

A research roundup of recent papers relevant to wound care

This section brings together information found online and published in other journals about wound healing research. The aim is to provide an overview, rather than a detailed critique, of the papers selected.

PREVENTING AND TREATING PRESSURE ULCERS: EVIDENCE REVIEW

Chapman S (2017) *Br J Community Nurs* 22(Suppl 3): S37-40

This article points out that there are more than 20 Cochrane reviews that focus on interventions to prevent or treat pressure ulcers with an additional 10 in preparation. The systematic reviews reveal limitations in the available research and, as a result that is perhaps not unsurprising, highlight gaps in the evidence used to underpin practice. The author goes on to suggest a priority list of topics defined by patients and practitioners in collaborative research completed by Cullum (2017). The top priorities include: the effectiveness of patient repositioning, patient and carer involvement in care, bed rest, dressings, equipment and topical agents for prevention. Other questions posed include: does staff education reduce incidence, what is the impact of nutrition and hydration on the prevention and treatment of pressure ulcers? The list provides food for thought for tissue viability teams and aspiring researchers. It is hoped that some questions will be answered when the 'Pressure 2' randomised control findings are published by the University of Leeds.

Implications for Practice

Regrettably, there is a very poor evidence-base for most aspects of pressure area management, in terms of its assessment through reliable research. Nurses now know what the priorities are for those living with, or at risk of pressure ulcers, or caring for people with them, i.e repositioning, patient and carer involvement in care, bed rest, dressings, equipment and topical agents for prevention. Primary research needs to catch up. Only then can today's best practice become tomorrow's better, evidence-based practice. **WUK**

CONFIDENCE AND CLINICAL JUDGEMENT IN COMMUNITY NURSES MANAGING VENOUS LEG ULCERATION A JUDGEMENT ANALYSIS

Adderley U, Thompson C (2017) *J Tissue Viability* 26(1): 47-56

This article aimed to assess UK nurses confidence and accuracy in relation to diagnostic judgement and treatment choices when managing patients with venous leg ulcers. The hypothesis of the study is that the variation in the management of venous leg ulceration in the UK can be attributed to the clinical environment and the quality of judgements, which is influenced by the nurses' confidence and that in turn confidence influences accuracy. The study used judgement analysis methods with 18 non-specialist community nurses and 18 community tissue viability nurses. Each participant was asked to make diagnoses and treatment judgements about compression therapy for 110 clinical scenarios, indicating their confidence for each judgement. These were compared with the consensus judgements of an expert panel for the same scenarios. Confidence analysis was used to assess the nurses' confidence about their diagnostic judgements and treatment choices. The results suggest that despite being experienced, levels of confidence were not well calibrated with their levels of accuracy. The authors concluded that errors resulting from both over and under-confidence at the diagnostic phase of management may influence treatment choices, and thus increase the chances of treatment error, which in turn can contribute to the variations seen and reported in practice.

Implications for Practice

Nurses emotional states, feeling either over- and under-confident, will impact on the decision-making process with regards to diagnosing and treating patients. Despite being experienced, nurses' confidence influences the accuracy for making diagnoses and establishing treatment plans. Managers need to find some ways to build nurses' confidence without overboosting it. **WUK**

QUALITY OF LIFE IN PATIENTS WITH LEG ULCERS: RESULTS FROM CHALLENGE, A DOUBLE-BLIND RANDOMISED CONTROLLED TRIAL

Meaume S, Domp Martin A, Lok C et al (2017) *J Wound Care* 26(7): (Sup7): S15–S22

This is the second paper that reports the secondary end points of a randomised double-blind controlled trial conducted on patients presenting with a non-infected leg ulcer (venous leg ulcers [VLUs] or mixed leg ulcers), with a surface area ranging from 5 to 50cm² and a duration of 6 to 36 months. Patients were randomly allocated to either the TLC-NOSF matrix foam (UrgoStart) dressing group or to the neutral TLC foam dressing group (UrgoTul Absorb). All received appropriate compression therapy and the wounds were assessed blindly (clinical examination, wound area tracing and photographic record) every 2 weeks for a period of 8 weeks, or until complete closure. A secondary endpoint was the patient's HRQoL, EuroQol 5D tool (EQ-5D) questionnaire and visual analogue scale (VAS). In total, 187 patients were randomised to the intervention or control. The two groups were well balanced at baseline about wound and patient characteristics. The EQ-5D pain/discomfort and anxiety/depression dimensions were significantly improved in the TLC-NOSF group versus the control one (pain/discomfort: 1.53±0.53 versus 1.74±0.65; *p*=0.022, and anxiety/depression: 1.35±0.53 versus 1.54±0.60, *p*=0.037). The VAS score was better in the test group compared with the control group (72.1±17.5 versus 67.3±18.7, respectively), without reaching significance (*p*=0.072). Acceptability and tolerance of the two products were similar in both groups.

Implications for Practice

TLC-NOSF matrix foam dressing helps maintain a moist environment in the wound, promoting the healing process and the free circulation of growth factors. The results of this study suggests acceleration of VLU healing could improve the HRQoL of patients as well as reduce patients' emotional and social burden of these chronic wounds. **WUK**

FEASIBILITY AND EFFICACY OF A SMART MAT TECHNOLOGY TO PREDICT DEVELOPMENT OF DIABETIC PLANTAR ULCERS

Frykberg RG, Gordon IL, Reyzelman AM et al (2017) *Diabetes Care* 40(7): 973–80

A multi-centre evaluation was conducted to assess the impact of a novel remote foot-temperature monitoring system on predicting impending diabetic foot ulcers (DFU) in a patient cohort with diabetes with previously healed DFU. A total of 132 people with diabetes and previous DFUs were enrolled in this cohort study over a period of 34 weeks in order to appraise the effectiveness of the monitoring system. The study's primary outcome was occurrence of non-acute plantar DFUs, while the primary efficacy analysis rested on the accuracy of the system in the prediction of non-traumatic plantar DFUs prior to clinical presentation. Secondary outcomes were individual's adherence to daily use of the smart mat, any falls associated with the mat's use and device-related injury. Of the 132 participants, 129 offered evaluable study data. Thirty-seven presented with 53 DFUs. At an asymmetry of 2.22°C, the standard threshold used in previous studies, the system correctly identified 97% of observed DFU, with an average lead time of 37 days and a false-positive rate of 57%. Increasing the temperature threshold to 3.20°C decreased sensitivity to 70%, but similarly reduced the false-positive rate to 32% with approximately the same lead time of 35 days. Approximately 86% of the cohort used the system at least 3 days a week on average over the study.

Implications for Practice

In the UK alone, around 86,000 people with diabetes have a foot ulcer. Given the encouraging study results and the significant burden of DFU, use of this system — the study device was a wireless daily-use thermometric foot mat to assess plantar temperature asymmetries — may result in significant reductions in morbidity, mortality, and resource utilization. **WUK**