

Tissue Viability Research Update Sept/October 2016

Title: Managing pressure ulcers and moisture lesions with new hydrocolloid technology

Citation: British journal of nursing (Mark Allen Publishing), April 2016, vol./is. 25/8(442-448), 0966-0461 (28 Apr 2016)

Author(s): Linthwaite A., Bethell E.

Abstract: In efforts to reduce the number of avoidable pressure ulcers in a large trust, a number of initiatives have taken place to increase staff awareness about the importance of preventing and treating pressure ulcers and moisture lesions. New documentation, the use of the 'Think Pink' folders and a social media campaign have all proved successful in seeing the number of avoidable pressure ulcers reported within the trust reduce. As part of this initiative an evaluation took place of a new hydrocolloid dressing. This proved effective at reducing healing times, reducing dressing spend and facilitating regular inspection of the affected areas.

Full Text:

Available from *EBSCOhost* in [British Journal of Nursing](#)

Available from *Mark Allen Group* in [British Journal of Nursing](#)

Title: Using heel protectors for the prevention of hospital-acquired pressure ulcers.

Citation: British Journal of Nursing, 2016, vol./is. 25/(0-4), 09660461

Author(s): Rajpaul, Kumal, Acton, Claire

Abstract: Pressure ulcers are a frequent, but often preventable, occurrence among patients in acute care facilities, and the heel is one of the anatomical locations most commonly affected. Multiple clinical guidelines recommend the use of robust assessments to identify at-risk patients and the application of heel protection devices to reduce the likelihood of developing heel pressure ulcers. A quality improvement initiative involving robust skin-assessment practices, staff education, and the use of heel protection devices was analysed retrospectively to evaluate the efficacy of current practice interventions. These analyses revealed that the incidence of heel pressure ulcers was inversely correlated with the number of heel protectors used at two large acute NHS teaching hospitals in inner London, and that the consistent and early use of heel protectors improved patient outcomes and reduced costs of care.

Full Text:

Available from *EBSCOhost* in [British Journal of Nursing](#)

Available from *Mark Allen Group* in [British Journal of Nursing](#)

Title: Improving patient outcomes: bridging the gap between science and efficacy.

Citation: British Journal of Nursing, 2016, vol./is. 25/(0-3), 09660461

Author(s): Cutting, Keith

Abstract: The article discusses the efforts to improve patient outcomes in Great Britain, and it mentions the benefits that seated patients receive from using wheelchair cushions that are designed to prevent pressure ulcers. British medical care costs are addressed, along with tissue damage caused by ischemia and sustained pressure. The importance of avoiding high shear forces at the skin surface is examined, along with skin wrinkles, blood vessel distortion, and skin delamination (separation).

Full Text:

Available from *EBSCOhost* in [British Journal of Nursing](#)

Available from *Mark Allen Group* in [British Journal of Nursing](#)

Title: Adapting a SSKIN bundle for carers to aid identification of pressure damage and ulcer risks in the community

Citation: British journal of community nursing, June 2016(S19-S25), 1462-4753 (01 Jun 2016)

Author(s): McCoulough S.

Abstract: If pressure damage is identified and addressed at an early stage, it may be reversed. Otherwise, it may quickly progress into a serious deep tissue injury. In the community, most daily skin care is undertaken by formal and informal carers. They therefore need to know how to identify signs that pressure ulcers may develop and what immediate actions to take. NICE guidance on pressure ulcer prevention is too extensive to be a simple tool for carers, so a SSKIN bundle was adapted for community use. This ensures carers know how to prevent and identify pressure damage, and includes skin care, repositioning and use of equipment. Carers need training. This is the responsibility of all involved with the patient, including health-care and local authority services.

Full Text:

Available from *EBSCOhost* in [British Journal of Community Nursing](#)

Available from *Mark Allen Group* in [British Journal of Community Nursing](#)

Title: Managing chronic oedema in a patient with arterial disease and leg ulceration

Citation: British journal of community nursing, April 2016(S16-S22), 1462-4753 (01 Apr 2016)

Author(s): Cooper R.

Abstract: Treating lymphoedema in patients with critical arterial disease can be contraindicated. This case study describes current methods of managing lymphoedema in a patient with arterial disease and leg ulcers. The patient, a 65-year-

old male, had paraplegia and lower-limb lymphoedema with leg ulceration for 18 years, as well as arterial disease. The patient was referred to the lymphoedema/vascular service in 2013. Duplex ultrasound indicated superficial femoral occlusion. The arterial disease was treated with an angiogram and angioplasty, and when the blood supply was improved, the lymphoedema was treated. Emphasis was placed on self-care and reducing the need for community nurse involvement. Selfcare included compression bandaging, use of FarrowWrap, low-level light therapy, and ulcer dressings. Outcomes were measured using a telemedicine software programme. The patient's lymphoedema was reduced, leg ulcers healed, and quality of life transformed.

Full Text:

Available from *EBSCOhost* in [British Journal of Community Nursing](#)

Available from *Mark Allen Group* in [British Journal of Community Nursing](#)

Title: Strategies to support prevention, identification and management of pressure ulcers in the community

Citation: British journal of community nursing, June 2016(S10, S12-5, S18), 1462-4753 (01 Jun 2016)

Author(s): Payne D.

Abstract: Pressure ulcers are classified as serious incidents, cause pain and distress, and are a source of infection. Unlike patients in hospital, those in the community spend only a small amount of time with healthcare practitioners, so strategies are required to ensure they remain protected against pressure damage when community nurses are not with them. A risk assessment should be carried out to outline a patient's risks and used to develop a strategy for that person. Patients have different risks so prevention strategies need to be tailored individually. Strategies, which cover issues such as pressure-relieving equipment, mattress type, mobility aids and nutrition, should be monitored to ensure they continue to meet patients' needs, as their health, carers and other matters may change. Patients and their carers may need education on ulcers, including on myths, as it is essential they are involved.

Full Text:

Available from *EBSCOhost* in [British Journal of Community Nursing](#)

Available from *Mark Allen Group* in [British Journal of Community Nursing](#)

Title: The use of alternating mattresses in the management and prevention of pressure ulcers in a community setting.

Citation: British Journal of Community Nursing, 2016, vol./is. 21/Sup9(0-4), 14624753

Author(s): Hampton, Sylvie

Abstract: The district nurse and community nurse has a duty of care to provide the most appropriate care for any individual who is at risk of pressure injury. This is often difficult as time constraints mean that education can be absent or reliant on other

nurses who may not be up to date with the latest thinking on prevention. Also, district and community nurses cannot be in a patient's home 24 hours a day in order to provide the turning regime that is required for prevention of pressure ulcers. Therefore, they are reliant on education for the carers and provision of the most appropriate equipment for the individual patient. It is vital that the carer not only knows what to look for, but also what to do if any redness is noted and who to call. This article will provide tips on mattress types for the high-risk patient who may or may not have a pressure injury.

Full Text:

Available from *EBSCOhost* in [British Journal of Community Nursing](#)

Available from *Mark Allen Group* in [British Journal of Community Nursing](#)

Title: The difficulty and the solution of compression therapy in a healed venous leg ulcer.

Citation: British Journal of Community Nursing, 2016, vol./is. 21/Sup9(0-2), 14624753

Author(s): Hampton, Sylvie

Abstract: Continuing preventative treatment once a venous ulcer is healed is fraught with dangers, with the most common problem being the inability of the wearer or their carer to apply compression therapy. A new novel compression modality has been introduced to solve the dilemma of applying compression once an injury has healed. This compression is also time-saving for practitioners who wish to heal leg ulcers. This will have an impact on the time restrictions of practice and district nurses—who have a 10–15 minute slot to dress and bandage their patients' venous ulcers.

Full Text:

Available from *EBSCOhost* in [British Journal of Community Nursing](#)

Available from *Mark Allen Group* in [British Journal of Community Nursing](#)

Title: Antiseptic with modern wound dressings in the treatment of venous leg ulcers: clinical and microbiological aspects.

Citation: Journal of Wound Care, 2016, vol./is. 25/8(419-425), 09690700

Author(s): Sopata, M., Kucharzewski, M., Tomaszewska, E.

Abstract: Objective: To assess the impact of a two-period treatment on the clinical condition, bacteriological changes and results of treatment of venous leg ulcers (VLU) using octenidine dihydrochloride. Method: Patients with a VLU were recruited and treated with octenidine dihydrochloride for one month, after which they were randomised and treated with hydrocolloids or foam dressings. Results: In the group of 50 VLU patients, all wounds (100%) improved after the first treatment period. No clinical signs of infection were observed. Statistically significant changes were observed in all the clinical parameters studied in the treated groups of VLU patients, including reduction of necrotic tissue, the amount of exudate and of pain, as well as increased granulation and epithelialisation. In the second period including treatment

with the two dressings, no differences were observed in treatment efficacy, time of treatment or healing rate. Conclusion: As used in this study, octenidine dihydrochloride proved to be effective and useful, changing the clinical condition of VLU, preparing the wound for future treatment with modern dressings. High microbicidal activity of octenidine was observed, both against Gram-negative and Gram-positive bacteria isolated from the ulcers. Octenidine dihydrochloride caused an eradication of multiresistant strains (88%) as well as of bacteria qualified as alert-pathogens (100%) in the treated wounds after four weeks. However, no differences in the effects, time or rate of healing of VLU with two dressings were found in the second period. No side effects or significant local intolerance reactions used for treatment were observed.

Full Text:

Available from *Mark Allen Group* in [Journal of Wound Care](#)

Title: Maggots as a wound debridement agent for chronic venous leg ulcers under graduated compression bandages: A randomised controlled trial

Citation: *Phlebology*, January 2015, vol./is. 30/10(693-699), 0268-3555;1433-3031 (01 Jan 2015)

Author(s): Davies C.E., Woolfrey G., Hogg N., Dyer J., Cooper A., Waldron J., Bulbulia R., Whyman M.R., Poskitt K.R.

Abstract: Objectives: Slough in chronic venous leg ulcers may be associated with delayed healing. The purpose of this study was to assess larval debridement in chronic venous leg ulcers and to assess subsequent effect on healing. Methods: All patients with chronic leg ulcers presenting to the leg ulcer service were evaluated for the study. Exclusion criteria were: ankle brachial pressure indices <0.85 or >1.25 , no venous reflux on duplex and $<20\%$ of ulcer surface covered with slough. Participants were randomly allocated to either 4-layer compression bandaging alone or 4-layer compression bandaging + larvae. Surface areas of ulcer and slough were assessed on day 4; 4-layer compression bandaging was then continued and ulcer size was measured every 2 weeks for up to 12 weeks. Results: A total of 601 patients with chronic leg ulcers were screened between November 2008 and July 2012. Of these, 20 were randomised to 4-layer compression bandaging and 20 to 4-layer compression bandaging + larvae. Median (range) ulcer size was 10.8 ($3-21.3$) cm^2 and 8.1 ($4.3-13.5$) cm^2 in the 4-layer compression bandaging and 4-layer compression bandaging + larvae groups, respectively (Mann-Whitney U test, $P = 0.184$). On day 4, median reduction in slough area was 3.7 cm^2 in the 4-layer compression bandaging group ($P < 0.05$) and 4.2 cm^2 ($P < 0.001$) in the 4-layer compression bandaging + larvae group. Median percentage area reduction of slough was 50% in the 4-layer compression bandaging group and 84% in the 4-layer compression bandaging + larvae group (Mann-Whitney U test, $P < 0.05$). The 12-week healing rate was 73% and 68% in the 4-layer compression bandaging and 4-layer compression bandaging + larvae groups, respectively (Kaplan-Meier analysis, $P = 0.664$). Conclusions: Larval debridement therapy improves wound debridement in chronic venous leg ulcers treated with multilayer compression bandages. However, no subsequent improvement in ulcer healing was demonstrated.

Title: The experience of self-management following venous leg ulcer healing

Citation: Journal of clinical nursing, May 2015, vol./is. 24/9-10(1300-1309), 1365-2702 (01 May 2015)

Author(s): Kapp S., Miller C.

Abstract: AIMS AND OBJECTIVES: The aim of the study was to explore the experiences of older people as they self-managed following venous leg ulcer healing. The objectives were to describe the beliefs, attitudes, actions, enablers and barriers to self-management and to consider the impact of an e-learning client education package on how people approach recurrence prevention. BACKGROUND: Venous leg ulcers affect 1% of people worldwide and more than 3% of older people. Up to 70% of ulcers reoccur. Appreciation of the experience of self-management following healing can equip health services to more effectively prepare people for self-management in the longer term. DESIGN: A descriptive exploratory design was used. METHODS: Older people who had received an e-learning education programme while their venous ulcer was active were interviewed after healing from July-September 2010. Interviews were recorded, transcribed and thematically analysed. RESULTS: Participants believed in the efficacy of compression therapy, skin care, activity and exercise and healthy eating to prevent recurrence, and engage in activities that reflect recommendations of the education. As beliefs and conduct of self-management activities can change over time, regular professional monitoring and support would assist people to refine health goals, plan self-management activities and prevent recurrence. CONCLUSIONS: Participation in a standardised education programme completed prior to healing informed successful self-management strategies among people who seek to prevent venous leg ulcer recurrence. Further research should consider the benefits of regular, ongoing professional monitoring and support among this group. RELEVANCE TO CLINICAL PRACTICE: Clinicians have a role in supporting their clients to know about, perform and believe in the importance of self-management strategies for healing and recurrence prevention. Clinicians require the capacity to support clients which standardised client education tools can facilitate.

Full Text:

Available from *EBSCOhost* in [Journal of Clinical Nursing](#)

Title: Comparing the efficacies of alginate, foam, hydrocolloid, hydrofiber, and hydrogel dressings in the management of diabetic foot ulcers and venous leg ulcers: A systematic review and meta-analysis examining how to dress for success

Citation: Dermatology Online Journal, 2016, vol./is. 22/8(no pagination), 1087-2108 (2016)

Author(s): Saco M., Howe N., Nathoo R., Cherpelis B.

Abstract: Diabetic foot ulcers and venous leg ulcers are chronic wounds frequently encountered by dermatologists. Choosing appropriate wound dressings can effectively promote wound healing and potentially reduce morbidity and financial burden experienced by patients. The objective of our systematic review and meta-analysis

was to evaluate wound healing efficacies of synthetic active dressings in diabetic foot ulcer and venous leg ulcer management. For data collection, PubMed, Embase, Cochrane Library, CINAHL, and clinicaltrials.gov online databases were searched from database inception to 10 May 2015. Fixed and random effects modeling were used to calculate pooled risk ratios for complete ulcer healing from pairwise dressing comparisons. The results of our review showed moderate-quality level evidence that hydrogels were more effective in healing diabetic foot ulcers than basic wound contact dressings (RR 1.80 [95% CI, 1.27-2.56]). The other dressing comparisons showed no statistically significant differences between the interventions examined in terms of achieving complete diabetic foot ulcer healing. Nonadherent dressings were more cost-effective than hydrofiber dressings for diabetic foot ulcers in terms of mean total cost per patient of the dressings themselves. All venous leg ulcer pairwise dressing comparisons showed equivalent dressing efficacies in terms of promoting complete ulcer healing. Overall, most synthetic active dressings and traditional wound dressings are equally efficacious in treating diabetic foot ulcers and venous leg ulcers. For treating diabetic foot ulcers, hydrogels are more efficacious than basic wound contact dressings, and non-adherent dressings are more cost-effective than hydrofiber dressings. Ultimately, dressing choice should be tailored to the wound and the patient.

Title: Use of wound dressings to enhance prevention of pressure ulcers caused by medical devices

Citation: International Wound Journal, June 2015, vol./is. 12/3(322-327), 1742-4801;1742-481X (01 Jun 2015)

Author(s): Black J., Alves P., Brindle C.T., Dealey C., Santamaria N., Call E., Clark M.

Abstract: Medical device related pressure ulcers (MDR PUs) are defined as pressure injuries associated with the use of devices applied for diagnostic or therapeutic purposes wherein the PU that develops has the same configuration as the device. Many institutions have reduced the incidence of traditional PUs (sacral, buttock and heel) and therefore the significance of MDR PU has become more apparent. The highest risk of MDR PU has been reported to be patients with impaired sensory perception, such as neuropathy, and an impaired ability for the patient to communicate discomfort, for example, oral intubation, language barriers, unconsciousness or non-verbal state. Patients in critical care units typify the high-risk patient and they often require more devices for monitoring and therapeutic purposes. An expert panel met to review the evidence on the prevention of MDR PUs and arrived at these conclusions: (i) consider applying dressings that demonstrate pressure redistribution and absorb moisture from body areas in contact with medical devices, tubing and fixators, (ii) in addition to dressings applied beneath medical devices, continue to lift and/or move the medical device to examine the skin beneath it and reposition for pressure relief and (iii) when simple repositioning does not relieve pressure, it is important not to create more pressure by placing dressings beneath tight devices.

Full Text:

Available from *EBSCOhost* in [International Wound Journal](#)

Title: Conservative versus surgical treatment of venous leg ulcers: 10-year follow up of a randomized, multicenter trial

Citation: Phlebology / Venous Forum of the Royal Society of Medicine, March 2015, vol./is. 30/1 Supplement(35-41), 1758-1125 (01 Mar 2015)

Author(s): van Gent W.B., Catarinella F.S., Lam Y.L., Nieman F.H., Toonder I.M., van der Ham A.C., Wittens C.H.

Abstract: **INTRODUCTION:** Leg ulcers have a large socio-economic impact. Treatment modalities are either conservative or surgical. Conservative treatment involves local treatment and compression therapy. Surgical treatment of venous ulcers is based on correcting venous hypertension, by treating incompetent superficial, deep, and perforating veins. A prospective randomized multicenter trial comparing surgical treatment (combined superficial and perforating vein surgery) with ambulatory compression therapy was conducted during 1998 and 2001. This paper presents the results of a 10-year follow-up period of this trial.**MATERIALS AND METHODS:** All patients enrolled in the original prospective trial were approached and invited for additional examination and duplex ultrasound evaluation. Secondary, disease specific and generic quality-of-life (QoL) was assessed. Current ulcer state and recurrence during the follow-up period was assessed.**RESULTS:** After a mean of 97 months follow up, 80 (41%) out of 196 legs could be inspected. The incidence of "ulcer-free", the main outcome, was significantly ($p = 0.007$) higher in the surgical group (58.9%), compared to the conservative group (39.6%). Observed ulcer recurrence was 48.9% for the surgical group and 94.3% for the conservative group. The number of incompetent perforating veins appears to be a significant ($p < 0.001$) risk factor for not being ulcer-free. Disease specific QoL showed no significant difference between the surgical and conservative groups.**CONCLUSIONS:** The addition of surgical treatment in patients with venous ulceration leads to a significantly higher chance of being ulcer-free, than just ambulatory compression therapy. This effect persists after 10 years of follow up. The number of incompetent perforating veins has a significant effect on the ulcer-state and recurrence.

Title: Sulodexide for treating venous leg ulcers

Citation: The Cochrane database of systematic reviews, 2016, vol./is. /6(CD010694), 1469-493X (2016)

Author(s): Wu B., Lu J., Yang M., Xu T.

Abstract: **BACKGROUND:** Venous leg ulcers are common, chronic wounds caused by venous diseases, with a high recurrence rate and heavy disease burden. Compression therapy (bandages or stockings) is the first choice treatment for venous leg ulcers. However, when ulcers remain unhealed, medication can also be used with or without compression therapy. Sulodexide, a highly purified glycosaminoglycan (a naturally occurring molecule) has antithrombotic and profibrinolytic properties (it reduces the formation of blood clots) as well as anti-inflammatory effects. Sulodexide has been studied as a potential treatment for venous leg ulcers.**OBJECTIVES:** To assess the efficacy and safety of sulodexide for treating venous leg ulcers.**SELECTION CRITERIA:** Randomised controlled trials (RCTs) involving people with a diagnosis of venous leg ulcers which compared sulodexide with placebo or any

other drug therapy (such as pentoxifylline, flavonoids, aspirin), with or without compression therapy. DATA

MAIN RESULTS: We included four RCTs with a total of 463 participants (aged 42 years to 93 years); one report was only available as a published abstract. Meta-analysis of three RCTs suggests an increase in the proportion of ulcers completely healed with sulodexide as an adjuvant to local treatment (including wound care and compression therapy) compared with local treatment alone (rate of complete healing with sulodexide 49.4% compared with 29.8% with local treatment alone; RR 1.66; 95% CI 1.30 to 2.12). This evidence for sulodexide increasing the rate of complete healing is low quality due to risk of bias. It is unclear whether sulodexide is associated with any increase in adverse events (4.4% with sulodexide versus 3.1% with no sulodexide; RR 1.44; 95% CI 0.48 to 4.34). The evidence for adverse events is very low quality, downgraded twice for risk of bias and once for imprecision.

AUTHORS' CONCLUSIONS: Sulodexide may increase the healing of venous ulcers, when used alongside local wound care, however the evidence is only low quality and the conclusion is likely to be affected by new research. It is not clear whether sulodexide is associated with adverse effects. The standard dosage, route and frequency of sulodexide reported in the trials was unclear. Further rigorous, adequately powered RCTs examining the effects of sulodexide on healing, ulcer recurrence, quality of life and costs are necessary.

Title: Novel biodegradable hydrogel sponge containing curcumin and honey for wound healing

Citation: Journal of wound care, June 2016, vol./is. 25/6(364-372), 0969-0700 (01 Jun 2016)

Author(s): Momin M., Kurhade S., Khanekar P., Mhatre S.

Abstract: **OBJECTIVE:** To develop and evaluate a biodegradable superporous hydrogel based wound healing composite of chitosan and alginate incorporated with curcumin and honey. **METHOD:** A 3(2) factorial design was adopted to optimise the honey-curcumin hydrogel composite sponge (CHS). Sodium alginate and chitosan were dissolved in deionised water and 1% aqueous acetic acid solution at room temperature, respectively. Ethanolic solution of curcumin was poured into the chitosan solution followed by an addition of sodium alginate solution. In situ polymerisation was carried out by adding acrylamide base components to the polymeric solution of curcumin. Finally, honey was added with slow stirring and a sponge was cast on a glass surface by solvent evaporation at 45°C. The produced sponge was assessed for swelling capacity, moisture loss, tensile strength, biocompatibility, bioadhesion, biodegradation, drug diffusion and wound healing properties. The morphology of CHS was studied by scanning electron microscopy (SEM). **RESULTS:** The optimised CHS demonstrated a high swelling capacity (111.05 +/- 05%), tensile strength (4323gm/mm²), in vitro drug diffusion (75.03 +/- 3.59%/20days), bioadhesion (20 +/- 0.2mg force) and ability of water vapour transmission. A rapid induction of tissue granulation and re-epithelialisation was observed. Time to complete healing (94.14 +/- 1.04% wound contraction) was 7 +/- 2 days. **CONCLUSION:** This study has shown that honey-curcumin hydrogel composite

sponge can be formulated by a simple mixing and in situ polymerisation method. The hydrogel base provided a dry wound bed due to excellent fluid absorption capacity. Chitosan and honey contributed to effective faster wound healing. We recommend further clinical studies of the soft sponge wound healing composite for diabetic foot or pressure ulcers.

Full Text:

Available from *Mark Allen Group* in [Journal of Wound Care](#)

You can access any of the above articles which have blue links beneath them with your NHS Athens account – if you would like assistance with this or to request any of the other articles in full, please contact me at:

claira.bannon@hhft.nhs.uk
Healthcare Librarian
Healthcare Library
Royal Hants County Hospital
Winchester
Tel: 01962 824680/4420
Working days: Weds and Fri.