity in people with diabetes-related foot disease: a systematic review

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| Readability                 | ✓ | ✓ | ✓ | ✓ |  |
| Relevance to daily practice | ✓ | ✓ | ✓ | ✓ |  |
| Novelty factor              | ✓ | ✓ | ✓ | ✓ |  |

- People with diabetic foot disease can benefit from weight-bearing physical activity, but exercise may also contribute to ulceration or delayed ulcer healing.
- The authors systematically searched peer-reviewed literature for

studies reporting objectively measured weight-bearing activity in people with diabetes-related foot disease. Daily step count means (over studies) and weighted means (over participants) were calculated.

- A total of 27 publications were included from a potential 1,247. People were divided based on International Working Group of the Diabetic Foot (IWGDF) risk scores.
- The mean steps/day in people with IWGDF risk 1 or 2 was 6,125 (12 studies;  $n=345$ ; weighted mean: 5,384). In IWGDF risk 3 it was 6,167 (eight studies;  $n=291$ ; weighted mean: 6,239). In those with a foot ulcer: 4,248 (six studies;  $n=186$ ; weighted mean: 4,484).
- Levels of weight-bearing physical activity were found to be similar between people with diabetes at various risk levels for foot ulceration, but lower for those with a foot ulcer.
- Weight-bearing activity differs depending on the climate and is higher indoors than outdoors. These results provide reference for intervention studies or for clinicians aiming to provide mobility advice in this population.

van Netten JJ, Fijen VM, Bus SA (2022) Weight-bearing physical activity in people with diabetes-related foot disease: A systematic review. *Diabetes Metab Res Rev* [Online ahead of print]

#### 6 Efficacy and safety of the combined metabolic medication, containing inosine, nicotinamide, riboflavin and succinic acid, for the treatment of diabetic neuropathy: a multicenter randomized, double-blind, placebo-controlled parallel group clinical trial

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|-----------------------------|---|---|---|---|--|
| Readability                 | ✓ | ✓ | ✓ |   |  |
| Relevance to daily practice | ✓ | ✓ | ✓ | ✓ |  |
| Novelty factor              | ✓ | ✓ | ✓ |   |  |

- Antioxidants may have a positive impact on diabetic polyneuropathy (DPN), which is likely to be due to alleviation of oxidative stress. The authors aimed to evaluate the efficacy and safety of combination of antioxidants: succinic acid, inosine, nicotinamide and riboflavin (SINR) in the treatment of DPN.
- Men and women (aged 45–74) with type 2 diabetes and symptomatic DPN, with initial Total Symptom Score (TSS) of 5, were randomised into experimental ( $n=109$ ) or placebo ( $n=107$ ) group.
- In the SINR group, mean TSS change after 12 weeks was  $-2.65 (\pm 1.46)$  versus  $-1.73 (\pm 1.51)$  in the placebo group ( $P<0.0001$ ; t-test). Reduction of symptoms in the SINR group was achieved regardless of  $\text{HbA}_{1c}$  levels, but better results were observed in patients with initial TSS  $<7.5$ .
- The combination of SINR effectively alleviates DPN symptoms in patients with type 2 diabetes.

Kharitonova T, Shvarts YG, Verbovoy AF et al (2022) Efficacy and safety of the combined metabolic medication, containing inosine, nicotinamide, riboflavin and succinic acid, for the treatment of diabetic neuropathy: a multicenter randomized, double-blind, placebo-controlled parallel group clinical trial (CYLINDER). *BMJ Open Diabetes Res Care* 10(3): e002785