Wounds digest

In this section, a brief synopsis is presented of a range of recently published articles that may be of interest to health 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 Reducing pressure ulcer incidence associated with medical devices by introducing a dressing

- The systematic review considered the evidence supporting the use of prophylactic dressings for the prevention of pressure ulcer.
- After scanning 2,819 titles against the inclusion and exclusion criteria, 2,777 were excluded. After reviewing 42 full text papers, 21 papers were included in this review.
- The single high-quality randomised controlled trial (RCT) and the growing number of cohort, weak RCT and case series all suggest that the introduction of a dressing as part of pressure ulcer (PU) prevention may help reduce PU incidence associated with medical devices especially in immobile intensive care unit patients.
- There is no firm clinical evidence at this time to suggest that one dressing type is more effective than other dressings.


2 Evaluating efficacy of negative pressure wound therapy in high-risk patients

- The purpose of this study was to evaluate the efficacy of negative pressure wound therapy (NPWT) compared with standard of care on wound healing in high-risk patients with multiple significant comorbidities and chronic lower extremity ulcers (LEUs).
- Using Boston University Medical Center electronic medical records, a retrospective cohort study of high-risk patients was conducted along with chart abstraction to capture detailed medical history, comorbidities, healing outcomes and ulcer characteristics.
- In this cohort, 171 NPWT patients with LEUs were matched with 171 non-NPWT patients with respect to age and gender.
- Compared with non-NPWT patients, the NPWT patients were 2.63 times (95% CI = 1.87–3.70) more likely to achieve wound closure.
- This study showed that despite the greater significant comorbidities, patients receiving NPWT healed faster. Early use of NPWT demonstrated better healing. The longer the interval before intervention is with NPWT, the higher the correlation is with poor outcome.


3 Exploring ankle movement in patients with venous leg ulcers and its effect on healing

- This study seeks to explore ankle movement in patients with venous leg ulcers and its effect on healing.
- Using a goniometer, the baseline ankle range of motion in venous leg ulcer patients was measured.
- In all, 227 patients were enrolled in four active treatment groups and one standard-care control group, all receiving compression therapy. Goniometry data from a control group of 49 patients without venous disease was used for comparison.
- The findings revealed that patients with active venous leg ulcers had significantly reduced ankle range of motion compared with the control group (p = 0.001), Baseline ankle range of motion was not associated with healing, as there was no significant difference between healed and non-healed groups after 12 weeks of therapy.


4 Establishing the future research needs for chronic venous ulcer care in the US

- The prevalence and costs of caring for patients with chronic venous ulcer in the US and elsewhere are increasing.
- This systematic literature review considered the comparative effectiveness of advanced wound dressings, antibiotics and surgical management of chronic venous ulcers.
- Of 10,066 citations identified in the literature search, only 66 (0.06%) met the liberal inclusion criteria.
- Based on review of those studies, members of the team and a panel of stakeholders identified important research gaps and methodological deficiencies.
- Advanced wound dressings was found to have the highest priority for future research, followed by venous surgery and antibiotics.
Self-awareness of foot health in patients with type 2 diabetes

The authors stressed that it is imperative that future research evaluating interventions for chronic venous ulcers is designed from the outset to meet quality standards. Lazarus G, Valle MF, Malas M et al (2014) Chronic venous leg ulcer treatment: Future research needs. Wound Repair Regen 22: 34–42

5 Self-awareness of foot health in patients with type 2 diabetes

In this cross-sectional study of a community-based cohort in Perth, WA, Australia, 358 people with type 2 diabetes were questioned about their perceived foot health.

The participants had a mean age of 67.4 years and a mean diabetes duration of 9 years. Overall, 213 (59.5%) considered their feet to be normal, while 145 (40.5%) thought they had abnormalities.

In general, examination revealed more abnormalities in people who thought they had abnormal feet; however, abnormalities were very common (around 90% of participants) in both groups.

In those who thought their feet were normal, peripheral sensory neuropathy (Michigan Neuropathy Screening Instrument score >2 of 8 points) was present in 67.9%, and 9.9% had evidence of peripheral arterial disease (ankle–brachial index <0.90).

People who considered their feet to be abnormal were more likely to have a history of numbness, tingling or pain; poor circulation or a problem with their feet in the prior year. Participants’ perceptions of foot health were independent of the number of times they had been to a podiatrist or had been examined in the last year.

Unawareness of poor foot health was associated with older age.

These results show that the majority of people with type 2 diabetes who believed their feet were healthy had abnormalities that placed them at high risk of serious later complications.

The authors call for better patient education and monitoring, particularly in older people.


Motivation predicts foot ulcers and amputation in people with type 2 diabetes

The effects of motivation and life circumstances on foot ulceration in people with type 2 diabetes were evaluated using data from the Diabetes Care in General Practice (DCGP) study and the Danish National Patient Register.

A total of 1,058 people were evaluated 6 years after diagnosis of type 2 diabetes and followed for another 13 years. Motivation (poor, fair, good or very good) was assessed by the clinician and by participants’ reports on efforts to control the condition.

At the 6-year evaluation, 2.93% of the participants had a diabetic foot ulcer. In the following 13 years, 45 people underwent amputation (32 major, defined as through or above the ankle).

After adjustment for age, gender, diabetes duration and education, physicians’ assessment of motivation, but not the patients’ perceptions, was associated with diabetic foot ulcers (odds ratio [OR] for poor vs very good, 6.11) and later amputation (OR, 7.12).

The physicians’ perception of the influence of the patients’ life circumstances as good, absent or poor was also associated with amputation outcomes (OR for poor vs good influence, 2.97 for all amputations; 36.49 for major amputations).

These results show that general practitioners’ evaluations of patient motivation are useful to identify people at high risk of diabetic foot ulcers and amputation. The ways that clinicians assessed motivation were not documented, but future research into such assessments would be useful.


Examining the emotional and behavioural impact of having had a diabetic foot ulcer

While there is much evidence of the negative emotions of people who have recovered from a diabetic foot ulcer (but who are at high risk of recurrence) are less well studied.

Therefore, these authors conducted semistructured interviews to assess the emotional experiences and beliefs in 15 people with diabetes and a recent history of diabetic foot ulcers but who were ulcer-free at the time.

The most common theme among the participants was a perceived lack of control in preventing further diabetic foot ulcers and a sense of hopelessness.

This perception was associated with many negative emotions, including fear of amputation, incapacitation and loss of work, as well as regret and guilt for not taking better care of their diabetes and feet in the past. These occurred even in those who had only had a single diabetic foot ulcer.

Many felt that they had few opportunities to discuss their emotions with friends, family or colleagues, particularly because of stigma and lack of understanding.

Experiencing a diabetic foot ulcer often led to some positive behavioural change, but many felt the need to balance optimal self-care with leading as normal a life as possible.

The authors admit some selection bias as all participants were able and willing to attend their clinic. Nonetheless, interventions to challenge patients’ beliefs and reduce the impact of these emotions could help improve self-care behaviours.

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