1: J Vasc Surg. 2007 Jan;45(1):134-41.

A factorial, randomized trial of pentoxifylline or placebo, four-layer or single-layer compression, and knitted viscose or hydrocolloid dressings for venous ulcers.

Nelson EA, Prescott RJ, Harper DR, Gibson B, Brown D, Ruckley CV.

School of Healthcare, University of Leeds, Leeds, UK. e.a.nelson@leeds.ac.uk

OBJECTIVES: We evaluated the effectiveness of pentoxifylline, knitted viscose or hydrocolloid dressings, and single-layer or four-layer bandaging for venous ulceration. METHOD: A factorial randomized controlled trial with 24-week follow-up was conducted in leg ulcer clinics in Scotland with blinded allocation to pentoxifylline (1200 mg) or placebo, knitted viscose or hydrocolloid dressings, and single-layer or four-layer bandages. The study enrolled 245 adults with venous ulcers. The main outcome measure was time to complete healing. Secondary outcomes included proportions healed, withdrawals, and adverse events. Analysis was by intention to treat. RESULTS: There was no evidence of interaction between the drug, bandages, and dressings. Pentoxifylline was associated with nonsignificant increased ulcer healing (62% vs 53%; P = .21). Four-layer bandages were associated with significantly higher healing rates (67% vs 49%; P = .009). There was no difference in healing between knitted viscose and hydrocolloid dressings (58% and 57%; P = .88). Cox regression models increased the significance of the pentoxifylline effect (relative risk of healing, 1.4; 95% confidence interval, 1.0 to 2.0). CONCLUSIONS: Pentoxifylline increased the proportion healing compared with placebo to the same extent as shown in recent systematic reviews, although this finding was only statistically significant when a secondary adjusted analysis was conducted. Four-layer bandaging produced higher healing rates than single-layer bandaging. There was no difference in time to healing between knitted viscose and hydrocolloid dressings.

Publication Types:
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 17210398 [PubMed - indexed for MEDLINE]

2: Contact Dermatitis. 2007 Jan;56(1):5-9.

Allergic contact dermatitis from modified colophonium in wound dressings.

Pereira TM, Flour M, Goossens A.

Servico de Dermatologia e Venereologia, Hospital de Sao Marcos, Braga, Portugal.

This study concerns a 69-year-old female patient with a longstanding history of venous ulcerations on both lower legs and multiple sensitivities, who developed eczematous lesions with the hydrocolloid dressing Combiderm (Convatec Ltd., a Bristol-Myers Squibb division, Ickenham, Middlesex, UK). Epicutaneous tests were positive to this dressing and to a modified colophonium derivative, i.e. glyceryl rosinate, however not to the unmodified colophonium from the standard series. A review of the literature showed several case reports about sensitization to similar hydrocolloids being distributed under various brand names in different countries and which contain the pentaerythritol ester of the hydrogenated rosin as the tackifying agent. Some of the patients described did, while others did not, react to colophonium but only to a modified derivative. In our patient, the reaction to glyceryl rosinate most probably represent

cross-sensitivity with the modified colophonium derivative used in Combiderm, the presence (but not the exact nature) of which was showed by the company. In patients where allergic contact dermatitis from hydrocolloid dressings is strongly suspected and colophonium tests negatively, patch testing to modified colophonium derivatives should therefore be performed. As the complete composition of wound dressings is most often unknown, we urgently advocate legal requirements for labelling of those and in fact all medically used devices.

Publication Types:
    Review

3: Adv Skin Wound Care. 2006 Jul-Aug;19(6):3, 6.

Building molecular-level odor control into hydrocolloid dressing.

Serena TA.

Penn North Centers for Advanced Wound Care, Warren, PA, USA.

4: Dermatol Surg. 2006 May;32(5):661-8.

Treatment of superficial surgical wounds after removal of seborrheic keratoses: a single-blinded randomized-controlled clinical study.

Goetze S, Ziemer M, Kaatz M, Lipman RD, Elsner P.

Department of Dermatology, Friedrich Schiller University, Jena, Germany.

BACKGROUND: For the treatment of superficial surgical wounds, there are a number of options, including topical antibiotic ointments, dressings, and specialized wound care materials, such as hydrocolloid dressings. OBJECTIVE: To evaluate the wound-healing activity of a commercially available hydrocolloid wound dressing (Avery H2460, Avery Dennison, Turnhout, Belgium) in comparison with a control treatment (Fucidine cream with Cutiplast sterile dressing) in superficial wounds after surgical removal of seborrheic keratoses. METHODS: In a single-blinded, randomized, controlled trial, the hydrocolloid wound dressing (Avery H2460) was compared with healing by secondary intention as a control. Sixteen patients between 18 and 80 years of age with seborrheic keratoses were enrolled. Wound healing was evaluated after 7 and 10 days and then daily until complete closure of the wound area. In 7 of 16 patients, biopsies were taken after 14 days of reepithelization. RESULTS: The hydrocolloid wound dressing (Avery H2460) induced a significantly ($p<.05$) faster healing (median: 8.5 days) in comparison with the control treatment (median: 10 days). The histologic investigations showed no significant differences for the investigated parameters in both groups. CONCLUSION: The faster healing in comparison with the control treatment supports the use of the hydrocolloid wound dressing (Avery H2460) for the treatment of superficial surgical wounds.

Publication Types:
    Comparative Study
    Randomized Controlled Trial

PMID: 16706761 [PubMed - indexed for MEDLINE]

5: Przegl Lek. 2005;62(9):900-2.

[The role of hydrocolloid dressings in the process of debridement and treatment of venous leg ulcers]

[Article in Polish]

Szewczyk MT, Jawien A.

Zaklad Pielegniarstwa Chirurgicznego, Collegium Medicum im. L. Rydygiera w Bydgoszczy UMK w Toruniu. mszewczyk@cm.umk.pl

Wound debridement is an important cycle of reactions which influences the optimal growth of new cells. It is assumed that the organism has a natural ability to debride and prepare the wound bed for proliferation, usually well enough for wound closure. Nevertheless in cases of venous leg ulcers chronic activity of causal factors may disturb homeosthasis of the micro-environment and modify the cycle of processes. Interventions carried out through systematic debridement should help and facilitate internal healing processes. Ensuring optimal moist wound environment by the use of hydrocoloid dressings facilitate autolysis and optimalize wound micro-environment. The aim of the study was to describe the role of hydrocoloid dressings in the process of debridement and treatment of venous leg ulcers.

Publication Types:
    English Abstract
    Review

PMID: 16541726 [PubMed - indexed for MEDLINE]

6: J Wound Care. 2006 Feb;15(2):65-9.

Are modern wound dressings a clinical and cost-effective alternative to the use of gauze?

Jones AM, San Miguel L.

MSC Ltd, Malton, North Yorkshire, UK. annie.jones@virgin.net

Publication Types:
    Comparative Study
    Review

PMID: 16521594 [PubMed - indexed for MEDLINE]

    Evaluation Studies
    Research Support, Non-U.S. Gov't

PMID: 16514862 [PubMed - indexed for MEDLINE]
 [No authors listed]

7: J Cosmet Laser Ther. 2005 Dec;7(3-4):206-12.

Comparison of two wound dressings after laser skin resurfacing.

Khatri KA, Margolis RJ, Bhatty RS, Garcia V.

Skin and Laser Surgery Center of New England, Nashua, NH 03060, USA. skinlaser@aol.com

BACKGROUND: It has been reported that the final outcome of laser resurfacing still depends to a large degree on the efficiency of the post laser resurfacing wound care in promoting wound healing and preventing early and late complications. OBJECTIVE: The objective of this study was to evaluate and compare a new hydrocolloid dressing, H2460, with Flexzan(TM) for healing of an acute wound after laser skin resurfacing (LSR). METHODS: Ten volunteers received LSR of the peri-orbital area with an erbium:YAG laser. Identical parameters were used on both sides: 2 J, 5 mm spot, 8 Hz, 300 micros pulse, two passes on the upper eyelids, four passes on the lower eyelids and six passes on the crow's feet area. Soon after the LSR, one side was covered with Flexzan dressing and the other side was covered with a new hydrocolloid dressing -- H2460. The side of the dressing was randomized by alternating both dressings. All volunteers were evaluated and digitally photographed every day for a week and at 1 month after LSR. The degree of erythema, swelling, bleeding, oozing, crusting, pigmentary changes, scarring, discomfort, itching, burning, ease of application of dressings, initial adhesion, overall adhesion, leakage of fluid, maceration of surrounding skin, ease of removal and adhesive residue upon removal were documented. RESULTS: In all volunteer and investigator's evaluations, the new dressing, H2460, achieved far better results than Flexzan in each category. After a 1-week follow-up all volunteers and the investigator evaluated the H2460 side as: healed better, simple to use, and caused less discomfort in 10 out of 10 volunteers. The blinded observer's assessment showed that the Flexzan side healed better in one volunteer. CONCLUSION: The new dressing, H2460, is a better and suitable alternative to Flexzan as a post LSR dressing.

Publication Types:
    Controlled Clinical Trial
    Research Support, Non-U.S. Gov't

PMID: 16414910 [PubMed - indexed for MEDLINE]

denote positive effects of the use of the products.

Publication Types:
    English Abstract
    Review

PMID: 16334190 [PubMed - indexed for MEDLINE]

8: Nurs Times. 2005 Nov 15-21;101(46):51.

Understanding wound dressings: hydrocolloids.

Fletcher J.

Department of Nursing and Midwifery, University of Hertfordshire.

In the third article in this series looking at wound dressings, Jacqui Fletcher describes hydrocolloid dressings.

PMID: 16315807 [PubMed - indexed for MEDLINE]

9: J Invest Dermatol. 2005 Nov;125(5):1063-71.

Artificial barrier repair in wounds by semi-occlusive foils reduced wound contraction and enhanced cell migration and reepithelization in mouse skin.

Schunck M, Neumann C, Proksch E.

Department of Dermatology, University of Kiel, Kiel, Germany.
MSchunck@dermatology.uni-kiel.de

The repair of the permeability barrier to prevent the entry of harmful substances into the body is a goal in wound healing. Semi-occlusive foils, which provide an artificial barrier, are commonly used for the treatment of wounds. We examined the effects of foils on wound contraction, cell migration, and reepithelization. Full-thickness skin wounds in mice were covered with occlusive latex foils or semi-occlusive water vapor-permeable hydrocolloid foils for either the entire, the first half, or the second half of the wound-healing period. We found that application of foils for the entire healing period initially reduced wound healing during the first week of treatment, whereas healing was enhanced during the second week. Foils were found to reduce wound contraction, but enhanced reepithelization during the second week of wound healing because of increased proliferation and migration of keratinocytes. These effects were also noted when the hydrocolloid foils were applied for the second part of the healing period, only. The fully occlusive latex foil led to irritation of the skin, whereas less irritation occurred under semi-occlusive conditions. In summary, we found that artificial barrier repair with semi-occlusive foils in wounds reduced wound contraction and enhanced cell migration and reepithelization without irritation.

Publication Types:
    Research Support, Non-U.S. Gov't

PMID: 16297210 [PubMed - indexed for MEDLINE]

10: J Wound Care. 2005 Oct;14(9):401-4.

Evaluating dressing materials for the prevention of shear force in the treatment of pressure ulcers.

Ohura N, Ichioka S, Nakatsuka T, Shibata M.

Department of Plastic and Reconstructive Surgery, Saitama Medical School, Saitama, Japan. nohura-tky@umin.ac.jp

OBJECTIVE: Shear force is believed to affect pressure ulceration. Therefore, dressing materials that reduce shear force may prevent ulceration and facilitate healing. METHOD: We measured the following three properties: the coefficient of friction between the outer layer of the dressings and the patient's clothes; the degree of adhesiveness between the inner layer of the dressing and the patient's skin; the transmissibility of shear force of the dressing. RESULTS: The coefficients of static friction were 1.01 for hydropolymer, 0.72 for hydrofoam and 0.48 for hydrocolloid. Adhesiveness was tested by rolling different sized ball bearings down a slope and over the adhesive lining under both wet and dry conditions. Under dry conditions, the heaviest ball bearing that stopped rolling for five seconds was 111.9g for both hydrofoam and hydrocolloid. Under wet condition, it was 11.9g for hydrofoam and under 1g for hydrocolloid. Tests showed the very low transmissibility (I N buffer) of shear force for hydrofoam, with significant differences between the dressings. Clinical observation has identified good results for hydrofoam when used under highly exuding conditions and for hydrocolloid when used with relatively slight or decreased exudate. CONCLUSION: Existing dressing materials are being developed and evaluated for wound healing. However, if innovations in the raw materials from which dressings are manufactured could lead to a reduction in shear force and the prevention of pressure ulcers, then dressing materials could be discussed from a viewpoint that is quite different from wound healing.

Publication Types:
    Comparative Study
    Evaluation Studies

PMID: 16240617 [PubMed - indexed for MEDLINE]

11: J Appl Microbiol. 2005;99(4):895-901.

In vitro method to assess the antimicrobial activity and potential efficacy of novel types of wound dressings.

Thorn RM, Greenman J, Austin AJ.

Centre for Research in Biomedicine, Faculty of Applied Sciences, Bristol, UK.

AIMS: To develop a simple, reproducible in vitro static diffusion method using cellulose disks and defined species to test antimicrobial efficacy of wound dressings. METHODS AND RESULTS: Cellulose disks were inoculated by immersion in cell suspensions of target species Staphylococcus epidermidis, Candida albicans and Fusobacterium nucleatum. Test and control wound dressings were cut into equal sized squares (25 x 25 mm) and applied to the surface of 10-mm thick tryptone yeast extract agar on test beds. Following a 2-h equilibration period, inoculated cellulose disks were inserted (one per dressing) at the interface between dressing and agar surface and a small weight applied over each square. At various sampling times, disks were removed and surviving cells enumerated by viable counts. Disk to disk variation for microbial loading was assessed using S. epidermidis for both initial (n = 16) and standard treatment (n = 16) conditions. The coefficient of variation was low (<5%) indicating good reproducibility for cell loading and treatment position on the test bed. Replicate assays (n = 6) using S. epidermidis and oxyzyme gels produced similar kill rates with low scatter (R2 > 0.9) indicating good reproducibility between assays. Significant differences (P < 0.05) in kill rates were observed for different target species, types of dressing and test bed conditions (+/-blood and nutrients). CONCLUSIONS: The method is reproducible and useful in tracking the death kinetics of test species, enabling the comparison of different types of dressing. SIGNIFICANCE AND IMPACT OF THE STUDY: The reported method has significant advantages over established test procedures; it can be applied equally across a wide range of target species (including anaerobes and yeasts), a wide range of conditions, and different types of surface dressings, including those relying upon oxygen diffusion.

PMID: 16162241 [PubMed - indexed for MEDLINE]

12: J Wound Care. 2005 Jul;14(7):329-34.

Evaluation of a lipidocolloid wound dressing in the local management of leg ulcers.

Meaume S, Ourabah Z, Cartier H, Granel-Brocard F, Combemale P, Bressieux JM, Bohbot S.

Department of Geriatrics, Hopital Charles Foix, Ivry/Seine, France. sylvie.meaume@cfx.ap-hop-paris.fr

OBJECTIVE: To evaluate the efficacy, tolerance and acceptability of Urgotul and DuoDERM E dressings in the local management of venous or mixed-aetiology leg ulcers. METHOD: This was a prospective multicentre randomised phase IV clinical trial conducted open-label in parallel groups. It involved 20 investigating

centres, including hospital dermatology and vascular medicine departments, and private practices. Dermatologists and angiologists/phlebologists took part. Subjects were adult, non-immunosuppressed patients presenting with a non-infected, non-malignant leg ulcer of predominantly venous origin (ABPI > 0.8). Ulcers were between 4cm2 and 40cm2 in size, with granulation tissue covering more than 50% of their surface area. Ulcer duration ranged from three to 18 months. Patients were followed-up by the investigating physician for eight weeks on a weekly basis; this included clinical examination, wound area tracings and photographs. Nurses (hospital or visiting) assessed exudate volume and clinical appearance at dressing changes. RESULTS: Ninety-one patients were included: 47 in the Urgotul group and 44 in the DuoDERM E group. Baseline patient demographic data and wound characteristics were comparable in the two groups. After eight weeks of treatment wound surface area had reduced by a mean of 61.3% in the Urgotul group and 52.1% in the DuoDERM E group (NS); dressings were changed more frequently in the DuoDERM E group (2.54 +/- 0.57 times per week versus 2.31 +/- 0.45 in the Urgotul group, p = 0.047). Thirty-three local adverse events were recorded in 27 patients: 10 in the Urgotul group and 23 in the DuoDERM E group (p = 0.039). Nurses reported better acceptability for the Urgotul dressing, based on pain on removal, maceration and odour (p < 0.0001). CONCLUSION: Both dressings showed similar efficacy for the local treatment of venous leg ulcers. Nevertheless, medical and nursing staff reported better tolerance and acceptability for the Urgotul dressing.

Publication Types:
    Clinical Trial
    Clinical Trial, Phase IV
    Comparative Study
    Multicenter Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 16048220 [PubMed - indexed for MEDLINE]

13: Burns. 2005 Nov;31(7):890-3. Epub 2005 Jul 14.

Biobrane versus duoderm for the treatment of intermediate thickness burns in children: a prospective, randomized trial.

Cassidy C, St Peter SD, Lacey S, Beery M, Ward-Smith P, Sharp RJ, Ostlie DJ.

Department of Pediatric Surgery, The Children's Mercy Hospital, 2401 Gillham Road, Kansas City, MO 64108, USA.

In this study, we directly compared the efficacy of Biobrane and Duoderm for the treatment of small intermediate thickness burns in children in a prospective, randomized fashion to determine their relative impact on wound healing, pain scores, and cost. Patients under 18 years of age with intermediate thickness burns on a surface area less than 10% were enrolled and treated with one of the two dressing systems. Data collected included mechanism of injury, time to complete healing, pain scores, and institutional cost of materials until healing was complete. No significant difference in time to healing or pain scores was detected between the two groups. The cost of each treatment was statistically more expensive in the Biobrane group. The results of this study demonstrate that Duoderm and Biobrane provide equally effective treatment of partial thickness burns among in the pediatric population. However, Duoderm is statistically less expensive than Biobrane and can be considered a first-line treatment option for intermediate thickness burn wounds in children.

Publication Types:

Comparative Study
Randomized Controlled Trial

PMID: 16023298 [PubMed - indexed for MEDLINE]

14: Kyobu Geka. 2005 Jul;58(7):555-8.

[Clinical evaluation of hydrocolloidal dressing in 147 patients undergoing cardiovascular surgery]

[Article in Japanese]

Ogawa M, Tsukui H, Ishii H, Yokoyama S, Koh E.

Department of Cardiovascular Surgery, Kyoto Second Red Cross Hospital, Kyoto, Japan.

Recent evidence has suggested that a moist environment plays an important role in wound healing. Karayahesive, one type of hydrocolloidal dressing, contains natural karaya gum as a hydrophilic gel. We applied hydrocolloidal dressing to operative wounds in 147 patients who underwent cardiovascular surgery from April 2001 through August 2002 to evaluate its clinical usefulness. The dressing was kept on the wounds for 7 days after operation, but was immediately switched to conventional dressing with gauze if there was any problem. A total of 144 patients (98%) had no wound chest infections. Good wound healing was obtained with only 1 dressing, removed 7 days after operation, in 128 patients (87%). In 19 patients (13%), the hydrocolloidal dressing was switched to conventional dressing. In 13 of these patients the hydrocolloidal dressing dissolved naturally or exudation occurred; clinically, there were no local problems; however, 3 patients had infection, 2 had fat necrosis, and 1 had burn injury caused by electrocautery. No patients had skin problems caused by this dressing. We conclude that hydrocolloidal dressing can be used safely and effectively in patients undergoing cardiovascular surgery and reduce the workload of healthcare workers.

Publication Types:
English Abstract

PMID: 16004337 [PubMed - indexed for MEDLINE]

15: Br J Surg. 2005 Jun;92(6):665-72.

Comment in:
Br J Surg. 2005 Dec;92(12):1565; author reply 1565.

Systematic review of dressings and topical agents for surgical wounds healing by secondary intention.

Vermeulen H, Ubbink DT, Goossens A, de Vos R, Legemate DA.

Department of Surgery, Academic Medical Centre, Amsterdam, The Netherlands. H.Vermeulen@amc.uva.nl <H.Vermeulen@amc.uva.nl>

BACKGROUND: The best dressing for postoperative wounds healing by secondary intention is unknown. METHODS: A systematic review was conducted to assess the effectiveness of dressings and topical agents on such wounds. Main endpoints were wound healing, pain, patient satisfaction, costs and hospital stay. Systematic methodological appraisal and data extraction were performed by independent reviewers. RESULTS: Fourteen reports of 13 randomized clinical

trials on dressings or topical agents (gauze, foam, bead, alginate and hydrocolloid dressing) for postoperative wounds healing by secondary intention were identified; they were of weak methodological quality. In general, no statistically significant differences in wound healing were found for various dressing comparisons (11 of 13 trials). Patients experienced significantly more pain (four of six trials) and were less satisfied when gauze was used (three of six trials). Gauze was inexpensive, but its use was associated with significantly more nursing time than dressing with foam (two of three trials). No substantial differences in hospital stay were found (four of five trials). CONCLUSIONS: Only small, poor-quality trials exist, rendering the evidence insufficient. Foam is best studied as an alternative to gauze and appears to be preferable in terms of pain reduction, patient satisfaction and nursing time. 

Publication Types:
    Meta-Analysis
    Review

PMID: 15912490 [PubMed - indexed for MEDLINE]

16: J Wound Care. 2005 May;14(5):193-9.

Efficacy of advanced dressings in the treatment of pressure ulcers: a systematic review.

Bouza C, Saz Z, Munoz A, Amate JM.

Agency for Health Technology Assessment, Instituto de Salud Carlos III, Madrid, Spain. cbouza@isciii.es

A meta-analysis of published research enabled dressing efficacy to be estimated. Comparisons showed greater efficacy of hydrocolloid dressings but failed to confirm advantages of other advanced dressings compared with conventional ones.

Publication Types:
    Comparative Study
    Meta-Analysis
    Research Support, Non-U.S. Gov't
    Review

PMID: 15909431 [PubMed - indexed for MEDLINE]

17: J Am Med Dir Assoc. 2005 Jan-Feb;6(1):46-9.

A controlled, randomized, comparative study of a radiant heat bandage on the healing of stage 3-4 pressure ulcers: a pilot study.

Thomas DR, Diebold MR, Eggemeyer LM.

Division of Geriatric Medicine, Saint Louis University Health Sciences Center, St. Louis, MO 63104, USA. thomasdr@slu.edu

OBJECTIVES: Pressure ulcers, like other chronic wounds, fail to proceed through an orderly and timely process to produce anatomical or functional integrity. Treatment of pressure ulcers is directed to improving host factors and providing an optimum wound environment. In addition to providing a moist wound environment, it has been theorized that preventing hypothermia in a wound and

maintaining a normothermic state might improve wound healing. DESIGN/SETTING: Forty-one subjects with a stage 3 or stage 4 truncal pressure ulcer >1.0 cm(2) were recruited from outpatient clinics, long-term care nursing homes, and a rehabilitation center. The experimental group was randomized to a radiant-heat dressing device and the control group was randomized to a hydrocolloid dressing, with or without a calcium alginate filler. Subjects were followed until healed or for 12 weeks. RESULTS: Eight subjects (57%) in the experimental group had complete healing of their pressure ulcer compared with 7 subjects (44%) with complete healing in the control group (P = .46). CONCLUSION: Although a 13% difference in healing rate between the two arms of the study was found, this difference was not statistically significant. At almost all points along the healing curve, the proportion not healed was higher in the control arm.

Publication Types:
    Multicenter Study
    Randomized Controlled Trial

PMID: 15871870 [PubMed - indexed for MEDLINE]

18: Clin Evid. 2004 Dec;(12):2754-63.

Update in:
    Clin Evid. 2005 Dec;(14):2388-96.

Minor thermal burns.

Wasiak J, Cleland H.

Therapeutic Guidelines Limited, Melbourne, Australia.

Publication Types:
    Review

PMID: 15865819 [PubMed - indexed for MEDLINE]

19: Wound Repair Regen. 2005 Mar-Apr;13(2):138-47.

Efficacy and safety of the freeze-dried cultured human keratinocyte lysate, LyphoDerm 0.9%, in the treatment of hard-to-heal venous leg ulcers.

Harding KG, Krieg T, Eming SA, Flour ML, Jawien A, Cencora A, Kaszuba A, Noszcyk W, Willems P, De Deene A, Joos E, De Waele P, Delaey B.

Department of Surgery, Wound Healing Research Unit, University of Wales, College of Medicine, Cardiff, United Kingdom.

LyphoDerm (XCELLentis, Belgium) is an end-sterilized, freeze-dried lysate from cultured allogeneic epidermal keratinocytes, formulated into a hydrophilic gel. Its efficacy and safety were evaluated, in combination with standard care (hydrocolloid dressing and compression therapy), in 194 patients suffering from hard-to-heal (lasting more than 6 weeks and not responding to conventional therapy) venous leg ulcers. Two control groups received standard care, with or without vehicle, respectively. Patients had a median age of 67.5 years and the majority were females (61%). The median duration of the ulcer was 43 weeks and in 39% of the subjects it had been present for more than 1 year. Thirty-eight percent of the patients in the standard care + LyphoDerm group had complete ulcer healing within 24 weeks (primary end point) compared to 27% of patients in the standard care + vehicle pooled groups (P = 0.114) in the "as treated" intent-to-treat cohort (37% vs. 27% in the "as randomized intent-to-treat

cohort; p = 0.137). In the subgroup of patients with enlarging ulcers, the difference between the two groups was significant (30% vs. 11%; p = 0.024 in the "as treated" intent-to-treat cohort and 31% vs. 9%; p = 0.005 in the "as randomized" intent-to-treat cohort). LyphoDerm was well tolerated and safe, and no differences in the frequency of adverse events were noted between the treatment groups. Although the primary objective of the study was not achieved, the exploratory analysis carried out in patients with enlarging ulcers suggests that LyphoDerm could offer a new prospect for the treatment of patients with venous ulcers that may prove to be a significant adjunct to the overall provision of care.

Publication Types:
    Clinical Trial
    Clinical Trial, Phase II
    Comparative Study
    Multicenter Study
    Randomized Controlled Trial

PMID: 15828938 [PubMed - indexed for MEDLINE]

20: Rev Enferm. 2005 Feb;28(2):13-8.

[Hydro-colloidal dressings which release hydro-active silver]

[Article in Spanish]

Serra N, Torres OG, Romo MI, Llovera JM, Vigil-Escalera LJ, Soto MA, Gonzalez-Parra S.

Angiogrup, Clinica Sagrada Familia, Barcelona.

The study presented is a multicentric, prospective, open and comparative study designed with the objective of evaluating the performance of an antibacterial hydrocolloid dressing with hydroactivated silver (Comfeel Plata), when used to activate the healing process in wounds with high bacterial load, clinical signs of infection or malodour. Additionally, once the wound bed was appropriately prepared, a comparison in terms of efficacy was made between, on the one hand, continued treatment with the antibacterial hydrocolloid dressing, and, on the other hand, continued treatment with other dressings specifically designed for the proliferative phase of healing. Included into this study were 43 patients with chronic ulcers who were divided into two parallel treatment groups: In one group, Comfeel Plata (Coloplast AIS) was used until complete wound healing or for a maximum of 10-12 weeks, and in the second group Comfeel Plata (Coloplast A/S) was used until a clean wound bed was obtained and until the wound showed signs of positive evolution, at which moment the treatment was continued until complete healing or for a maximum of 10-12 weeks with dressings without silver designed especially for the proliferative phase of healing [Alione, Comfeel or Biatain (Coloplast AIS)]. The results obtained from the various study parameters indicate that the use of Comfeel Plata in the treatment of infected or colonized wounds prepares the wound bed and facilitates more rapid healing, and that the use of Comfeel Plata effectively reduces pain and malodour. The results indicate that once a clean wound bed is obtained, the use of a dressing without silver specifically for the proliferative phase will facilitate healing.

Publication Types:
    Clinical Trial
    Comparative Study
    English Abstract
    Multicenter Study

PMID: 15816217 [PubMed - indexed for MEDLINE]

21: Hautarzt. 2006 Mar;57(3):242-5.

[Allergic contact dermatitis from a hydrocolloid dressing due to colophony sensitization]

[Article in German]

Korber A, Kohaus S, Geisheimer M, Grabbe S, Dissemond J.

Dermatologische Klinik und Poliklinik, Universitatsklinikum, Essen.

A 62-year-old female patient with a venous leg ulcer developed massive eczema during wound bed preparation with the hydrocolloid dressing Varihesive. The patch testing confirmed a pronounced sensitization to the hydrocolloid dressing apart from the sensitization to colophony. After review of the current literature we found several case reports from the last 10 years about sensitization to hydrocolloids which were identical but distributed under different brand names in different countries. These dressings contain the pentaerythritol ester of hydrogenated rosin as the tackifying agent which is the substance retaining the sensitizing potential of colophony. Especially patients with chronic wounds frequently tend to contact sensitizations, and colophony currently represents the 4th most frequent allergen in Germany. Therefore, highly potent allergens such as colophony should be strictly avoided as a content material of modern wound dressings.

Publication Types:
    English Abstract

PMID: 15789199 [PubMed - in process]

22: BMC Dermatol. 2004 Dec 15;4(1):18.

A randomized clinical trial comparing hydrocolloid, phenytoin and simple dressings for the treatment of pressure ulcers [ISRCTN33429693].

Hollisaz MT, Khedmat H, Yari F.

Department of Rehabilitation, Baqyiatollah Hospital, Baqyiatollah University of Medical Sciences, Tehran, Iran. hollisaz@yahoo.com <hollisaz@yahoo.com>

BACKGROUND: Pressure sores are important and common complications of spinal cord injury. Many preventive and therapeutic approaches have been tried and new trials are evolving. One relatively recent method is application of a hydrocolloid dressing (HD). In this study we compared the therapeutic effects of HD on pressure ulcer healing with two other topical applications, phenytoin cream (PC) and simple dressing (SD). METHODS: Ninety-one stage I and stage II pressure ulcers of 83 paraplegic male victims of the Iran-Iraq war were randomly allocated to three treatment groups. Mean age and weight of the participants were 36.64 +/- 6.04 years and 61.12 +/- 5.08 kg, respectively. All the patients were managed in long term care units or in their homes for 8 weeks by a team of general practitioners and nurses, and the ulcer status was recorded as "Complete healing", "Partial healing", "Without improvement" and "Worsening". RESULTS: Complete healing of ulcers, regardless of location and stage, was better in the HD group than the PC [23/31(74.19%) vs 12/30(40%); difference: 34.19%, 95% CI = 10.85-57.52, (P < 0.01)] or the SD [23/31(74.19%) vs 8/30(26.66%); difference:

47.53%, 95% CI = 25.45-69.61, (P < 0.005)] groups. Complete healing of stage I ulcers in the HD group [11/13(85%)] was better than in the SD [5/11(45%); difference: 40%, 95% CI = 4.7-75.22, (P < 0.05)] or PC [2/9 (22%); difference: 63%, 95% CI = 29.69-96.3, (P < 0.005)] groups. Complete healing of stage II ulcer in the HD group [12/18 (67%)] was better than in the SD group [3/19(16%); difference: 51%, 95% CI = 23.73-78.26, (P < 0.005)], but not significantly different from the PC group [10/21 (48%); difference: 19%, 95% CI = -11.47-49.47, (P > 0.05)]. We performed a second analysis considering only one ulcer per patient (i.e. 83 ulcers in 83 patients). This "per patient" analysis showed that complete ulcer healing in the HD group was better than in the PC [20/28(71.4%) vs 11/28 (39.3%); difference: 32.1%, 95% CI = 7.4-56.7, (P < 0.01)] or SD [20/28(71.4%) vs 8/27 (29.6%); difference: 41.8%, 95% CI = 17.7-65.8, (P < 0.005)] groups. CONCLUSION: We deduced that HD is the most effective method investigated for treating stage I and II pressure ulcers in young paraplegic men.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 15601464 [PubMed - indexed for MEDLINE]

23: Asian J Surg. 2004 Oct;27(4):326-32.

Meta-analysis of randomized controlled trials on hydrocolloid occlusive dressing versus conventional gauze dressing in the healing of chronic wounds.

Singh A, Halder S, Menon GR, Chumber S, Misra MC, Sharma LK, Srivastava A.

Department of Surgical Disciplines, All India Institute of Medical Sciences, New Delhi, India.

Chronic wound management is a difficult area in surgical practice. A wide range of dressings have been recommended for the management of chronic wounds. The present meta-analysis was undertaken to determine the effectiveness of hydrocolloid dressing (HCD) in the healing of chronic wounds compared with conventional gauze dressing. All available controlled clinical trials published before December 2001 that compared HCD to conventional gauze dressing in the healing of chronic wounds were systematically reviewed. We identified and analysed 12 randomized trials (11 published; 1 unpublished) comprising 693 patients with 819 ulcers. The overall odds ratio under the fixed effect model was 1.72, that is, 72% more ulcers healed completely with HCD than with conventional gauze dressing. This result was both clinically and statistically significant.

Publication Types:
    Clinical Trial
    Meta-Analysis
    Randomized Controlled Trial

PMID: 15564189 [PubMed - indexed for MEDLINE]

24: J Wound Care. 2004 Jun;13(6):227-8.

Moist wound healing: a concept that changed our practice.

Bryan J.

Cheltenham General Hospital, Cheltenham, UK. juliebryan@blueyonder.co.uk

Winter's seminal paper from 1962 showed that a moist wound environment accelerates healing. Since then, different types of dressings have been developed based on this concept. This paper describes their background and correct usage.

Publication Types:
    Review

PMID: 15214140 [PubMed - indexed for MEDLINE]

25: Am J Nurs. 2004 Feb;104(2):28-30.

Bridging the gap between research and practice.

van Rijswijk L.

La Salle University Neighborhood Nursing Center, Philadelphia, PA, USA. Lialine@aol.com

PMID: 14767376 [PubMed - indexed for MEDLINE]

26: Skin Pharmacol Physiol. 2004 Jan-Feb;17(1):31-6.

Toxicity and antimicrobial activity of a hydrocolloid dressing containing silver particles in an ex vivo model of cutaneous infection.

Schaller M, Laude J, Bodewaldt H, Hamm G, Korting HC.

Department of Dermatology and Allergology, University of Munich, Frauenlobstrasse 9-11, DE-80337 Munich, Germany. Martin.Schaller@lrz.uni-muenchen.de

In the present study we examined the effects of two hydrocolloid wound dressings (conventional silver-free Comfeel, silver-incorporating Contreet-H) on uninfected and Candida albicans- or methicillin-resistant Staphylococcus aureus-infected reconstituted human epithelium (RHE). The morphological alterations of the keratinocytes caused by infection and by treatment were analysed with light and electron microscopy. As a measure of epithelial cell damage the release of lactate dehydrogenase from epithelial cells into the surrounding medium was monitored. Application of Contreet-H or Comfeel to uninfected RHE induced no major morphological effects on epithelial cells. Both wound dressings reduced the growth of micro-organisms. Specific alterations of the infected epithelium (vacuoles, spongiosis, oedema, detachment of keratinocytes) and invasion of the epithelium were significantly reduced only by treatment with Contreet-H. At the ultrastructural level release of silver by Contreet-H and superior antimicrobial efficacy could be verified. In summary, treatment with both wound dressings reduced the number of pathogens, with the silver-based wound dressing providing a more effective antimicrobial activity. This resulted in a strong decrease of pathogen-specific alterations of the infected epithelium. We present evidence that delivering silver to infected

keratinocytes in a moist healing environment improves the benefit/risk ratio as compared to silver-free wound dressings. Copyright 2004 S. Karger AG, Basel

Publication Types:
    Comparative Study
    In Vitro

PMID: 14755125 [PubMed - indexed for MEDLINE]

27: Chest. 2004 Jan;125(1):43-9.

Effect of three wound dressings on infection, healing comfort, and cost in patients with sternotomy wounds: a randomized trial.

Wynne R, Botti M, Stedman H, Holsworth L, Harinos M, Flavell O, Manterfield C.

School of Nursing, Deakin University, Burwood, Australia. rwynne@deakin.edu.au

STUDY OBJECTIVE: To compare three dressing types in terms of their ability to protect against infection and promote healing, patient comfort, and cost-effectiveness. DESIGN: Prospective, randomized controlled trial. SETTING: Major metropolitan, academically affiliated, tertiary referral center. PATIENTS: Seven hundred thirty-seven patients were randomized to receive a dry absorbent dressing (n = 243) [Primapore; Smith & Nephew; Sydney, NSW, Australia], a hydrocolloid dressing (n = 267) [Duoderm Thin ConvaTec; Mulgrave, VIC, Australia], or a hydroactive dressing (n = 227) [Opsite; Smith & Nephew] in the operating theater on skin closure. RESULTS: There was no difference in the rate of wound infection or wound healing between treatment groups. The Primapore dressing was the most comfortable and cost-effective dressing option for the sternotomy wound. Duoderm Thin dressings were associated with increased wound exudate ($p < 0.001$), poor dressing integrity ($p < 0.001$), more frequent dressing changes ($p < 0.001$), more discomfort with removal ($p < 0.05$), and increased cost ($p < 0.001$). CONCLUSIONS: In the context of no additional benefit for the prevention of wound infection or the rate of wound healing for any of the three dressing products examined, dry absorbent dressings are the most comfortable and cost-effective products for sternotomy wounds following cardiac surgery.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 14718419 [PubMed - indexed for MEDLINE]

28: Rev Enferm. 2003 Oct;26(10):15-20.

[Hydrocolloids and lubricating materials in the treatment of acute and chronic wounds]

[Article in Spanish]

Tormo Maicas V, Rochina IJ, Martinez Martinez C, Marin Fontana MJ, Sauvadet A, Bohbot S.

Departament d'Infermeria, Universitat de Valencia, Valencia, Espana.

The authors carry out a study on a dressing which associates hydrocolloids and a lubricating material, Vaseline, used on 28 patients who suffer from acute or chronic wounds having diverse etiologies. The authors evaluate the biological

process through which each wound builds scar tissue, its tolerance, efficiency and degree of acceptance with results which are frankly positive. The data in this study for these parameters coincide with those of other research projects which have been carried out in France, Germany and the United Kingdom.

Publication Types:
    English Abstract

PMID: 14664116 [PubMed - indexed for MEDLINE]

29: J Wound Care. 2003 Nov;12(10):385-90.

Comparison of different wound dressings on cultured human fibroblasts and collagen lattices.

Viennet C, Bride J, Gabiot AC, Humbert P.

Engineering and Cutaneous Biology Laboratory, School of Medicine and Pharmacy, Besancon, France.

OBJECTIVE: We compared the effects on cultured human fibroblasts of a new non-adhesive wound dressing, Urgotul, with five other wound dressings. Urgotul is a hydrocolloid dressing; the comparator dressings included impregnated gauze and modern wound dressings. METHOD: Cultures in monolayer were used to study the morphology and growth of fibroblasts. The Bell model of cultured dermis equivalents was used to investigate myofibroblast differentiation. These cultures were labelled a-SM actin and F-actin. RESULTS: Two of the tested dressings induced cytotoxic effects. They were found to inhibit cell growth (greater than 60%) and to disturb cell shape and cytoskeletal differentiation. Urgotul and the remaining three dressings showed no effect on proliferation. However, some of them modified fibroblast morphology and affected F-actin distribution. CONCLUSION: Depending on their nature and components, wound dressings may respect or affect fibroblast behaviour in vitro (proliferation, morphology and a-SM actin and F-actin distribution). The significance of these in vitro observed findings require further investigations.

Publication Types:
    Comparative Study
    In Vitro
    Research Support, Non-U.S. Gov't

PMID: 14648964 [PubMed - indexed for MEDLINE]

30: Hautarzt. 2003 Nov;54(11):1059-64.

[Therapy of ulcus cruris venosum]

[Article in German]

Braun S, Junger M.

Klinik und Poliklinik fur Hautkrankheiten, Greifswald. braun@uni-greifswald.de

Wound healing in venous leg ulcers is a highly complex, dynamic process that is influenced by a number of factors. The primary task of local therapy is to support this natural healing process. While a number of therapeutic agents are available, in most cases their efficacy has yet to be established in controlled prospective studies in the sense of evidence-based medicine. Thus, the physician is left with the task of drawing up individual therapy plans for each patient

according to the state of the wound. Compression bandages or stockings form the mainstay of treatment, generally in combination with moist dressings for chronic wounds.

Publication Types:
    Comparative Study
    English Abstract

PMID: 14593463 [PubMed - indexed for MEDLINE]

31: J Am Coll Surg. 2003 Nov;197(5):872-8.

Comment in:
    J Am Coll Surg. 2004 Mar;198(3):498.

Early results using a dynamic method for delayed primary closure of fasciotomy wounds.

Taylor RC, Reitsma BJ, Sarazin S, Bell MG.

Division of General Surgery, University of Ottawa, Ottawa, ON, Canada.

Publication Types:
    Case Reports

PMID: 14585431 [PubMed - indexed for MEDLINE]

32: Rev Enferm. 2002 Feb;25(2):50-4.

[Treatment of skin lesions combining hydrofiber and extra-fine hydrochloride dressings]

[Article in Spanish]

Garcia Collado F, Salvador Moran MJ, Roman Garcia MJ.

Hospital de la Fe, Valencia.

Multicentric trial to test the efficacy of the combined use of two hydrocolloid dressings (AQUACEL + Varihesive Extra Fino) or a hydrocolloid dressing and gauze in the treatment of different aetiology lesions. Includes 1,805 patients with lesions that can be treated with the cure system under study, without wound dimensions or severity restrictions. At the end of the trial period, 78.3% of the lesions reached healing or a significant improvement of their condition, resulting in an increase of patients' quality of life. 90% of patients confirmed their willingness to continue the treatment with AQUACEL.

Publication Types:
    Clinical Trial
    English Abstract
    Multicenter Study

PMID: 13677781 [PubMed - indexed for MEDLINE]

33: J Wound Care. 2001 Sep;10(8):301-4.

Occlusion versus air exposure on full-thickness biopsy wounds.

Agren MS, Karlsmark T, Hansen JB, Rygaard J.

Faculty of Health Sciences, University of Linkoping, Sweden.

The benefits of moisture-retaining dressings on wound healing are well documented in experimental animal models but not in humans. To examine the effect of occlusion, the effects of three brands of synthetic occlusive dressings (Comfeel Plus, DuoDerm CGF, OpSite) were compared with air exposure in epithelial resurfacing and proliferation in acute, full-thickness skin wounds in humans. In 10 healthy males, four 4 mm standardised wounds were made with a sterile punch biopsy on each lower extremity. Epithelialisation of the wounds was assessed histologically and blindly postwounding on days 7 and 14. Wound margin epidermal proliferation was evaluated immunohistochemically with Ki67. Epithelial percentage coverage increased significantly (p = 0.007) with the occlusive dressings (62 +/- 6%, mean +/- SEM), compared with air exposure, (39 +/- 7%) on day 7 but not on day 14 (p = 0.500). Epidermal cell proliferation showed no significant intergroup difference on either day. Treatment with occlusive dressings increased early epithelial migration of acute full-thickness biopsy wounds compared with air exposure in healthy men.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 12964332 [PubMed - indexed for MEDLINE]

34: Swiss Med Wkly. 2003 Jun 28;133(25-26):364-8.

Combination of hydrocolloid dressing and medical compression stockings versus Unna's boot for the treatment of venous leg ulcers.

Koksal C, Bozkurt AK.

SSK Sureyyapasa Thoracic and Cardiovascular Disease Hospital, Turkey. cengizkoksal@hotmail.com

BACKGROUND: Various therapeutic approaches have been developed to manage venous ulcers. In this study the effectiveness of a hydrocolloid dressing (Comfeel Ulcer Dressing) in comparison to the Unna boot, the prototype of rigid bandages, was evaluated. METHODS: Design: Prospective, comparative study. SETTING: University hospital. PATIENTS: Sixty patients diagnosed with post-thrombotic chronic venous insufficiency with venous ulcers were randomly assigned to two groups of 30 patients. Interventions: In group A, the Unna boot, and in group B, hydrocolloid dressing in addition to the elastic compression were used. Measures: The two groups were compared in terms of 1) complete healing, 2) weekly wound surface reduction, 3) time to complete healing, 4) performance characteristics (ease-of-use score), 5) pain during application and at home, 6) application time. RESULTS: The duration of the ulcers was 16.6 +/- 5.8 weeks in group A and 16.9 +/- 6.2 in group B (p >0.05). Previous ulcer recurrence was 74% (20/27 patients) in group A and 73% (19/26 patients) in group B (p >0.05). The initial ulcer size was 6.38 +/- 1.2 cm2 in group A and 6.19 +/- 0.8 cm2 in group B (p >0.05). The complete healing rates were 74.07% (20/27) in group A and 80.

76% (21/26) in group B (p >0.05). The weekly wound surface reductions were 1.28 +/- 0.72 cm2/week and 1.16 +/- 0.38 cm2/week in groups A and B, respectively (p >0.05). The ulcer healing time was 6.85 +/- 3.60 weeks in group A, whereas it was 6.65 +/- 3.31 weeks in group B (p >0.05). Ease-of-use score was 9.04 +/- 2.38 in group A and 17.27 +/- 3.27 in group B and the difference was significant (p <0.0001). A higher degree of pain was reported by the patients who were treated with the Unna boot, both during application (group A 3.69 +/- 1.35, group B 1.88 +/- 1.48, p <0.0001) and at home (group A, 3.27 +/- 1.08, group B, 1.88 +/- 1.11, p <0.0001). The average time spent on Unna boot changes was 150.59 +/- 34.73 min, compared to 134.54 +/- 43.39 min in group B (p >0.05). CONCLUSIONS: These results demonstrate the superiority of hydrocolloid dressing plus elastic compression treatment in terms of patient convenience.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 12947533 [PubMed - indexed for MEDLINE]

35: Soins. 2003 Jul-Aug;(677):25-6.

[Wounds and dressings. 3--Hydrocolloid dressings and absorbent dressings]

[Article in French]

Meaume S.

Hopital Charles Foix, Ivry-sur-Seine.

Publication Types:
    Comparative Study

PMID: 12929601 [PubMed - indexed for MEDLINE]

36 J Wound Care. 2003 Jun;12(6):205-10.

Contreet Foam and Contreet Hydrocolloid: an insight into two new silver-containing dressings.

Lansdown AB, Jensen K, Jensen MQ.

Division of Investigative Sciences, Imperial College School of Medicine, London, UK. a.lansdown@imperial.ac.uk

In vitro laboratory tests and preliminary clinical trials have found that two silver-containing dressings, Contreet Foam and Contreet Hydrocolloid, promote healing in infected and chronic venous leg ulcers and diabetic foot ulcers.

Publication Types:
    Case Reports
    Review

PMID: 12838596 [PubMed - indexed for MEDLINE]

37: Ann Dermatol Venereol. 2002 Nov;129(11):1326-7.

[Hydrocolloid dressings]

[Article in French]

Michel JM, Couilliet D, Bleicher R, Bloch B, Bochaton C, Groell S; Membres Du Groupe Plaies et Cicatrisation Des Hopitaux Civils de Colmar.

Centre pour Personnes Agees, Neuf Brisach, France.

PMID: 12514528 [PubMed - indexed for MEDLINE]

38 Br J Nurs. 2002 Oct 24-Nov 13;11(19):1279-80, 1282.

Cutinova Hydro: a modern alternative to hydrocolloids.

Law J.

Tissue Viability Service, Sandwell and West Birmingham Hospitals NHS Trust, Sandwell Hospital, West Midlands.

Since the 1960s, moist wound healing has been accepted as the scientific approach to wound care. The White Paper 'Making a Difference' (Department of Health (DoH), 1999) stated that nursing practice should be supported by research and that current evidence should be utilized to improve information used to support care and treatment decisions. Wound care products, both the traditional and the new, are under increasing scrutiny as the physiology of the wound healing process is understood with more clarity, assisting the clinician to reappraise current practice in the light of new information. The following study considers such physiological responses when reporting the effects of Cutinova Hydro (Smith and Nephew) in treating exuding wounds.

Publication Types:
    Case Reports

PMID: 12419983 [PubMed - indexed for MEDLINE]

39: J Oral Maxillofac Surg. 2002 Oct;60(10):1126-30.

Treatment of soft tissue defects with exposed bone in the head and face region with alginates and hydrocolloid dressings.

von Lindern JJ, Niederhagen B, Appel T, Berge S.

Department of Maxillofacial Surgery, University of Bonn, Germany. Vonlindern@mkgchirurg.de

PURPOSE: In cases of soft tissue defects with exposed bone surfaces in the head and face region, there is the option of treating the defect with free split-thickness skin grafts following appropriate wound granulation. Secondary granulation on free bone surfaces is often a lengthy process, as granulation primarily occurs from the edges of the wound. Hydrocolloid dressings are gaining increasing attention in this context. The question arises as to whether the positive properties of hydrocolloid dressings can bring about rapid and positive conditioning of the base of the wound in soft tissue defects with exposed bone in the head and face region, with a view to subsequent split-thickness skin graft transplantation. MATERIALS AND METHODS: In the period from 1997 to 2000, a total of 25 patients with soft tissue defects with exposed bone surfaces in the

head and face region were treated with hydrocolloid dressings in the framework of a prospective clinical study. RESULTS: The average time taken for complete granulation of the bone surface was 39.44 days (minimum, 10 days; maximum, 72 days). As a rule, this necessitated 12.8 changes of dressing (minimum, 3; maximum, 26). The granulation tissue was of good quality, generously vascularized, and occasionally exuberant at the edges of the wound CONCLUSION: On the whole, the combination of hydrocolloid dressing and alginate compress was found to have significant advantages as regards conditioning the exposed bone surface. Copyright 2002 American Association of Oral and Maxillofacial Surgeons

Publication Types:
    Clinical Trial

PMID: 12378484 [PubMed - indexed for MEDLINE]

40: J Wound Care. 2002 Sep;11(8):290-4.

Evaluation of a new composite dressing for the management of chronic leg ulcer wounds.

Daniels S, Sibbald RG, Ennis W, Eager CA.

ConvaTec, Uxbridge, UK. sarah.daniels@bms.com

OBJECTIVES: A new composite dressing (Versiva, ConvaTec) combines three technologies: hydrocolloid, hydrofibre and a foam-film layer. This study aimed to assess the safety of the dressing in the management of patients with venous leg ulcers. Clinical performance was also assessed. METHOD: This multicentre, non-randomised, open-label, phase II study assessed the safety (via adverse-effect reporting) and performance, including weartime, absorption, dressing integrity, ease of use and wound progression, of Versiva. Up to 10 dressing changes were assessed within a five-week study period. RESULTS: In 75 dressing changes of 11 ulcers, the mean wear time was approximately five days. No or minimal leakage was observed in 81% of changes. In 93%, the dressing was 'very easy' to remove, with no trauma to surrounding skin. Most changes (77%) were painless. CONCLUSION: Versiva met or exceeded the investigators' expectations for exudate absorption, protection of peri-wound skin and reduction in wound pain and ulcer area. Healing or marked improvement was observed in 82% of leg ulcers within the five-week study. The relatively long wear-time of five days represents a cost-effective advantage for this dressing compared with other available adhesive foams for the management of chronic wounds.

Publication Types:
    Clinical Trial
    Clinical Trial, Phase II
    Multicenter Study
    Research Support, Non-U.S. Gov't

PMID: 12360762 [PubMed - indexed for MEDLINE]

41: Br J Nurs. 2000 Oct;9(19 Suppl):S6, S8, S10 passim.

Comment in:
    Br J Nurs. 2001 Feb 22-Mar 7;10(4):216-7; author reply 216-7.

The cost-effectiveness of wound management protocols of care.

Harding K, Cutting K, Price P.

Wound Healing Research Unit, Cardiff Medicentre, Cardiff, UK.

A European cost-effectiveness study has been conducted using published clinical trial data from multinational studies on chronic venous leg ulcers and pressure sores. Data relevant to UK chronic wound management practice have been extracted and are presented here. A total of 15 pressure sore studies involving 519 wounds, and 12 leg ulcer studies involving 843 ulcers were used in a pooled analysis. The study objectives included the calculation of comparative costs in pound sterling for three different treatment protocols for each wound type. The protocols have been adapted for UK clinical practice in both hospital and community settings and are based on primary dressings and nurse time costs, wound cleansing and debridement, the use of fillers, and compression as appropriate. The focus of the study has been the cost-effectiveness comparison (as measured by cost per healed wound) of two modern dressings - Granuflex(R) hydrocolloid dressing and Apligraf(R) skin replacement - and traditional gauze dressings in the treatment of venous leg ulcers and, in the case of pressure sores, comparison of Granuflex(R) Comfeel(R) hydrocolloid dressings and traditional saline gauze dressings. The choice of dressings studied was dictated by the available published literature. The construction of treatment protocols and assumptions on treatments otherwise missing from published papers has been achieved through the use of an expert panel. Results show Granuflex(R) to be 50% more cost-effective, at 422 pounds per healed wound, than Comfeel(R) (643 pounds) and 500% more so than saline gauze (2548 pounds) in the treatment of pressure sores. Granuflex(R) at 342 pounds was also more cost-effective than gauze (541 pounds) or Apligraf(R) (6741 pounds) in the treatment of venous leg ulcers. These data will provide a valuable adjunct to published clinical evidence, offering further information upon which carers can base their choice of wound dressing.

Publication Types:
    Comparative Study
    Research Support, Non-U.S. Gov't
    Review

PMID: 12271239 [PubMed - indexed for MEDLINE]

42: Br J Nurs. 2002 Jul  11-24;11(13):916-20.

Comment in:
    Br J Nurs. 2002 Aug 8-Sep 11;11(15):998; author reply 998.

Wound healing/product selection for a critically ill obese patient.

Thompson G.

Clinical and Equipment Resource Centre/Tissue Viability Services, Birmingham Heartlands and Solihull NHS Trust (Teaching).

The selection of wound management products by nurses can be an area of confusion. Healthcare professionals involved with tissue viability issues have

to make choices from a wide range of commercially available products to suit wound conditions. This article recounts the challenges facing a specialist nurse and his selection of a range of Smith & Nephew Healthcare products, when he was asked for expert advice to promote granulation in a massive wound following debridement for extensive abscess formation in the lower abdominal, perineum and ischial areas.

Publication Types:
    Case Reports

PMID: 12131845 [PubMed - indexed for MEDLINE]

43: Ann Dermatol Venereol. 2002 May;129(5 Pt 1):725-7.

[Allergic contact dermatitis to the Comfeel hydrocolloid dressing]

[Article in French]

Grange-Prunier A, Couilliet D, Grange F, Guillaume JC.

Service de Dermatologie, Hopital Pasteur, 39, avenue de la Liberte, 68024 Colmar Cedex.

INTRODUCTION: Allergic contact dermatitis is frequent in patients with chronic leg ulcers. However, it rarely occurs with modern wound dressings and is exceptional with hydrocolloids. CASE REPORT: A 66-year-old woman was treated for a leg ulcer with the Comfeel plus(R) transparent hydrocolloid dressing for two months. She developed a pruriginous, erythematous and vesiculous dermatitis under the hydrocolloid plaques. Patch tests for the Comfeel plus(R) transparent hydrocolloid, the Comfeel plus(R) hydrocolloid, balsam of Peru and epoxy resin were positive. Only the positive test for the Comfeel plus(R) transparent hydrocolloid was clinically pertinent. The histological examination of the positive test was suggestive of eczema. DISCUSSION: To our knowledge, allergic contact dermatitis to Comfeel plus(R) hydrocolloid dressings has not been reported. Most previous studies which included systematic patch-testings in patients with leg ulcers showed high sensitization rates for various allergens, but no allergy to hydrocolloids. Only isolated cases of allergic contact dermatitis to another hydrocolloid (Duoderm E(R)) have been reported. Our case report shows that allergic contact dermatitis is a possible side-effect of Comfeel plus(R) hydrocolloid dressings. However, it seems exceptional. Since the patch-tests failed to identify the constituent responsible for this allergy in our observation, comprehensive allergologic investigations should be repeated in further cases.

Publication Types:
    Case Reports
    English Abstract

PMID: 12124516 [PubMed - indexed for MEDLINE]

44: Br J Community Nurs. 2000 Nov;5(11):572, 574, 576-7.

A comparison of two hydrocolloid sheet dressings.

Baxter H.

Tissue Viability, Guy's and St Thomas' Hospital Trust, London, UK.

This article examines the clinical application of hydrocolloid dressings as a whole. Two thin hydrocolloid sheets - Tegasorb thin and Duoderm extra thin - were essayed in the clinical area, and compared for their ease of application and removal, conformability, wear time and patient comfort. Both dressings were found to be highly acceptable in clinical practice, with advantages and disadvantages to each type of dressing. There was a high level of patient acceptability and no adverse reactions were noted during this evaluation. Pain reduction was noted by patients with superficial pressure sores and trauma wounds that were treated with thin hydrocolloid sheets.

Publication Types:
    Comparative Study
    Evaluation Studies

PMID: 12066057 [PubMed - indexed for MEDLINE]

45: J Am Geriatr Soc. 2002 Feb;50(2):269-74.

Sequential treatment with calcium alginate dressings and hydrocolloid dressings accelerates pressure ulcer healing in older subjects: a multicenter randomized trial of sequential versus nonsequential treatment with hydrocolloid dressings alone.

Belmin J, Meaume S, Rabus MT, Bohbot S; Investigators of the Sequential Treatment of the Elderly with Pressure Sores (STEPS) Trial.

Department of Geriatric Internal Medicine, Hopital Rene Muret and Universite Paris Nord, Sevran, France. joel.belmin@rmb.ap-hop-paris.fr

OBJECTIVES: To compare the efficacy of a sequential strategy combining calcium alginate and hydrocolloid dressings treatment of grade III or IV pressure ulcers (PUs) and the efficacy of nonsequential strategy with hydrocolloids alone. DESIGN: An open, randomized, multicenter parallel-group trial.SETTING: Twenty geriatrics hospital wards. PARTICIPANTS: One hundred ten older patients with grade III or IV PUs. INTERVENTION: The control strategy consisted of applying hydrocolloid dressings (DuodermE) for 8 weeks; the sequential strategy consisted of applying combined calcium alginate dressings (UrgoSorb) for the first 4 weeks and hydrocolloid dressings (Algoplaque) for the next 4 weeks. MEASUREMENTS: PU surface areas were measured weekly by ulcer tracing. The endpoints were the mean absolute surface area reduction (SAR) during the 8-week study period and the number of patients achieving a 40 or more SAR (SAR40). RESULTS: Fifty-seven and 53 patients were randomly allocated to sequential and control strategies respectively. Baseline patient characteristics and PU ulcer features at inclusion were similar in the two groups. Mean +/- standard deviation SAR was significantly larger in the sequential treatment group (5.4 +/- 5.7 cm2 and 7.6 +/- 7.1 cm2 at 4 and 8 weeks) than in the control group (1.6 +/- 4.9 cm2 and 3.1 +/- 7.2 cm2, P< .001). In the sequential treatment group, 68.4 of the patients reached SAR40 at 4 weeks and 75.4 at 8 weeks, proportions significantly larger than in the control group (22.6 and 58.5, respectively, P< .0001). Dressing tolerance was good in both strategies. CONCLUSIONS: In grade III or IV PUs, treatment using first calcium alginate dressings and then hydrocolloid dressings

promotes faster healing than treatment with hydrocolloid dressings alone.

Publication Types:
    Clinical Trial
    Multicenter Study
    Randomized Controlled Trial

PMID: 12028208 [PubMed - indexed for MEDLINE]

46: J Vasc Nurs. 2002 Mar;20(1):22-32; quiz 33-4.

Controlled, randomized clinical trial of 2 hydrocolloid dressings in the management of venous insufficiency ulcers.

Limova M, Troyer-Caudle J.

Department of Dermatology, Medical Center, University of California-San Francisco, 94115, USA.

A prospective, randomized study was conducted to compare the performance of 2 hydrocolloid dressings, hydrocolloid A and hydrocolloid B, in the treatment of venous insufficiency ulcers. A total of 31 patients were enrolled at 2 clinical sites. Complete wound closure (100% epithelialization) was observed in 59% of the patients treated with hydrocolloid A, compared with complete wound closure in 15% of the patients in the hydrocolloid B group (P <or=.03). Investigators also rated hydrocolloid A significantly better in ease of application, adhesion, conformability, exudate absorption, barrier properties, transparency, and patient comfort (P <or=.02). Significantly fewer patients in the hydrocolloid A group required unscheduled, product-related dressing changes (P <or=.02). In this clinical study, hydrocolloid A demonstrated excellent performance characteristics and was highly effective in treating venous insufficiency ulcers.

Publication Types:
    Case Reports
    Clinical Trial
    Comparative Study
    Multicenter Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 11938346 [PubMed - indexed for MEDLINE]

47: Pharmacoeconomics. 2001;19(12):1209-16.

Economic evaluation of collagenase-containing ointment and hydrocolloid dressing in the treatment of pressure ulcers.

Muller E, van Leen MW, Bergemann R.

Institute for Medical Outcome Research, Loerrach, Germany. elvira.mueller@imor.com

OBJECTIVE: To evaluate the efficacy and cost effectiveness of two treatments of pressure sores on the heel: a collagenase-containing ointment and a hydrocolloid dressing. DESIGN: Study and cost data were collected prospectively in a randomised clinical trial in The Netherlands by counting the resource use for each patient until wound healing occurred. STUDY PARTICIPANTS: All 24 female

study participants were inpatients from the same hospital with grade IV pressure sores on the heel following orthopaedic surgery. INTERVENTIONS: Two different treatment strategies were analysed: a collagenase-containing ointment (Novuxol) and a hydrocolloid dressing (Duoderm). PERSPECTIVE: Hospital perspective. MAIN OUTCOME MEASURES AND RESULTS: The average costs per patient for treatment with the hydrocolloid dressing were about 5% higher than those with the collagenase-containing ointment. The treatment costs were similarly distributed within both groups, with 34% for materials and 66% for personnel. The cost-effectiveness analysis revealed that cost savings of 899 Dutch guilders (1998 values) per successfully treated patient could be expected using the collagenase-containing ointment instead of the hydrocolloid dressing. In addition, wound healing was achieved, on average, within a shorter time period with the collagenase treatment (10 weeks) compared with the hydrocolloid treatment (14 weeks). The robustness of the results were also tested using sensitivity analyses. These analyses served to confirm that collagenase treatment provides a better cost-effectiveness ratio than hydrocolloid treatment. CONCLUSIONS: With regard to overall costs and costs per successfully treated patient, this study showed collagenase treatment to be more cost effective than the hydrocolloid treatment in patients with grade IV pressure sores on the heel and that the amount of time needed for wound healing was shorter.

Publication Types:
    Clinical Trial
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 11772156 [PubMed - indexed for MEDLINE]

48: J Eur Acad Dermatol Venereol. 2001 May;15(3):234-7.

Tolerability and efficacy of hydrocolloid dressings in the treatment of venous leg ulcers under tropical conditions: an open prospective study.

Zeegelaar IE, Langenberg W, Hu R, Lai A Fat RF, Fabert WR.

Department of Dermatology, Academic Medical Centre, Amsterdam, The Netherlands. j.e.zeegelaar@amc.uva.nl

In the Western world, hydrocolloid dressings are widely used in wound treatment. However, little is known about their tolerability and efficacy under tropical conditions. The purpose of this study was to assess the tolerability and efficacy of a hydrocolloid dressing in combination with short stretch compressive bandages under tropical conditions. Seventeen patients with venous leg ulcers attending an outpatient clinic in Surinam were enrolled in the study for a period of 6 weeks. Swabs for bacterial cultures were taken at the beginning and end of the study. All ulcers showed a good healing tendency. Percentage of granulation tissue in the ulcers improved from mean 27% at start to 92% at the end. Mean circumference at start was 9.9 cm, at the end 4.9 cm. Exudation diminished from moderate in six and severe in eight ulcers, to moderate in 10 and almost none in two ulcers. In general, the dressing was very well accepted, pain was never reported. Leakage was noticed 39 times in the 164 dressing changes. This study revealed no differences in the rate of bacterial infections or colonization of wounds compared with studies performed in temperate regions. Our data indicate that hydrocolloid dressings can be used under tropical conditions.

Publication Types:
    Research Support, Non-U.S. Gov't

PMID: 11683287 [PubMed - indexed for MEDLINE]

49: West J Med. 2001 Sep;175(3):205-6.

Myth: silver sulfadiazine is the best treatment for minor burns.

Chung JY, Herbert ME.

Olive View-UCLA Medical Center, Department of Emergency Medicine, Sylmar, CA 91342, USA.

Publication Types:
    Comparative Study
    Review

PMID: 11527855 [PubMed - indexed for MEDLINE]

50: Scand J Plast Reconstr Surg Hand Surg. 2001 Mar;35(1):1-6.

The influence of dressings on the healing of normal and ischaemic wounds and flap survival.

Quirinia A, Viidik A.

Department of Connective Tissue Biology, Institute of Anatomy, University of Aarhus, Aarhus, Denmark.

The effects of dressing with Duoderm (occlusive hydrocolloid) and Mepore (permeable viscose) on the healing of normal and ischaemic incisional wounds, and on flap survival, were investigated in 60 rats. The biomechanical properties of dressed normal wounds after 14 days did not differ from those of the undressed controls. In contrast, energies at maximum and breaking (load*S, stress*S) of dressed ischaemic wounds decreased by 30%-42% after 14 days of healing, compared with undressed ischaemic controls. Dressing decreased the shrinkage of ischaemic wounds and necrosis length of ischaemic flaps. Normal incisional wounds can safely be dressed for 14 days without the wound strength being affected. Dressings may be useful clinically in preventing superficial dermal necroses. One must, however, be aware of the impairment of the wound strength of ischaemic incisional wounds.

Publication Types:
    Evaluation Studies
    Research Support, Non-U.S. Gov't

PMID: 11291341 [PubMed - indexed for MEDLINE]

51: Br J Nurs. 2000Jun 8-21;9(11):720-3.

3M Tegasorb Thin: a hydrocolloid dressing for chronic wounds.

Williams C.

North East Wales NHS Trust.

Hydrocolloid dressings remain as popular today as when they were first developed in the early 1960s (Williams, 1994). The reason for this is that they provide a convenient and cost-effective treatment option for those who deal with the management of chronic wounds such as pressure sores and leg ulcers. This article

examines Tegasorb Thin from 3M and shows how it can create the optimal moist wound healing environment.

PMID: 11235265 [PubMed - indexed for MEDLINE]

52: Ostomy Wound Manage. 2000 Aug;46(8):18-27.

Simplifying modern wound management for nonprofessional caregivers.

Seaman S, Herbster S, Muglia J, Murray M, Rick C.

Grossmont Hospital-Sharp HeathCare, La Mesa, CA, 5555 Grossmont Center Drive, La Mesa, CA 91942, USA.

Nonprofessional caregivers currently are participating in managing pressure ulcers at home. As this can be a stressful experience, innovative and easy-to-use products are needed to support caregiver confidence. A multicenter, randomized clinical trial was conducted to compare clinical performance and case of instruction of a change indicator dressing (SIG) and a hydrocolloid alginate dressing (HAD) in the management of pressure ulcers in the home and long-term care settings. SIG and HAD were randomized to 17 and 18 partial- or full-thickness pressure ulcers respectively. During five dressing changes, wound area, dressing application, maintenance, appearance, removal, wear time, ease of teaching, and caregiver understanding of each dressing's instructions were measured. Both dressings were rated highly regarding ease of teaching, ease of use, appearance, maintenance, and helpfulness in signaling the need for dressing change by both professional and nonprofessional wound caregivers. Average dressing wear time was 3.2 days for SIG and 2.7 days for HAD. Of these wounds managed in a moist environment, 6 of 17 (35%) subjects whose wounds were dressed with SIG, and 1 of 18 (6%) dressed with HAD healed during the course of the study (alpha < 0.04). Percent wound reduction in area per day of care was also greater for SIG (alpha < 0.01). Innovative dressings may help caregivers provide consistent quality pressure ulcer care and improve wound-healing outcomes.

Publication Types:
    Clinical Trial
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 11189544 [PubMed - indexed for MEDLINE]

53: Adv Skin Wound Care. 2000 Mar-Apr;13(2):63-4.

When to use hydrocolloid dressings.

Hess CT.

Wound Care Strategies, Inc, Harrisburg, PA, USA.

PMID: 11074988 [PubMed - indexed for MEDLINE]

54: Ostomy Wound Manage. 2000 Jun;46(6):22-6, 28-9.

Outcomes of venous ulcer care: results of a longitudinal study.

Kerstein MD, Gahtan V.

Department of Surgery, Mount Sinai Medical Center-NYU School of Medicine, NY

10029-6574, USA.

A longitudinal study involving 81 patients with venous ulcers was conducted to explore the outcomes and cost of wound care in a home healthcare (HHC) setting and an outpatient care setting. Ulcers were managed with a saline gauze or hydrocolloid dressing and compression hosiery, or covered with an Unna's boot. Outcomes did not vary between physician's office and home care. Patients preferred home care, but costs and charges were much higher for HHC than for patients managed in the physician's office. Recurrence rates and costs varied greatly. Eighty-eight percent of ulcers in the saline dressing group did not heal or recurred compared to 21% of ulcers in the Unna's boot and 13% of ulcers in the hydrocolloid dressing group. The data also suggest hydrocolloid dressings are more cost-effective than Unna's boot or saline-gauze dressings. Controlled clinical studies to ascertain the cost-effectiveness of venous ulcer care in different patient care settings and the use of different treatment modalities, as well as care system oriented toward outcome for the patient rather than service, design, and distribution, are needed.

Publication Types:
    Comparative Study

PMID: 11029932 [PubMed - indexed for MEDLINE]

55: Scand J Plast Reconstr Surg Hand Surg. 2000 Sep;34(3):199-206.

Experimental model for local application of growth factors in skin re-epithelialisation.

Sanz Garcia S, Santos Heredero X, Izquierdo Hernandez A, Pascual Pena E, Bilbao de Aledo G, Hamann C.

Department of Plastic Surgery, Hospital Universitario del Aire, Madrid, Spain.

We did an experimental study to assess the effects of different growth factors on re-epithelialisation of skin wounds by creating a partial-thickness defect in rats with a handle dermatome. Three different growth factors that are particularly involved in the re-epithelialisation phase of wound repair (epidermal growth factor (EGF), keratinocyte growth factor (KGF), and basic fibroblast growth factor (FGF-b) n = 10 in each group) were applied locally in a hydrocolloid dressing containing solutions of the different factors (EGF 10 micrograms/ml, KGF 3.3 ng/ml, bFGF 1 microgram/ml). The dressings were changed daily. The thickness of the epithelium, the percentage of re-epithelialisation, and the maturity of the epithelium were quantified and measured morphometrically. The results showed that: the experimental model allowed us to apply the growth factors, while continuously maintaining the dose within the maximum activity of the growth factor; when EGF, KGF, and bFGF were given according to the protocol there was significant thickening of the new epidermis ($p < 0.01$) and acceleration of the re-epithelialisation ($p < 0.05$) rate compared with controls, and significantly more mature epithelium grew ($p < 0.05$) all of which were evident on both the third and the fifth days; and EGF and KGF cause a more epidermal thickening than bFGF.

PMID: 11020915 [PubMed - indexed for MEDLINE]

56: Proc Soc Exp Biol Med. 2000 Oct;225(1):58-64.

Promotive effects of a silk film on epidermal recovery from full-thickness skin wounds.

Sugihara A, Sugiura K, Morita H, Ninagawa T, Tubouchi K, Tobe R, Izumiya M, Horio T, Abraham NG, Ikehara S.

The First Department of Pathology and Department of Dermatology, Kansai Medical University, Osaka, Japan.

We examined the effects of the transparent fibroin film (silk film) on full-thickness skin wounds. Full-thickness dermatotomies (15 mm x 9 mm) were prepared on the dorsal wall of CRJ:CD-1 nu/nu (ICR nu/nu) mice. The area of the wounds dressed with silk film was reduced to 10% of that made by the dermatotomy 14 days after the dermatotomy and were covered with regenerated epidermis 21 days after the dermatotomy. In contrast, less recovery and epidermal regeneration were found 14 days after dermatotomy in the wounds dressed with a conventional hydrocolloid dressing (Duro Active). Furthermore, only partial incomplete epidemal growth was obtained 21 days after dermatotomy. Most importantly, the healing time of wounds dressed with silk film was 7 days shorter than those dressed with DuoActive dressing. The silk film showed an almost similar or slightly better promotive effect as the lyophilized porcine dermis (Alloask D), which is used as a dressing for burns, ulcers, and decubitis. Histologic findings revealed that there was greater collagen regeneration and less inflammation and neutrophil-lymphocyte infiltration of the wounds dressed with silk film than with DuoActive dressing. It is clear that regeneration of the epidermis and dermis of the wound beds covered with silk film was faster than with DuoActive dressing. Finally, silk film is easily obtainable, sterilizable, and transparent, and it allows easy observation of tissue recovery. Therefore, silk film offers advantages over other dressings and may be clinically useful for wound treatment.

PMID: 10998199 [PubMed - indexed for MEDLINE]

57: Med J Malaysia. 1998 Dec;53(4):428-31.

Pressure ulcers--randomised controlled trial comparing hydrocolloid and saline gauze dressings.

Chang KW, Alsagoff S, Ong KT, Sim PH.

Department of Surgery, University of Malaya Medical Centre, Kuala Lumpur.

An open comparative randomised study comparing the performance of hydrocolloid dressings (DuoDERM CGF) to saline gauze dressings in the treatment of pressure ulcers was done to evaluate the overall dressing performance, wound healing and cost effectiveness. Thirty-four subjects were enrolled at the University Hospital, Kuala Lumpur over a 643 days period. Inclusion criteria were Stage II or III pressure ulcers, at least 18 years of age and written informed consent. Only one pressure ulcer per subject was enrolled in the study. Patients with infected pressure ulcers, diabetes mellitus, an immuno-compromised status and known sensitivity to the study dressings were excluded. Subjects who met the enrollment criteria were randomised to one of the two dressing regimes. They were expected to participate in the study for a maximum of eight weeks or until the pressure ulcer healed, which ever occurred first. Overall subject age averaged 58 years and the mean duration of pressure ulcer existence was about 1 month. Twenty-one of the thirty-four ulcers enrolled were stage II and thirteen were stage III. The majority of the ulcers (88%) were located in the sacral area

and seventeen subjects (50%) were incontinent. In the evaluation of dressing performance in terms of adherence to wound bed, exudate handling ability, overall comfort and pain during dressing removal; all favoured the hydrocolloid dressing by a statistically significant margin ($p < 0.001$). Subjects assigned the hydrocolloid dressing experienced a mean 34% reduction from their baseline surface area measurement compared to a mean 9% increase by subjects assigned gauze dressings. This was not statistically significant ($p = 0.2318$). In cost evaluation of the study products, there was no statistical significance in the total cost of wound management per subject. When only labour time and cost was evaluated, there was a statistically significant advantage towards hydrocolloid dressings.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 10971989 [PubMed - indexed for MEDLINE]

58: Cancer Nurs. 2000 Jun;23(3):220-9.

The effects of hydrocolloid dressing and gentian violet on radiation-induced moist desquamation wound healing.

Mak SS, Molassiotis A, Wan WM, Lee IY, Chan ES.

Department of Clinical Oncology, Prince of Wales Hospital, Hong Kong.

The aim of the study was to compare the effect of a gentian violet topical application with that of a moist dressing (hydrocolloid) on the rate and efficacy of radiotherapy-induced moist desquamation wound healing and the patients' satisfaction level with each method. This prospective randomized clinical trial used a stratified sampling design. A sample of 39 patients with 60 wounds had their wounds assessed on alternate days in terms of several wound-healing parameters including wound size, wound pain, incidence of infection, and time required for healing. Patient satisfaction with each treatment was evaluated at the completion of the study. Gentian violet significantly decreased wound size and reduced wound pain. However, this treatment received significantly lower ratings for dressing comfort and dressing aesthetic acceptance. Nevertheless, the time required for healing was not statistically different in the two groups. These findings suggest that the lower score of dressing satisfaction level in the gentian violet group may result from the skin discoloration and drying effects of the treatment, which renders patients unable to move or stretch their skin. Although the aim is to have complete wound healing, this may not be realistic for many lesions such as radiotherapy-induced moist desquamation wounds. The best evidence on which to make decisions about individual care can now be based on patients' own perception of quality.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 10851773 [PubMed - indexed for MEDLINE]

60: Nurs Times. 2000 Jan 27-Feb 2;96(4 Suppl):5-7.

When and how to use hydrocolloid dressings.

Jones V, Milton T.

Wound Healing Research Unit, University of Wales College of Medicine, Cardiff.

Publication Types:
    Review

PMID: 10827732 [PubMed - indexed for MEDLINE]

61: J Wound Care. 1999 Nov;8(10):485-6.

Management of a neonatal wound on a newborn infant.

Irving V.

Neonatal Intensive Care Unit, Liverpool Women's Hospital, UK.

Publication Types:
    Case Reports

PMID: 10827651 [PubMed - indexed for MEDLINE]

62: Dermatol Surg. 2000 Apr;26(4):341-4.

Wound care following CO2 laser resurfacing using Kaltostat, Duoderm, and Telfa for dressings.

Liu HT.

Department of Dermatology, Chang-Gung Memorial Hospital, Kaohsiung, Taiwan.

BACKGROUND: There are a variety of dressings available for wound care following CO2 laser resurfacing. OBJECTIVE: To share the experience of using Kaltostat and Duoderm for wound care following laser resurfacing. METHODS: A total of 27 patients underwent laser resurfacing, including 12 for wrinkles and 15 for acne scars. Kaltostat pads and Duoderm sheets were cut into appropriate shapes to cover the laser-treated areas. The patients' families changed the dressings when the exudate accumulating under Duoderm began to leak. Kaltostat pads were used only for the first 2-3 days when the amount of discharge was profuse. Telfa pads were used rather than Kaltostat in two cases. Duoderm alone was used thereafter to the day of complete reepithelialization. Patients returned to the hospital on days 4, 7, and 10. RESULTS: Complete reepithelialization occurred by day 7 in patients with wrinkles and day 10 in patients with acne scars. The degree of postoperative erythema was mild to moderate. CONCLUSIONS: Duoderm worked well for postresurfacing wound healing. Kaltostat fibers were difficult to remove totally. Telfa pads can be used instead of Kaltostat.

Publication Types:
    Comparative Study

PMID: 10759822 [PubMed - indexed for MEDLINE]

63: Ostomy Wound Manage. 1999 Jun;45(6):39-44, 46-7.

A randomized clinical study comparing a hydrocellular dressing to a hydrocolloid dressing in the management of pressure ulcers.

Seeley J, Jensen JL, Hutcherson J.

Diabetic Foot & Wound Center, Denver, CO 80220, USA.

This study compared an adhesive hydrocellular dressing with a leading hydrocolloid dressing in the management of pressure ulcers. Forty adult patients of both sexes who had Stage II or III pressure ulcers (according to the Agency for Health Care Policy and Research system) were enrolled in the study and were randomized to either the hydrocellular or hydrocolloid dressing. Dressing changes were done as required, and each ulcer was assessed on a weekly basis. Patients were followed for 8 weeks, until ulcer closure was achieved, or until the patient was withdrawn from the study, whichever occurred first. The hydrocellular dressing was found to compare favorably with the hydrocolloid dressing. In terms of ease of use, the hydrocellular dressing was found to be significantly easier to remove ($P < 0.001$) and quicker to change ($P < 0.001$) than the hydrocolloid dressing. No differences were detected between the two dressing groups regarding mean wound pain, odor, and changes in ulcer appearance and ulcer area.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 10655861 [PubMed - indexed for MEDLINE]

64: Br J Nurs. 1999 May 27-Jun 9;8(10):640-6.

Comparing hydrocolloid dressings in management of exuding wounds.

Banks V, Hagelstein S, Thomas N, Bale S, Harding KG.

Wound Healing Research Unit, University of Wales College of Medicine, Health Park, Cardiff.

Hydrocolloid dressings have been widely used since the late 1970s. This article compares two hydrocolloid dressings--3M Tegasorb dressing and ConvaTec's Granuflex (E)--and highlights their similarities and differences when used in the clinical situation. Both hydrocolloids were reported to perform favourably by users in most situations. 3M Tegasorb dressing becomes transparent in use and this function was rated highly by users compared to the opaque Granuflex (E). In addition, 3M Tegasorb showed better adherence. One limitation of the study was the small number of patients studied. Weekly assessments yielded 90 data sets in total.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 10624193 [PubMed - indexed for MEDLINE]

65: Pflege Z. 1999 May;52(5):365-6.

[Doubts about modern treatment methods but: moist wound treatment is cheaper]

[Article in German]

Reis B.

PMID: 10514739 [PubMed - indexed for MEDLINE]

66: J Wound Care. 1999 Apr;8(4):204-6.

The use of hydrocolloids in the treatment of diabetic foot.

Gill D.

Whiteabbey Hospital, Newtownabbey, UK.

Publication Types:
    Review

PMID: 10455637 [PubMed - indexed for MEDLINE]

67: J Wound Care. 1998 Nov;7(10):503-7.

The role of moist wound healing in the management of meningococcal skin lesions.

Thomas S, Humphreys J, Fear-Price M.

Surgical Materials Testing Laboratory, Bridgend, UK.

Publication Types:
    Case Reports

PMID: 10188444 [PubMed - indexed for MEDLINE]

68: Krankenpfl J. 1998 Nov;36(11):454.

[Management of infections in chronic wounds: hydroactive dressing instead of antiseptics?]

[Article in German]

[No authors listed]

PMID: 10095546 [PubMed - indexed for MEDLINE]

69: Br J Nurs. 1998 Nov 26-Dec 9;7(21):1337-40.

Hydrocoll: a 'new breed' of hydrocolloid wound dressing.

Williams C.

Wrexham Maelor Hospital, North Wales.

Hydrocolloid dressings were first used in wound management in the 1960s. They provide the optimal environment for wound healing, i.e. a moist environment, constant wound temperature and infrequent dressing changes, and can be used on wounds in various stages of healing. As a result they are a popular treatment

option for health professionals in both the community and hospital settings. This article describes the properties of Hydrocoll--a new and exciting range of hydrocolloid dressings from Paul Hartmann Ltd--which was launched in the UK in January 1998 and became available on the Drug Tariff in June 1998.

PMID: 10076210 [PubMed - indexed for MEDLINE]

70: J Wound Care. 1998 Oct;7(9):445-8.

Exudate management in fungating wounds.

Grocott P.

Department of Nursing Studies, King's College London, UK.

This study evaluates dressing performance in the management of exuding fungating wounds. The Teler system of treatment evaluation was used to describe the results. The study forms part of a research project on the palliative management of fungating malignant wounds, in which individuals' experiences of living with such a wound were investigated in a multiple-case study design. The conclusions indicate that exudate management depends critically on dressing fit and optimum absorption and venting of excess fluid.

Publication Types:
    Case Reports
    Clinical Trial
    Comparative Study

PMID: 9887735 [PubMed - indexed for MEDLINE]

71: J Wound Care. 1998 Jul;7(7):327-30.

Costs of dressings in the community.

Bale S, Hagelstein S, Banks V, Harding KG.

Wound Healing Research Unit, Cardiff Community Healthcare NHS Trust, UK.

This study compares the costs of dressings used in the treatment of patients with a variety of wound aetiologies. The two dressings investigated were a hydrocolloid dressing and a hydrocellular dressing. Secondary objectives included a comparison of dressing durability, time to complete healing, ease of wound cleansing and dressing removal. The study was an open prospective single-centre randomised parallel group trial involving 100 patients, treated in the community, who were randomised to the two dressing groups. For all aetiologies except pressure sores, the costs of the hydrocolloid dressing were less than the costs of the hydrocellular dressings. Similar healing rates were observed in the leg ulcer and 'other wound' groups. There were, however, significant differences in the number of healed wounds observed in patients with pressure sores treated with the hydrocellular dressing.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 9791356 [PubMed - indexed for MEDLINE]

72: Scand J Plast Reconstr Surg Hand Surg. 1998 Sep;32(3):243-8.

Wound contraction in an experimental porcine model.

Hinrichsen N, Birk-Sorensen L, Gottrup F, Hjortdal V.

Institute of Experimental Clinical Research, University of Aarhus, Denmark.

Wound contraction is thought to be independent of site, and circular full-thickness skin wounds are though not to contract completely. To verify these statements four circular full-thickness skin wounds were created on each side of eight pigs and randomised to treatment with either split-thickness skin grafts, or healing by secondary intention under a hydrocolloid dressing. Time to healing, contraction, and final scar shape were evaluated. The median healing time was 12 days (range 6-18) in the grafted wounds and 30 days (range 15-45) in the secondarily healing wounds. There were significant differences in healing time between the different sites on the pigs. In the secondarily healing group, medial-caudal wounds healed in 21 (15-21) days compared with lateral wounds which healed in 36 (21-45) days ($p < 0.005$), while no differences were found in the grafted group. There was a clear relationship between site and contractility and shape of the scars in both treatment groups. Scars located on the lateral-caudal aspect of the pig were predominantly round and contracted only slightly. Scars located on the lateral aspect of the pig tended to be oval. Contraction was greatest in the medial scars and least in the lateral scars. Median contraction was 33% (range -2-63) in skin grafted wounds and 64% (range 42-82) in secondarily healed wounds. This randomised experiment showed that extent of wound contraction is dependent of site, and that circular wounds do heal with contraction.

Publication Types:
    Comparative Study
    Research Support, Non-U.S. Gov't

PMID: 9785426 [PubMed - indexed for MEDLINE]

73: Int J Nurs Pract. 1998 Mar;4(1):25-32.

Treating skin tears in nursing home residents: a pilot study comparing four types of dressings.

Edwards H, Gaskill D, Nash R.

School of Nursing, Queensland University of Technology, Kelvin Grove, Australia. h.edwards@qut.edu.au

A pilot study was conducted to compare four types of dressings used to treat skin tears in nursing home residents. Wounds treated with a non-occlusive dressing healed more quickly than those dressed with occlusive dressings. The results suggest that ease of use and product wastage are important considerations when treating skin tears. The pilot study also highlights the need for further research into skin tear management and the need for ongoing education for nurses regarding skin integrity risk assessment and product information.

Publication Types:
    Clinical Trial
    Comparative Study
    Controlled Clinical Trial
    Research Support, Non-U.S. Gov't

PMID: 9748928 [PubMed - indexed for MEDLINE]

74: Ann Plast Surg. 1998 Sep;41(3):334-5.

Transparent hydrocolloid dressing for CO2 ultrapulse laser resurfacing.

Paloma V, Lasso JM, Samper A, Bazan A.

Publication Types:
    Letter

PMID: 9746100 [PubMed - indexed for MEDLINE]

75: J Am Coll Surg. 1998 Sep;187(3):307-9.

Leg ulceration in the sickle cell patient.

Cackovic M, Chung C, Bolton LL, Kerstein MD.

St. Luke's Hospital, Bethlehem, PA, USA.

BACKGROUND: The purpose of this study was to determine cost of care for leg ulcers in sickle cell patients and suggest an improved modality in ulcer care. STUDY DESIGN: We performed a retrospective study of a group of sickle cell disease patients with leg ulcers. RESULTS: Eighteen patients with a leg ulcer (duration: mean, 53.7 months), sickle cell disease, and a mean of 20.7 years of age had various modalities of treatment with the only consistency in healing being a commercial moist-wound dressing. CONCLUSIONS: There is no consistency in the treatment of the sickle cell patient with a leg ulcer. Treatment with a moist dressing had the best results.

PMID: 9740188 [PubMed - indexed for MEDLINE]

76: Scand J Plast Reconstr Surg Hand Surg. 1998 Mar;32(1):1-8.

The influence of occlusive dressing and hyperbaric oxygen on flap survival and the healing of ischaemic wounds.

Quirinia A, Viidik A.

Department of Connective Tissue Biology, University of Aarhus, Denmark.

The effect of dressing with Duoderm (hydrocolloid) and treatment with hyperbaric oxygen was investigated on the healing of ischaemic incisional wounds and on flap survival in rats. After 10 days, Duoderm dressing of ischaemic wounds decreased all strength parameters (load*S, stress*S) by 41%-44% and the improvement of ischaemic wound healing by hyperbaric oxygen treatment shown in our previous study was not seen. After removal of Duoderm on day 10 the biomechanical properties had improved but not returned to normal on day 20. In the dressed animals the shrinkage of ischaemic wounds and the extension of necrosis on the ischaemic flaps were reduced. Dressing may be useful clinically in preventing superficial dermal necroses. One must, however, be aware of the impairment of the wound strength of the incisional wounds.

PMID: 9556815 [PubMed - indexed for MEDLINE]

77: Ostomy Wound Manage. 1998 Jan;44(1):36-42, 44, 46 passim.

Hydrogels and hydrocolloids: an objective product comparison.

Sprung P, Hou Z, Ladin DA.

HealthCore (Henry Ford Health System's Home Medical Equipment Division), Southfield, MI, USA.

It is difficult for providers to make selections from the vast array of currently available wound care products. There has been a paucity of objective data generated by a non-biased source comparing one product to another. In order for our Wound Care Team to recommend products for system-wide formulary purchase and patient use, we needed to develop a process for product comparison. A strategy for objective evaluation of hydrocolloid and amorphous hydrogel products was created, and these products were assessed clinically by experienced wound care providers. Laboratory testing included measurement of each product's ability to absorb water versus normal saline versus actual patient wound fluid. There were major differences in various products' abilities to absorb the fluids. These objective data from the laboratory, along with the subjective comparison of clinical performance, allowed our Wound Care Team to objectively rank the hydrocolloids and hydrogels and include those preferred products in our Wound Care Product Formulary.

Publication Types:
    Comparative Study

PMID: 9510821 [PubMed - indexed for MEDLINE]

78: Am J Contact Dermat. 1997 Dec;8(4):236-8.

Allergic contact dermatitis from hydrocolloid dressings.

Sasseville D, Tennstedt D, Lachapelle JM.

Division of Dermatology, Royal Victoria Hospital, Montreal, QC, Canada.

BACKGROUND: Hydrocolloid wound dressings have been in use for nearly two decades, and have rarely caused allergic contact dermatitis. DuoDERM E (DuoDERM CGF) is a newer version of DuoDERM (ConvaTec Ltd, a division of Bristol-Myers Squibb Co, Princeton, NJ) that contains a sensitizing derivative of colophony. OBJECTIVE: We describe three patients who developed eczematous lesions under this type of wound covering. METHODS: The patients were patch tested to the European standard series, to a glues and adhesives series, and to pieces of various adhesive dressings. RESULTS: The patients displayed positive patch tests to colophony and to DuoDERM E or DuoDERM CGF hydrocolloid dressings. CONCLUSION: These dressings contain the pentaerythritol ester of hydrogenated rosin as a tackifying agent, and this substance retains the sensitizing potential of colophony. The addition of this compound is an important change that may negatively alter the good safety record of ConvaTec dressings.

Publication Types:
    Case Reports

PMID: 9358118 [PubMed - indexed for MEDLINE]

79: J Wound Care. 1997 Sep;6(8):383-6.

A comparison of two dressings in the management of chronic wounds.

Thomas S, Banks V, Bale S, Fear-Price M, Hagelstein S, Harding KG, Orpin J, Thomas N.

Surgical Materials Testing Laboratory, Bridgend General Hospital, Mid Glamorgan.

A hydropolymer dressing (Tielle) and a hydrocolloid dressing (Granuflex) were compared in a randomised controlled clinical study involving 100 patients with leg ulcers and 99 patients with pressure sores in the community. Statistically significant differences in favour of the hydropolymer dressing were detected for dressing leakage and odour production, but no statistically significant differences were recorded in the number of patients with either leg ulcers or pressure sores who healed in each treatment group.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 9341430 [PubMed - indexed for MEDLINE]

80: J Wound Care. 1997 Jun;6(6):272-4.

The cytocompatibility of hydrocolloid dressings.

Agren M.

Department of Pathology, Faculty of Health Sciences, Sweden.

The purpose of this study was to evaluate the effect on fibroblast proliferation of hydrophilic particles isolated from six commercial hydrocolloid dressings. The hydrophobic adhesive matrix of six hydrocolloid dressings was removed using a reflux extraction method with an organic solvent (xylene). The remaining hydrophilic particles were dissolved in complete cell growth medium containing 10% (v/v) foetal calf serum and added to confluent human dermal fibroblasts grown in monolayer in final concentrations of 0.1 and 0.01% (w/v). Control cells received growth medium alone. The fibroblasts were incubated with the hydrophilic particles and the thymidine analogue 5-bromo-2'-deoxyuridine (BrdU) for 24 hours. The incorporation of BrdU into DNA was used as a measure of cell proliferation and determined using an ELISA kit. The results were expressed in percentage of control-treated wells and analysed using analysis of variance. Apart from Comfeel Plus, the hydrophilic particles of hydrocolloid dressings significantly inhibited fibroblast proliferation at 0.1% compared to control-treated fibroblasts ($p < 0.05$).

PMID: 9274263 [PubMed - indexed for MEDLINE]

81: J Wound Care. 1997 May;6(5):216.

Use of a hydrocolloid in over-granulation.

Young T.

University of Wales, Bangor School of Nursing and Midwifery.

Publication Types:
    Case Reports

PMID: 9256725 [PubMed - indexed for MEDLINE]

82: J Wound Care. 1997 May;6(5):213-4.

Management of a fungating breast wound.

Shutler SD, Jones M, Thomas S.

Surgical Materials Testing Laboratory, Bridgend.

Publication Types:
    Case Reports

PMID: 9256724 [PubMed - indexed for MEDLINE]

83: Biorheology. 1997 Mar-Apr;34(2):139-53.

Swelling of hydrocolloid dressings.

Lanel B, Barthes-Biesel D, Regnier C, Chauve T.

B. Braun Biotrol S.A., OPM Division, Paris, France.

Wound healing is promoted by dressings that maintain a moist environment. Specifically, hydrocolloid dressings allow excess fluid to escape without permitting wound desiccation. However, the fluid handling capacity of hydrocolloid dressings depends on many factors such as the physicochemical properties of the gel formulation, and the design of the dressing. We measured the moisture uptake kinetics of different hydrocolloid dressings by placing the gel side of a sample in contact with water. The time evolution of the thickness was measured by means of a video camera linked to a computer. The theory of Tanaka and Fillmore (1979) was used to predict the kinetics of uniaxial swelling of a cylindrical gel sample. The model allows to associate to an experimental curve a total thickness increase hf-h0 (where hf and h0 are respectively the final and initial thickness) and a characteristic time tau. The model also relates hf-h0 and tau to the physiochemical composition of the dressing, and to the initial thickness h0. The influence of h0 is discussed by means of experiments performed on dressings with different initial thickness.

PMID: 9373396 [PubMed - indexed for MEDLINE]

84: Acta Derm Venereol. 1997 Mar;77(2):127-31.

Two hydrocolloid dressings evaluated in experimental full-thickness wounds in the skin.

Agren MS, Everland H.

Department of Dermatology, University of Miami School of Medicine, Florida, USA.

Hydrocolloid occlusive dressings are beneficial in wound management in many respects, although the adhesive matrix may disintegrate when in contact with wounds. The purpose of this study was to determine: (1) if material from two hydrocolloid dressings-Comfeel and Duoderm-showing differences in adhesive cohesion, can be chemically identified in granulation tissue; and (2) if the presence of this material influences cutaneous wound healing. In full-thickness skin wounds in rats, components from the two hydrocolloid dressings were phagocytosed as indicated by the presence of foam cells. Extracellular vacuoles (100-400 microns in size) occupied about 25% of the granulation tissue volume in the Duoderm group but less than 5% in the Comfeel group, a statistically significant difference ($p < 0.001$). The vacuoles contained hydrophobic polymers derived from the respective hydrocolloid dressing, as analyzed by Fourier Transform Infrared (FT-IR) microscopy. Wound contraction did not differ significantly between the two hydrocolloid dressings. Wounds treated with Comfeel were significantly ($p < 0.05$) more epithelialized (mean: 78%) than those treated with Duoderm (mean: 41%). The proliferative activity in wound epithelium, as measured immunohistochemically by bromodeoxyuridine incorporation, was similar for the two treatment groups, indicating that epithelial migration was impaired in Duoderm-treated wounds. In summary, extensive incorporation of hydrophobic dressing material from hydrocolloid dressings may render the wound bed less suitable for epithelial migration during acute secondary wound healing.

Publication Types:
    Comparative Study
    Research Support, Non-U.S. Gov't

PMID: 9111823 [PubMed - indexed for MEDLINE]

85: Dermatology. 1997;194(4):383-7.

Healing rate and bacterial necrotizing vasculitis in venous leg ulcers.

Pierard-Franchimont C, Paquet P, Arrese JE, Pierard GE.

Belgian SSTC Research Unit 5596, University Medical Center, Liege, Belgium.

Morbidity associated with venous leg ulcers is important in the elderly. The biological processes involved during attempts at healing are much more complex than in most models of experimental wounds. In addition, there is still controversy on deleterious effects elicited by both microorganisms and antiseptics on cells involved in the healing process. Using histology, immunohistochemistry and iterative computerized planimetry, we evaluated the bacterial load, the inflammatory aspects and the healing rate of leg ulcers present in 15 eligible women aged from 57 to 73 years. Each patient had at least 2 chronic ulcers treated with hydrocolloid dressing alone or in combination with daily applications of povidone-iodine solution (PVP-I). The weekly reduction in wound area was superior for hydrocolloid+PVP-I treatment than in hydrocolloid-treated ulcers. After a 4-week treatment, hydrocolloid-treated ulcers contained clumps of microorganisms and showed massive infiltration by

phagocytes including Mac 387+ and factor XIIIa+ cells. Leukocytoclastic vasculitis was present as well. These features were less pronounced in ulcers treated with hydrocolloid+PVP-I. In sum, a broad-spectrum antimicrobial such as PVP-I may be beneficial in reducing deleterious bacteria-related inflammation. As a result, the healing rate leg ulcers is enhanced.

Publication Types:
    Clinical Trial
    Controlled Clinical Trial

PMID: 9252771 [PubMed - indexed for MEDLINE]

86: J Am Acad Dermatol. 1997 Jan;36(1):53-8.

A comparative study of three occlusive dressings in the treatment of full-thickness wounds in pigs.

Agren MS, Mertz PM, Franzen L.

Department of Dermatology & Cutaneous Surgery, University of Miami School of Medicine, FL 33101, USA.

BACKGROUND: Little objective information is available on the influence of occlusive dressings on the healing of cutaneous full-thickness wounds. OBJECTIVE: Our purpose was to examine the effects of three occlusive dressings-two hydrocolloid dressings (Comfeel Ulcer Dressing, Coloplast A/S, Espergaerder, Denmark [hydrocolloid dressing A] and DuoDERM; ConvaTec, Princeton, N.J. [hydrocolloid dressing B]) and one polyurethane film dressing (OpSite, Smith & Nephew, Hull, U.K. [film dressing])-on tissue reactions, degree of inflammation, wound contraction, and epithelialization in full-thickness wounds in domestic pigs. METHODS: Standardized 20 mm full-thickness punch biopsy wounds were treated for 10 days. Healing was assessed by light microscopy and by planimetry. RESULTS: Material from both hydrocolloid dressings was phagocytosed as indicated by the presence of foam cells in the granulation tissue. Granulomatous tissue reactions around extracellular vacuoles were found in 10 of 12 hydrocolloid dressing B-treated wounds compared with one in hydrocolloid dressing A-treated wounds and in none of the 10 film dressing-treated wounds ($p < 0.0001$). Inflammation was significantly ($p < 0.002$) more pronounced in hydrocolloid dressing B-treated wounds. The extracellular vacuoles in the hydrocolloid dressing B group contained dressing material as demonstrated by Fourier transform infrared microscopy. There was a tendency ($p < 0.07$) towards a delayed entry into the contraction phase with hydrocolloid dressing B, but there was no significant difference in epithelialization between the three dressings. CONCLUSION: Wound tissue reactions to different hydrocolloid dressings vary depending on composition. The tissue reactions had no significant effect on wound contraction or epithelialization.

Publication Types:
    Comparative Study
    Research Support, Non-U.S. Gov't

PMID: 8996261 [PubMed - indexed for MEDLINE]

87: Br J Nurs. 1996 Nov 14-27;5(20):1271-2.

Tegasorb hydrocolloid dressing: advanced formulation.

Williams C.

Maelor Hospital, Wrexham, North Wales.

Tegasorb advanced formulation hydrocolloid dressing from 3M Healthcare can be used on a variety of wounds, e.g. leg ulcers and donor sites. It encourages a moist wound-healing environment and can be used in all stages of wound healing, from black necrotic tissue to the epithelializing wound. Tegasorb is a well-established hydrocolloid dressing that has recently been relaunched as an advanced formulation.

PMID: 9004566 [PubMed - indexed for MEDLINE]

88: J Wound Care. 1996 Oct;5(9):396-9.

Evaluation of a hydrocolloid dressing.

Schmitt M, Vergnes P, Canarelli JP, Gaillard S, Daoud S, Dodat H, Lascombes P, Melin Y, Morisson-Lacombe G, Revillon Y.

A hydrocolloid dressing was compared to adhesive skin tapes on children's postoperative wounds. A total of 170 children of varying ages were randomised in two parallel groups, in nine centres of plastic, thoracic, gastrointestinal, urogenital and orthopaedic surgery. Skin closure was satisfactory in both groups, with 76 (89.4%) healthy closures without dehiscence in the hydrocolloid group and 81 (95.3%) in the control group; a relationship was found between partial closures/dehiscence and the type of surgical procedure. No product-related maceration, infection or adverse event was reported during the study and both groups showed very satisfactory cosmetic results.

Publication Types:
    Clinical Trial
    Comparative Study
    Multicenter Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 8954432 [PubMed - indexed for MEDLINE]

89: J Wound Ostomy Continence Nurs. 1996 Sep;23(5):244-7.

Treatment of sacral pressure ulcers in an adolescent with Hodgkin's disease.

Kozierowski L.

Department of Nursing, Roswell Park Cancer Institute, Buffalo, New York 14263, USA.

A 16-year-old male adolescent with Hodgkin's disease and two sacral pressure ulcers was treated at the Roswell Park Cancer Institute in Buffalo, New York. Despite the patient's diagnosis of Hodgkin's disease, with its associated high risk of infection, the complex sacral pressure ulcers were healed in approximately 3 months. This article describes how the choice of wound care products, meeting the educational needs of the patient and family for wound care techniques, and the inspirational determination and compliance of the patient

combined for a positive clinical outcome.

Publication Types:
    Case Reports

PMID: 9043269 [PubMed - indexed for MEDLINE]

90: Nurs Times. 1996 Jul 17-23;92(29):64, 66, 68.

The use of hydrocolloids.

Hofman D.

Publication Types:
    Case Reports
    Clinical Trial
    Research Support, Non-U.S. Gov't

PMID: 8718144 [PubMed - indexed for MEDLINE]

91: Biomaterials. 1996 Jul;17(14):1373-7.

Water vapour transmission rates in burns and chronic leg ulcers: influence of wound dressings and comparison with in vitro evaluation.

Wu P, Nelson EA, Reid WH, Ruckley CV, Gaylor JD.

Bioengineering Unit, University of Strathclyde, Glasgow, UK.

One of the main functions of wound dressings is to control water vapour transmission rate (WVTR) from wounded skin. In this paper, the influence of hydrocolloid, knitted viscose and gauze dressings was evaluated through in vivo measurement of WVTR in burns and chronic leg ulcers utilizing an evaporimeter. The results suggest that the evaporative water vapour loss from exposed skin wounds depends mainly on the wound depth, and that chronic leg ulcers have the same level of the WVTR as full thickness burns. Compared with the knitted viscose and gauze dressings, hydrocolloid dressing has a greater effect on reducing evaporative water loss, with WVTR being 20-30% of that of exposed wounds under the conditions used in this study. This result is in agreement with that obtained in an in vitro evaluation.

Publication Types:
    Clinical Trial
    Comparative Study
    Controlled Clinical Trial
    Research Support, Non-U.S. Gov't

PMID: 8830962 [PubMed - indexed for MEDLINE]

92: Dermatol Nurs. 1996 Jun;8(3):174-6, 204.

Moist wound healing.

Chang H, Wind S, Kerstein MD.

The optimum wound environment to enhance wound healing is a balance of nutrition, hypoxia, and removal of debris in an occlusive moist environment. With increasing knowledge of the healing process and the variety of dressings available, the end result of any wound management will be an expedited wound healing with maximum patient comfort.

Publication Types:
    Review

PMID: 8716982 [PubMed - indexed for MEDLINE]

93: J Burn Care Rehabil. 1996 May-Jun;17(3):246-51.

Dermasorb versus Jelonet in patients with burns skin graft donor sites.

Cadier MA, Clarke JA.

Department of Plastic and Reconstructive Surgery, Queen Mary's University Hospital, London, England, UK.

A prospective and randomized trial that compares Jelonet (Smith & Nephew PLC, London, England) with a new hydrocolloid dressing, Dermasorb (Convatec Ltd., Clwyd, United Kingdom), is presented. The dressings were applied on contiguous donor sites in 21 patients that required skin grafting for burn wounds. Pain experienced with the dressing in situ was assessed on days 2, 4, 7, and on two subsequent occasions. During dressing changes, pain experienced was again assessed, bacteriologic swabs were taken, and the percentage of epithelialization was recorded. Questionnaires completed by investigators and patients were used to assess the perceived performances of both dressings. The results showed that Dermasorb is a less painful dressing than Jelonet, in which wounds heal faster. Dermasorb was preferred by both investigators and patients. No clinical or laboratory evidence of any differences of colonization or infection were found. All results were statistically significant. We would strongly recommend the use of Dermasorb as a split-thickness skin graft donor site dressing for a patient with burns.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 8736372 [PubMed - indexed for MEDLINE]

94: Adv Wound Care. 1996 May-Jun;9(3):21-6.

31P NMR spectroscopic analysis of wound healing: the effect of hydrocolloid therapy.

Ennis WJ, Meneses P.

With the advent of managed care, wound care professionals have limited time to heal chronic wounds. They need to know whether the repair process is progressing

or stagnating in response to treatments. Phosphorus-31 (31P) nuclear magnetic resonance (NMR) spectroscopic measurements of chronic wound biochemistry yields rapid knowledge of whether a wound is generating, storing, or using energy. We used 31P NMR analysis on biopsy samples to explore the energy status of two chronic non-healing leg ulcers, before and after the first week of treatment with two low-pH hydrocolloid materials. Energy generation (i.e., energy "charge") was initially low in both wounds and was significantly elevated after 1 week of treatment. Earlier work has shown that leg ulcer pathophysiology is altered during the first week of hydrocolloid treatment. This work traces the origins of such effects deeper into the cellular biochemistry and correlates the measures with the final healing outcome. 31P NMR spectroscopy may provide a real-time biochemical "fingerprint" that shows clinicians the healing status of a questionable wound. Further study is needed to confirm the reliability and validity of 31P NMR spectroscopy as a predictor of healing outcomes in other wound environments.

Publication Types:
    Case Reports
    Clinical Trial

PMID: 8716270 [PubMed - indexed for MEDLINE]

95: J Am Acad Dermatol. 1996 Apr;34(4):673-5.

Surgical Pearl: a novel cost-effective approach to wound closure and dressings.

Siegel DM, Sun DK, Artman N.

Department of Dermatology, State University of New York at Stony Brook, USA.

PMID: 8601659 [PubMed - indexed for MEDLINE]

132: Cutis. 1995 Nov;56(5):301-3.

Management of lacerations in sports: use of a biosynthetic dressing during competitive wrestling.

Hazen PG, Grey R, Antonyzyn M.

Department of Dermatology, Cleveland MetroHealth Medical Center, Ohio, USA.

Lacerations occur commonly during competitive contact sports. Such injuries often limit the ability of the athlete to continue competition because of concerns about further trauma to the site and risks of infection. We describe herein the use of a biosynthetic dressing, Duoderm Thin, to protect lacerations received during competitive wrestling. The dressing was able to support the skin, protect the laceration from further injury, shield the wound from exposure to infectious agents, and prevent transmission of blood or serum to other wrestlers. Such protection enabled two wrestlers to continue competition and/or practice without adverse effects.

Publication Types:
    Case Reports

PMID: 8565619 [PubMed - indexed for MEDLINE]

96: J Laryngol Otol. 1995 Nov;109(11):1041-7.

Comparison of the repair of permanent tympanic membrane perforations by hydrocolloidal dressing and paper patch.

Spandow O, Hellstrom S, Dahlstrom M, Bohlin L.

Department of Otorhinolaryngology, Umea University Hospital, Sweden.

Thirty consecutive patients with permanent perforations of their tympanic membranes (TM) present from 2.5 to 50 years (mean 18.7 years) were admitted to a prospective study using two alternative methods of dressings for closure of the perforations. An adhesive-coated hydrocolloid material was compared with a conventional dressing of vaseline impregnated rice paper patch after de-epithelialization of the perforation border. Nine of the permanent TM perforations (30 per cent), five with the hydrocolloidal dressing and four with the rice paper patch had healed when followed-up after one year. The size of eight of the central perforations that had healed was equal to or less than 25 per cent of the TM. Also one perforation with a size of 65 per cent had healed. Seven perforations were located in the posterior part of the TM: four in the posterior-superior quadrant, one in the inferior quadrant, one had engulfed the posterior half of the TM and one included the anterior-inferior quadrant. Only two perforations out of 14, with a size of 25 per cent or less, located in the anterior-inferior quadrant, healed. No significant difference was demonstrated between the two types of dressings. Both groups noted an immediate improvement in hearing of 10.8 and 9.3 dB, respectively, after application of the dressing. The study demonstrates that application of an occlusive dressing or paper patch in 30 per cent of patients can promote the healing of long-standing perforations. The chances for healing are better if the perforation is located in the posterior part of the TM. This simple technique immediately improved hearing and should be tried before a patient is referred for myringoplasty surgery.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 8551116 [PubMed - indexed for MEDLINE]

97: Nurs Res. 1995 Sep-Oct;44(5):312-6.

A comparison of three wound dressings in patients undergoing heart surgery.

Wikblad K, Anderson B.

Center for Caring Sciences, Uppsala University, Sweden.

Two hundred fifty patients undergoing heart surgery were randomized in a prospective comparative study of a semiocclusive hydroactive wound dressing, an occlusive hydrocolloid dressing, and a conventional absorbent dressing. The wounds were evaluated during the 4 weeks after surgery. Color photographs were used for a blind evaluation of wound healing. The conventional absorbent dressing was more effective in wound healing, compared with the hydroactive dressing. Further, there were fewer skin changes and less redness in the wounds with the conventional dressing than with the hydroactive dressing; the differences were not significant with the hydrocolloid dressing. The conventional dressing was less painful to remove than the hydroactive and hydrocolloid dressings. More frequent dressing changes, however, were needed

when using the conventional dressing. Despite this, it was the least expensive alternative.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 7567488 [PubMed - indexed for MEDLINE]

98: Ann Plast Surg. 1995 May;34(5):493-9; discussion 499-500.

Dry, moist, and wet skin wound repair.

Vogt PM, Andree C, Breuing K, Liu PY, Slama J, Helo G, Eriksson E.

Division of Plastic Surgery, Brigham/Children's/Harvard, Boston, MA 02115, USA.

Effects of wet (saline in a vinyl chamber), moist (hydrocolloid dressing), and dry (sterile gauze dressing) environments on wound repair were studied in a porcine partial-thickness wound model. Chambers were exchanged and refilled daily with normal saline containing penicillin G (100 U/ml) and streptomycin (100 micrograms/ml). Hydrocolloid and gauze dressings were kept in place until biopsy of the wound site. Wounds in wet, moist, and dry environments were completely epithelialized on days 6, 7, and 8, respectively. Thickness of the epidermis in wet, moist, and dry wounds was 204 +/- 23, 141 +/- 12, and 129 +/- 18 (mean +/- SEM), respectively. Moist wounds had more subepidermal inflammatory cells than wet wounds. In comparison to dry wounds, the moist or the wet healing environment resulted in less necrosis and faster and better quality of healing in the formation of the newly regenerated epidermis.

Publication Types:
    Comparative Study

PMID: 7639486 [PubMed - indexed for MEDLINE]

99: J Wound Care. 1995 May;4(5):218-20.

Evaluation of hydrocolloids and topical medication in minor burns.

Thomas SS, Lawrence JC, Thomas A.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 7600366 [PubMed - indexed for MEDLINE]

100: Ostomy Wound Manage. 1995 Apr;41(3):28-30, 32, 34-6 passim.

Assessing clinical efficacy of a hydrocolloid/alginate dressing on full-thickness pressure ulcers.

Barr JE, Day AL, Weaver VA, Taler GM.

An absorbent hydrocolloid/alginate spiral dressing and a hydrocolloid secondary dressing were used in the management of 30 patients with 30 exuding State III

and IV pressure ulcers. After a mean treatment time of 12.9 days (SD 6.5), all wounds had a significant increase in the amount of granulation tissue/epithelium and a decrease in the amount of devitalized tissue ($p < 0.05$). Wounds that underwent wide surgical debridement prior to the study were covered with 15 percent fibrin slough at study entry versus 39 percent for non-debrided wounds ($p < 0.05$). The dressing combination facilitated wound contraction and removal of fibrin slough in ulcers that were surgically debrided prior to the study. Ulcers which had not been surgically debrided expanded as autolytic debridement reduced the amount of fibrin slough/necrotic tissue present at the wound bed (Mean: 17.6 percent, $p < 0.05$). The absorbent spiral dressing helped manage exudate, was easy to use and comfortable for the patients. The average time between dressing changes in these exuding wounds was 1.56 days (SD = 0.95). Use of air-fluidized bed or mattress was found to significantly reduce wear time of the dressing ($p < 0.01$). Further studies are needed to confirm short-term, and evaluate long-term effects of this dressing combination on healing and debridement.

Publication Types:
    Clinical Trial
    Multicenter Study
    Research Support, Non-U.S. Gov't

PMID: 7546113 [PubMed - indexed for MEDLINE]

101: J Surg Res. 1995 Mar;58(3):321-9.

The enhancement in wound healing by transforming growth factor-beta 1 (TGF-beta 1) depends on the topical delivery system.

Puolakkainen PA, Twardzik DR, Ranchalis JE, Pankey SC, Reed MJ, Gombotz WR.

Bristol-Myers Squibb Pharmaceutical Research Institute, Seattle, Washington.

Transforming growth factor-beta 1 (TGF-beta 1) has beneficial effects on wound healing. However, the ideal method for its administration to the wound site remains unknown. Our aim was to analyze the release of TGF-beta 1 from different formulations and to study whether the changes in wound healing by TGF-beta 1 depend on its topical delivery system. For the studies the TGF-beta 1 was incorporated into phosphate-buffered saline, into a polyoxamer gel, into DuoDERM hydroactive paste, and into a poly(ethylene oxide) hydrogel. The release of 125I-labeled TGF-beta 1 from carriers was measured in full-thickness wounds in rats and the healing of the wounds was analyzed by histology and wound area measurements. The TGF-beta 1 was released from all formulations at a different rate and in an active form as determined by growth inhibition assay. Wound size measurements and the analysis on the amount of cellular influx, fibroplasia, and granulation tissue showed that a single dose (1 microgram/wound) of locally administered TGF-beta 1 significantly ($P < 0.01$) enhanced the wound healing. This effect was most prominent with polyoxamer gel formulation, which provided the most sustained release of TGF-beta 1. Our finding that the enhancement in wound healing by TGF-beta 1 was significantly dependent on the carrier used for its topical delivery to the wound site is novel and shows the importance of using adequate delivery systems when growth factors are used to enhance wound repair.

Publication Types:
    Comparative Study

PMID: 7885030 [PubMed - indexed for MEDLINE]

102: Elder Care. 1995 Mar-Apr;7(2):19-21, 23.

Hydrocolloid dressings.

Cullum N.

PMID: 7627161 [PubMed - indexed for MEDLINE]

103: Ostomy Wound Manage. 1995 Mar;41(2):52-4, 56, 58 passim.

Managing sacral pressure ulcers with hydrocolloid dressings: results of a controlled, clinical study.

Day A, Dombranski S, Farkas C, Foster C, Godin J, Moody M, Morrison M, Tamer C.

One-hundred and three patients with Stage II and III sacral pressure ulcers were enrolled in a prospective, controlled, multi-center clinical study to evaluate and compare dressing performance, safety and efficacy. Fifty-two patients were randomized to treatment with a triangle-shaped hydrocolloid border dressing and 51 patients were randomized to a different, oval shape, hydrocolloid dressing. The majority of patients (70 percent) utilized a pressure reducing mattress or bed. Most ulcers were Stage II, had existed for < 1 month and exhibited no change utilizing previous treatments. Patients and wounds were similarly distributed among treatment groups. Patients in the oval dressing group were more likely to exhibit a product related adverse reaction resulting in discontinuation of treatment as compared to patients treated with the triangle border dressing ($p = 0.057$, Fisher's Exact Test). Wear time was longest for wounds dressed with the triangle dressing applied point down. Incontinence reduced the interval between dressing changes in both groups. Healing was more likely to occur in wounds dressed with the triangle border dressing. These ulcers showed a greater reduction in ulcer width as compared to wounds dressed with the oval dressing ($p < 0.03$, Fisher's Exact Test).

Publication Types:
    Clinical Trial
    Comparative Study
    Multicenter Study
    Randomized Controlled Trial

PMID: 7598778 [PubMed - indexed for MEDLINE]

104: Kango. 1995 Jan;47(1):135-44.

[SCOPE--hydrocolloid dressing for wound care]

[Article in Japanese]

Tukada K.

PMID: 8715496 [PubMed - indexed for MEDLINE]

105: Rev Enferm. 1995 Jan;18(197):83-8.

[Hydrocolloid dressings. Wound treatment, using occlusive and semiocclusive means]

[Article in Spanish]

Garcia Rey J, Magallon Pedrera I.

PMID: 7863213 [PubMed - indexed for MEDLINE]

106: Med Device Technol. 1995 Jan-Feb;6(1):30-4, 36.

Wound dressings. Past, present, and future.

Horncastle J.

Rexham Custom, Wrexham, UK.

The discovery that "moist" dressings can promote faster healing has led to a number of innovations in wound care. Modern dressings are playing an active part in the healing process and, in the future, will be condition-specific rather than offering off-the-shelf solutions. Focusing on hydrocolloids and alginates, which are used in bioactive dressings, this article reviews the developments that have been made to date, and includes discussion of the demands being made on the manufacturing process.

Publication Types:
    Review

PMID: 10155372 [PubMed - indexed for MEDLINE]

107: J Accid Emerg Med. 1994 Dec;11(4):227-30.

A comparison of a modified form of Granuflex (Granuflex Extra Thin) and a conventional dressing in the management of lacerations, abrasions and minor operation wounds in an accident and emergency department.

Heffernan A, Martin AJ.

Accident and Emergency Department, University College Hospital, Galway, Ireland.

A clinical study of 96 patients compared a new hydrocolloid dressing (Granuflex Extra Thin) with a non-adherent dressing (perforated film absorbent dressing) in the management of lacerations, abrasions and minor operation incisions at the Accident and Emergency (A&E) Department of the University College Hospital, Galway. While time to heal was similar for both groups, the patients using Granuflex Extra Thin experienced less pain ($P < 0.001$), required less analgesia ($P = 0.0154$) and were able to carry out their normal daily activities including bathing or showering without affecting the dressing or the wound. Patient satisfaction with the new dressing appeared to be very high especially in those patients who pursued an active lifestyle.

Publication Types:
    Clinical Trial
    Comparative Study
    Controlled Clinical Trial

PMID: 7894807 [PubMed - indexed for MEDLINE]

108: Scand J Prim Health Care. 1994 Dec;12(4):295-9.

A cost-effectiveness study of leg ulcer treatment in primary care. Comparison of saline-gauze and hydrocolloid treatment in a prospective, randomized study.

Ohlsson P, Larsson K, Lindholm C, Moller M.

Vardcentralen Marieberg, Primary Health Care Centre, Motala, Sweden.

OBJECTIVE--The majority of leg ulcer patients in Sweden are managed by primary health care personnel. To compare, in a primary care setting, the healing results and the expenses of two commonly used wound dressings for leg ulcers. DESIGN--Thirty patients with leg ulcers of venous or mixed venous/arterial aetiology were randomized to treatment with saline-soaked gauze or with the hydrocolloidal dressing [HCD--DuoDERM (ConvaTec, A Bristol-Myers Squibb Company, Princeton)]. All patients were bandaged with the same compression of low-stretch-type [Comprilan (Beiersdorf AG, Hamburg)]. SETTING--Vardcentralen Marieberg, Primary Health Care Centre, Motala, Sweden. OUTCOME MEASURES--Healing/reduction of ulcer area, pain, costs for material, nursing time, kilometres driven were registered during a six-week period. RESULTS--Two patients dropped out of the study, one in the gauze-group due to erysipelas, and one in the HCD-group for social reasons. A total of 1234 dressing changes were analysed. Costs for material were similar in the two groups. When the total care including nursing- and travelling time and kilometres driven were analysed, the mean cost for treatment with gauze dressings was 4126 Swedish Kronor (SEK), and with HCD, 1565 SEK. Seven patients in the HCD-group and two in the gauze-group healed during the study. The reduction of the ulcer area was 19% in the gauze-group and 51% in the HCD-group ($p < 0.16$). CONCLUSION--The total care, analysed in an authentic clinical setting, must be considered when different wound-care methods are discussed. In this study the use of HCD showed lower costs than use of gauze-dressings. As regards healing there was a tendency to improved healing with HCD, but no significant difference. Patients in the HCD-group reported significantly less pain at dressing changes ($p < 0.003$) than patients in the gauze-group.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 7863149 [PubMed - indexed for MEDLINE]

109: J Am Geriatr Soc. 1994 Nov;42(11):1180-3.

Local treatment of pressure sores in the elderly: amino acid copolymer membrane versus hydrocolloid dressing.

Honde C, Derks C, Tudor D.

Synthelabo Recherche, Recherche Clinique, Bagneux, France.

OBJECTIVE: To compare the clinical effectiveness and wound management properties of a copolymer membrane, Inerpan (Synthelabo), and a hydrocolloid dressing, Comfeel (Coloplast), in the treatment of decubitus ulcers in the elderly. DESIGN: Open, randomized, multicentric French study, with two parallel groups of patients. PATIENTS: 168 in-patients aged more 65 years (mean age: 82 years) suffering from grade II to grade IV (in the Shea classification) pressure sores. TRIAL PERIOD: Either 8 weeks or until the ulcer healed, whichever occurred first. MEASUREMENTS: In addition to a complete physical examination, patients

were evaluated at baseline for nutritional status and risk factors. The wounds were described, their depth scored, and the areas traced at Weeks 0, 1, 2, 4, 6, and 8. The number of dressings used was recorded. RESULTS: Thirty-one Inerpan-treated patients and 23 Comfeel-treated patients achieved healing (P = 0.089), with respective median healing times of 32 and 38 days. Healing times were compared using survival curves (in the whole population) adjusted for ulcer depth effect and showed a significant difference in favor of Inerpan (P = 0.044 and 0.014). Progress of healing (percentage of ulcer healed) was calculated in the two groups. Clinically assessed the treatment performance scored at the completion of the study showed better results with Inerpan (P < 0.05). Both groups were similar in terms of granulation/exudation scores, surrounding skin, and ease of care. CONCLUSION: It is concluded that Inerpan is easy to use, safeguards the healing process, and is of particular value in the management of pressure sores.

Publication Types:
    Clinical Trial
    Comparative Study
    Multicenter Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 7525682 [PubMed - indexed for MEDLINE]

110: J Biomed Mater Res. 1994 Oct;28(10):1165-73.

Evaluation of three new hydrocolloid dressings: retention of dressing integrity and biodegradability of absorbent components attenuate inflammation.

Chakravarthy D, Rodway N, Schmidt S, Smith D, Evancho M, Sims R.

Department of Chemistry, University of Akron, Ohio.

Residues from hydrocolloid dressings (HCDs) that originate from matrix disintegration and nonbiodegradability of the absorbent components, may cause deep-seated, unresolved inflammation in tissue that appears otherwise healed. The purpose of this study was to evaluate three new HCDs that were formulated with the goal of attenuating the inflammatory responses that may arise from HCD therapy. Two of the HCDs (A-106 and A-107) consisted of conventional absorbents dispersed in a new maceration-resistant adhesive matrix. The same matrix, mixed with potentially biodegradable dextran microspheres, formed the third dressing (Dextran Bead Dressing [DBD]). In this pilot scale study these novel dressings were evaluated on full-thickness dermal wounds on swine. Restore (Hollister) and DuoDERM CGF (Convatec) dressings were used as controls. Wound healing was evaluated histomorphometrically. Pertinent histologic parameters were ranked from wound tissue that was harvested 18 days after wounding. Grossly visible dressing disintegration ranged from minimal (DBD) to severe (Restore). Disintegration of other dressings was moderate. The percentage of tissue sections exhibiting giant cells reflected, in parallel, the observed extent of dressing disintegration. Thirty-eight percent of wounds dressed with DBD contained giant cells; 74 and 100% of wounds treated with DuoDERM CGF and Restore, respectively, contained giant cells. DBD-dressed wounds had relatively fewer chronic inflammatory cells than other dressings. These wounds were also characterized by a well-organized collagen matrix and complete reepithelialization. The extent of wound closures was similar for all dressing types except Restore. Closure of Restore-dressed wounds was delayed compared with closure with DBD and DuoDERM CGF on all days of evaluation except one. A-106 and A-107 were comparable to DuoDERM CGF in retention of dressing integrity and the elicited inflammatory tissue response. The DBD dressing

appears to possess equivalent properties of typical HCDs while causing minimal tissue reactions.

Publication Types:
    Comparative Study
    Research Support, Non-U.S. Gov't

PMID: 7530252 [PubMed - indexed for MEDLINE]

111: Ann Vasc Surg. 1994 Jul;8(4):356-62.

Prospective, multicenter study of managing lower extremity venous ulcers.

Arnold TE, Stanley JC, Fellows EP, Moncada GA, Allen R, Hutchinson JJ, Swartz WM, Bolton LL, Vickers CF, Kerstein MD.

Department of Surgery, Hahnemann University School of Medicine, Philadelphia, Pa 19102-1192.

Seventy patients with 90 venous ulcers were randomly assigned to hydrocolloid or conventional dressing and compression therapy at four study centers. The ulcers had been present for a mean of 47.8 in the control and 46.2 weeks in the treatment group and 42% of all patients had recurrent ulcers. Ulcers treated with hydrocolloid dressings reduced 71% and control treated wounds reduced 43% in area after 7.2 weeks of treatment. Thirty-four percent of all ulcers healed. Mean time to healing was 7 weeks for the hydrocolloid dressing group and 8 weeks for the control group. Most ulcers were less painful at final evaluation, but reduction in pain was more pronounced in hydrocolloid-dressed ulcers ($p = 0.03$). At baseline as well as during follow-up, significant differences between study centers were observed. Ulcers in patients in the United Kingdom were larger and less likely to heal ($p = 0.001$). Size of the ulcer at baseline was associated with treatment response and time to healing ($p = 0.002$). Percent reduction in ulcer area after 2 weeks was also correlated with treatment outcome ($p = 0.004$) and time to healing ($p = 0.002$). When all treatment outcome predictors were analyzed together, only percent reduction in area after 2 weeks remained statistically significant ($p = 0.002$), with percent reduction during the first 2 weeks of treatment > 30% predicting healing.

Publication Types:
    Clinical Trial
    Multicenter Study
    Randomized Controlled Trial

PMID: 7947061 [PubMed - indexed for MEDLINE]

112: J Burn Care Rehabil. 1994 Jul-Aug;15(4):359-63.

A prospective comparison of a new, synthetic donor site dressing versus an impregnated gauze dressing.

Hickerson WL, Kealey GP, Smith DJ Jr, Thomson PD.

Elvis Presley Memorial Trauma Center, Memphis, Tennessee.

Three institutions enrolled 38 patients who required bilateral skin graft donor sites into a safety and efficacy study of a new synthetic donor site dressing. Bilateral donor sites were randomized to receive either a new, synthetic donor site dressing or an impregnated gauze dressing. Wounds were assessed by time to healing, pain, and patient preference. Synthetic dressing wounds were treated

7.9 days compared with 10.2 days for gauze dressing wounds ($p < 0.001$), and synthetic dressing wounds were more completely epithelialized. Visual analogue pain analysis revealed significantly less donor site pain with synthetic dressing (2.94) versus gauze dressing (4.64) ($p < 0.001$). Synthetic dressing had fewer treatment-related adverse experiences than gauze dressing (2 vs 7) and was judged by recipients to be superior to gauze dressing in comfort, pain relief, cosmetic appeal, ease of ambulation, and overall acceptance.

Publication Types:
    Clinical Trial
    Comparative Study
    Multicenter Study
    Randomized Controlled Trial

PMID: 7929519 [PubMed - indexed for MEDLINE]

113: Ann Plast Surg. 1994 Jan;32(1):57-64.

Influence of occlusive and impregnated gauze dressings on incisional healing: a prospective, randomized, controlled study.

Michie DD, Hugill JV.

Clinical Physiology Associates, Ft Myers, FL 33916.

After elective surgery, 28 patients with 40 wounds were enrolled in a controlled clinical study to assess the effects of two different dressings on incisional healing. Patients served as their own control with one-half of each incision covered with an impregnated gauze (Xeroform) and the other half of the incision covered with a thin occlusive hydrocolloid dressing (DuoDerm Extra Thin CGF). All wounds were evaluated 2 to 3 days, 7 to 10 days, 4 weeks, and 7 months postoperatively. None of the incisions segments showed any evidence of infection. At the time of suture removal, the hydrocolloid dressing's ability to contain exudate, protect the wound, and facilitate mobility and personal hygiene were rated higher compared with the gauze-type dressing ($p < 0.001$, for all variables). At the 4-week visit, both the patient and the surgeon rated the scar segments covered with the hydrocolloid dressing better with respect to color, evenness, and suppleness ($p <$ or $= 0.04$, for all variables). These differences were no longer apparent 7 months after surgery.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 8141537 [PubMed - indexed for MEDLINE]

114: Am J Surg. 1994 Jan;167(1A):49S-51S.

Donor site repair.

Smith DJ Jr, Thomson PD, Garner WL, Rodriguez JL.

Department of Surgery, University of Michigan Medical Center, Ann Arbor.

Delayed healing of skin donor sites may be costly and life threatening, especially in patients with large body-surface area burns. A donor site dressing should maximize the ability of the wound to heal without increasing the risk of local infection, systemic infection, or both. Specifically, the possibility of a

secondary infection may either slow the healing process or ultimately convert the donor site to a full-thickness wound. A number of materials, ranging from gauze to biological agents, have been investigated for use as donor site dressings. The use of hydrocolloids for donor sites has been studied extensively, and, compared with conventional dressings, improved healing rates are reported. Our recent study using a hydrocolloid dressing confirmed earlier research showing fewer infections and more rapid donor site healing.

Publication Types:
    Research Support, Non-U.S. Gov't
    Review

PMID: 8109686 [PubMed - indexed for MEDLINE]

115: Am J Surg. 1994 Jan;167(1A):42S-44S; discussion 44S-45S.

Dressings for surgical wounds.

Hulten L.

Department of Surgery, Sahlgrenska Hospital, Goteburg, Sweden.

Abdominal incisions typically are covered with conventional gauze or not dressed at all, since it is commonly believed that dressings do not influence the healing process. Also, patient personal hygiene is not facilitated when gauze type dressings are used, and frequent changes are time consuming and sometimes painful. Following creation of an adjacent enteral stoma, dressings frequently become wet or soiled and sometimes interfere with management of the stoma. These problems did not occur in 89% of 340 patients whose wounds were dressed with a hydrocolloid dressing following colorectal surgery and creation of a stoma. Also, no wound infections occurred in 92% of patients studied. Our findings confirm those reported by others, i.e., the rate of wound infections is not increased when occlusive dressings are used following surgery. At the same time, patients are able to move freely and take showers, and nursing time spent on changing post-operative dressings is greatly reduced. Finally, occlusive dressings have also been found to reduce inflammation and subsequent scarring.

Publication Types:
    Review

PMID: 8109684 [PubMed - indexed for MEDLINE]

116: Am J Surg. 1994 Jan;167(1A):37S-40S; discussion 40S-41S.

Venous ulcers.

Burton CS.

Duke University Medical Center, Department of Medicine, Durham, North Carolina 27710.

Successful therapy of venous ulcers combines local wound treatment modalities and ambulatory hemodynamic support to control the underlying disease. Compression bandaging reduces or eliminates edema, and a moist wound environment not only debrides necrotic tissue but also aids development of granulation tissue, a prerequisite for epidermal repair. We have occluded chronic wounds, known to be heavily colonized, with a hydrocolloid dressing for up to 7 days and found that soft-tissue infections occurred in only 1% of all dressing changes in our clinic, compared with 6.5% generally reported in the literature. In venous

ulcers, resident bacteria may be beneficial in that their proteolytic activity assists with autolysis of fibrinopurulent wound exudate. The importance of lysing fibrin and reducing the number of existing fibrin "cuffs," thereby improving local tissue oxygenation and nutrient/waste exchange, is not completely understood; however, this phenomenon, in part, may explain the excellent clinical results obtained with one type of hydrocolloid dressing (DuoDERM), which has been shown to lyse fibrin more effectively than other types of moisture-retentive and hydrocolloid dressings.

Publication Types:
    Research Support, Non-U.S. Gov't
    Review

PMID: 8109683 [PubMed - indexed for MEDLINE]

117: Am J Surg. 1994 Jan;167(1A):31S-36S.

Diabetic foot ulcers.

Laing P.

University Department of Orthopaedics, Royal Liverpool Hospital, Liverpool, United Kingdom.

Neuropathic and vascular changes in patients with diabetes mellitus put them at risk for developing chronic foot wounds after minor trauma or after pressure has caused a breakdown in the integrity of the skin. Accurate diagnosis of the underlying cause is the first step toward a successful treatment plan, and in patients with severe ischemia, vascular reconstruction may be needed. Neuropathic ulcers respond well to less-invasive procedures, particularly when combined with reducing the pressure that caused the ulcer. When pressure is relieved by means of total contact casting, necrotic materials are removed, and protection is secured with a hydrocolloid dressing, these wounds have been found to heal, on an outpatient basis, after approximately 6 weeks. All diabetic foot ulcers are contaminated with a variety of organisms, but antibiotic treatments are usually unnecessary. When signs of a clinical infection are present and/or bone is exposed, osteomyelitis should be suspected. In these patients, aggressive surgical debridement, systemic antibiotics, and meticulous wound care regimens to restore the body's own bacterial barrier will often prevent amputation, the most serious complication of these wounds.

Publication Types:
    Research Support, Non-U.S. Gov't
    Review

PMID: 8109682 [PubMed - indexed for MEDLINE]

118: Am J Surg. 1994 Jan;167(1A):21S-24S.

Dressings and wound infection.

Lawrence JC.

South Birmingham Trauma Unit, General Hospital, United Kingdom.

Wounds will readily acquire bacteria, unless protective measures are taken. The bacterial protection afforded by conventional absorbent cellulose dressings has been shown to be limited, particularly in the presence of serous exudate that may compromise dressing integrity. In addition, dressings may shed particles

that remain in the wound. By contrast, many modern dressings are impermeable to bacteria, are removed completely, have been found to optimize reepithelialization rates and reduce the incidence of wound sepsis. Recently, it has been found that they could also play a role in preventing cross-contamination. Removing conventional cellulosic dressings from bacterially colonized wounds liberates wound bacteria into the air, and the numbers are slow to decline. However, using an in vitro wound model, use of the hydrocolloid dressing Granuflex (ConvaTec, Skillman, NJ) on experimentally colonized wounds resulted in significantly fewer numbers of airborne bacteria. Dispersal from wet conventional dressings was lower than from dry dressings; nevertheless, the numbers of bacteria per liter of air following removal of the hydrocolloid dressing were approximately 20% of those observed for gauze. These findings have also been confirmed in the clinic. To reduce the incidence of complications, wound care in general, and infection control procedures in particular, requires carefully disciplined team work.

Publication Types:
    Review

PMID: 8109680 [PubMed - indexed for MEDLINE]

119: Z Arztl Fortbild (Jena). 1993 Dec 12;87(12):975-9.

[Modern wound dressings. Part 4: Hydrocolloids]

[Article in German]

Sedlarik KM, Berg D, Martin M.

Paul Hartmann Aktiengesellschaft Heidenheim und Gefassklinik, Dr. Berg, Ulm-Blaustein.

Publication Types:
    Review

PMID: 8147010 [PubMed - indexed for MEDLINE]

120: Decubitus. 1993 Sep;6(5):42-3, 46, 48 passim.

A comparative study of wound dressings on full-thickness wounds in micropigs.

Gokoo C, Burhop K.

Eight full-thickness (to the depth of adipose tissue) skin wounds were surgically inscribed on the backs of four Yucatan micropigs (32 wound sites in total). Wound sites were created to allow for controlled comparative evaluation between wound sites, wound dressings, and specified postoperative healing time. The wounds were dressed with either ClearSite hydrogel dressing (New Dimensions in Medicine, Dayton, Ohio) or Duoderm hydrocolloid wound dressing (ConvaTec Inc., Princeton, New Jersey). Tracings and photographs of each wound site were made and computerized planimetry was done to compare the rate of epithelialization for like wounds and like wound dressings. Histomorphometric measurements were also made to compare the effects of the dressing on the wounds at the cellular level. The results of this study indicate that the wounds covered with the hydrogel dressing exhibited a more rapid rate of closure and reepithelialization as compared with the hydrocolloid wound dressing.

Publication Types:
    Comparative Study

Research Support, Non-U.S. Gov't

PMID: 8286020 [PubMed - indexed for MEDLINE]

121: J Am Acad Dermatol. 1993 Aug;29(2 Pt 1):221-7.

Effects on wound healing of zinc oxide in a hydrocolloid dressing.

Agren MS, Franzen L, Chvapil M.

Department of Dermatology and Cutaneous Surgery, University of Miami School of Medicine, Florida.

BACKGROUND: Zinc oxide incorporated in gauze enhances healing of chronic wounds in humans and experimental pig wounds. OBJECTIVE: The purpose of this study was to examine the effects of zinc oxide added to a hydrocolloid dressing on the healing of surgical wounds in domestic pigs. METHODS: Forty partial-thickness wounds (2.2 x 2.2 cm and 400 microns deep) were treated with different zinc oxide concentrations, and epithelialization was evaluated morphometrically in a total of 320 histologic sections. Wound closure, bacterial growth, and inflammation were studied in eight full-thickness wounds (2.5 x 4.5 cm). The level of serum zinc was determined before and after treatment. RESULTS: In partial-thickness wounds, concentrations of zinc oxide at or below 1.0% (wt/wt) inhibited epithelialization, whereas no effect was observed at zinc oxide concentrations from 2% to 6%. In full-thickness wounds, zinc oxide (6%) reduced bacterial growth by about 2 log units and increased the inflammatory response in the granulation tissue, but had no effect on healing when compared with control (hydrocolloid alone). Serum zinc levels remained unchanged throughout the treatment period. CONCLUSION: Apart from inhibiting bacterial growth, no additional beneficial effects on wound healing in nutritionally balanced pigs were found by supplementing a hydrocolloid dressing with zinc oxide.

PMID: 8335742 [PubMed - indexed for MEDLINE]

122: Br J Dermatol. 1993 Aug;129(2):154-7.

Quantification of hydrogen peroxide generation by Granuflex (DuoDERM) Hydrocolloid Granules and its constituents (gelatin, sodium carboxymethylcellulose, and pectin).

Schmidt RJ, Chung LY, Turner TD.

Welsh School of Pharmacy, UWCC, Cardiff, U.K.

The hydrogen peroxide generating capacity of Granuflex Hydrocolloid Granules and its constituents (porcine gelatin, sodium carboxymethylcellulose and pectin) was examined using the scopoletin-horseradish peroxidase assay in the presence and absence of catalase. Oxygen purging reduced the formation of hydrogen peroxide by 77-96%. The total concentrations of hydrogen peroxide detected were 1.9 x 10(-6), 1.2 x 10(-6) and 2.3 x 10(-6) mol/l for Granuflex, pectin and gelatin (using 0.5% w/v), respectively, after 48 h incubation in a phosphate buffer, pH 7.4, at 37 degrees C. No hydrogen peroxide was formed by sodium carboxymethylcellulose. The results indicate that hydrogen peroxide generation by Granuflex may be ascribed to its gelatin and pectin components, but not to the sodium carboxymethylcellulose. The release of low levels of hydrogen peroxide into the wound environment could conceivably contribute both to the inflammatory phase and to fibroblast proliferation, and hence to the granulation phase of wound healing.

PMID: 7654574 [PubMed - indexed for MEDLINE]

161: Br J Dermatol. 1993 Aug;129(2):145-53.

A study of hydrogen peroxide generation by, and antioxidant activity of, Granuflex (DuoDERM) Hydrocolloid Granules and some other hydrogel/hydrocolloid wound management materials.

Chung LY, Schmidt RJ, Andrews AM, Turner TD.

Welsh School of Pharmacy, UWCC, Cardiff, U.K.

The effect of Granuflex Hydrocolloid Granules (0.01-0.50% w/v) on the rate of proliferation of murine (L929) fibroblasts was examined. The dose-response curve showed a significant ($P < 0.02$) pro-proliferant effect at 0.05%, and a significant ($P < 0.02$) antiproliferant effect at 0.50%, mirroring the dose-response curve produced by hydrogen peroxide in the concentration range $10(-9)$ - $10(-4)$ mol/l. The antiproliferant effect at 0.20% w/v was abolished by catalase, suggesting that the biological activity of Granuflex was mediated by the in situ generation of hydrogen peroxide. Formation of hydrogen peroxide by Granuflex was confirmed by performing the scopoletin-horseradish peroxidase assay in the presence and absence of catalase. The total concentration of hydrogen peroxide detected was about $8 \times 10(-6)$ mol/l (using 0.5% w/v Granuflex) after 48 h at 37 degrees C. In contrast, when hydrogen peroxide itself was added to L929 cultures, a similar antiproliferant activity was observed at concentrations between $10(-4)$ and $10(-5)$ mol/l. These results suggested that Granuflex was undergoing autoxidation in the culture medium, and hence that it might possess antioxidant activity. In assays for antioxidant activity using 1,1-diphenyl-2-picrylhydrazyl (DPPH), Granuflex, and two other hydrocolloid dressings (Comfeel Powder and Bard Absorption Dressing) showed significant ability to reduce DPPH to DPPH2. These three dressings also displayed superoxide scavenging activity in a nitroblue tetrazolium reduction assay. We conclude that, in addition to providing a moist wound-healing environment, Granuflex and certain other hydrocolloids might contribute to the establishment and maintenance of the reducing environment necessary for energy production and hence cell division.(ABSTRACT TRUNCATED AT 250 WORDS)

PMID: 7654573 [PubMed - indexed for MEDLINE]

123: Decubitus. 1993 Jul;6(4):28-36.

A comparison of the efficacy and cost-effectiveness of two methods of managing pressure ulcers.

Colwell JC, Foreman MD, Trotter JP.

To compare the efficacy and the cost-effectiveness of moist gauze dressings and a hydrocolloid wafer dressing (DuoDERM CGF), 70 patients with 97 pressure ulcers that were stage II and/or stage III were randomly assigned to one of two treatment methods: moist gauze dressings or hydrocolloid dressings. Efficacy was defined as the number of ulcers that completely healed. In this debilitated, poorly nourished group of patients, one ulcer completely healed in the moist gauze dressing group, and 11 healed in the hydrocolloid group. The per diem cost of the moist gauze dressing was $12.26; the per diem cost of the hydrocolloid dressing was $3.55.

Publication Types:
    Clinical Trial
    Comparative Study

Randomized Controlled Trial
Research Support, Non-U.S. Gov't

PMID: 8297488 [PubMed - indexed for MEDLINE]

124: J Gerontol Nurs. 1993 Jun;19(6):23-6.

Wound care: fact and fiction about hydrocolloid dressings.

Barnes HR.

1. Hydrocolloid dressings have two layers. The inner, hydrocolloid adhesive layer has particles that absorb exudate to form a hydrated gel over the wound, creating a moist environment that promotes healing and protects new tissue. The outer layer (film, foam, or both) forms a seal to protect the wound from bacterial contamination, foreign debris, urine, and feces; it also maintains a moist environment and helps prevent shearing. 2. Hydrocolloid dressings are designed to be worn for up to a week. Infrequent dressing changes are less disruptive to the wound bed, provided that healthy skin is not compromised. Many patients--and even some medical professionals--still incorrectly believe that wounds need to be exposed to the air to heal properly. 3. Hydrocolloids are not always the dressing of choice in wounds that have limited drainage or in wounds with copious amounts of drainage. The hydrocolloid dressing is designed to manage drainage; if drainage is minimal, another approach may be more economical and comfortable for the patient.

PMID: 8509607 [PubMed - indexed for MEDLINE]

125: J Fam Pract. 1993 Jun;36(6):625-32.

Full-thickness leg ulcers: patient demographics and predictors of healing. Multi-Center Leg Ulcer Study Group.

van Rijswijk L.

BACKGROUND. Despite increased knowledge about the immediate and underlying causes of chronic leg ulcers, their management remains a challenge. Some ulcers rapidly respond to treatment whereas others do not, and the decision to reassess the patient and treatment modality is usually based on the clinician's own experience. METHODS. Following diagnosis of the underlying cause of leg ulcers, 181 patients were screened. The use of a hydrocolloid dressing (DuoDERM) was evaluated in the treatment of 61 patients with 72 full-thickness ulcers. Patient characteristics associated with deep wounds as well as patient and wound characteristics predictive of the extent of healing and time required for healing were identified. RESULTS. Patients with full-thickness ulcers were more likely to be overweight ($P < .001$) and not fully mobile ($P = .016$). During a mean treatment time of 56 days, 54% of the full-thickness ulcers healed. Ulcers were less likely to heal if the patients were men ($P = .02$) or had diabetes mellitus ($P < .003$). A > 30% reduction in ulcer area after 2 weeks of treatment was a predictor of both treatment outcome ($P = .016$) and time required for healing ($P = .004$). Odor at baseline and advanced age also were associated with increased time required for healing ($P = .005$ and .017, respectively). CONCLUSIONS. Noninvasive clinical assessments can aid the clinician in predicting treatment outcome and may facilitate the decision to change therapy and evaluate treatment compliance.

Publication Types:
Clinical Trial
Multicenter Study

PMID: 8505605 [PubMed - indexed for MEDLINE]

126: Br J Nurs. 1993 Apr 8-21;2(7):358, 360, 362 passim.

Role of hydrocolloids in wound management.

Dealey C.

This article describes the actions of hydrocolloid dressings and the type of wounds for which they are most suitable. The range of hydrocolloid products is reviewed along with their individual advantages and disadvantages.

PMID: 8508017 [PubMed - indexed for MEDLINE]

127: Int J Dermatol. 1993 Apr;32(4):304-6.

Fibrin cuff lysis in chronic venous ulcers treated with a hydrocolloid dressing.

Mulder G, Jones R, Cederholm-Williams S, Cherry G, Ryan T.

Wound Healing Institute, Denver, Colorado 80014.

BACKGROUND. Pericapillary fibrin cuffs (PFC) are a recognized part of the pathology of venous stasis ulcers. A hydrocolloid dressing capable of lysing wound surface fibrin was tested in venous ulcers for its capacity to lyse pericapillary fibrin below the wound surface. METHODS. Tissue biopsies from the rims of 19 venous ulcers were evaluated for thickness of shallow and deep dermal PFCs before and after treatment with DuoDERM covered by Unna's boot and a compression bandage (DD+UB; n = 9) versus the same treatment without the hydrocolloid dressing (UB; n = 10). Frozen sections of all biopsies were stained with an immunofluorescent antibody to fibrin for rating of PFC thickness. Separate sections were stained with hematoxylin and eosin to assess capillary frequency, histopathology, and inflammation. All ratings and pathology assessments were performed blinded to treatment conditions. RESULTS. Both deep and shallow PFCs were reduced in 89% of ulcers treated with DD+UB versus 40% of ulcers treated with UB (alpha < 0.04). No other significant differences in inflammation, histopathology, or capillary frequency were observed. CONCLUSIONS. Treatment with DD+UB reduced PCFs in twice the number of ulcers than UB alone in 1 week. This is the first scientific documentation that a topical wound dressing could reduce the pathophysiology associated with venous ulcers, beyond the known beneficial effect of graduated compression. Not all hydrocolloid dressing are fibrinolytic, so this effect may not generalize to other dressings.

Publication Types:
    Clinical Trial
    Comparative Study

PMID: 8486467 [PubMed - indexed for MEDLINE]

128: Nurs Times. 1993 Mar 31-Apr 6;89(13):90-2.

Wound care. Comparative benefits.

Burgess B, Robinson B.

PMID: 8474914 [PubMed - indexed for MEDLINE]

129: Wound Repair Regen. 1993 Mar-Apr;1(2):54-62.

Analysis of therapy-resistant venous leg ulcers. Can triple-layer treatment initiate healing?

Bjellerup M, Lindholm C, Christensen OB, Zederfeldt B.

Department of Dermatology, General Hospital, Malmo, Sweden.

Chronic leg ulcers represent a major health-care problem with considerable socioeconomic impact. Patients with seemingly therapy-resistant leg ulcers are common to all clinics. The purpose of the present study was to (1) examine a group of patients with nonhealing venous leg ulcers treated with a double-layer bandage and (2) evaluate whether the addition of an interactive hydrocolloid wound dressing could initiate healing in these patients. Twenty-two patients with ulcers caused by venous insufficiency were included. The patients had a mean ulcer duration of 27.6 years. Duration of the present ulcer was at least 1 year (mean >/= 4.1 years). Twenty of the 22 patients showed massive lipodermatosclerosis. Before inclusion, all patients had used double-layer bandage consisting of a zinc-impregnated bandage or stocking and a self-adhesive compression bandage for 1 year or longer without improvement. The new regimen was a triple-layer treatment with the hydrocolloid water applied over the ulcer and the traditional double-layer bandage unchanged. Three patients were dropped from the study. Nineteen patients were followed until healing or for 10 months. Nine of the 19 patients who completed the study healed. Ulcer area was reduced by 70% or greater in 7 patients and by 30% to 40% in two patients. One ulcer did not respond to the treatment and worsened slightly. The results of this study were encouraging and indicate that the triple-layer treatment with the hydrocolloid dressing applied to the ulcer should be evaluated in a randomized, controlled study in patients with less pessimistic prognoses.

PMID: 17134384 [PubMed - in process]

130: J ET Nurs. 1993 Mar-Apr;20(2):68-72.

Clinical benefit of a hydrocolloid dressing in closed surgical wounds.

Hermans MH.

A prospective, multicenter trial evaluated the clinical benefits of a new hydrocolloid wound dressing material (DuoDERM Extrathin; ConvaTec International, Skillman, N.J.) in a postoperative setting. Criteria assessed were patient quality of life (adherence of the dressing, showering or bathing possibilities, aspects of dressing changes), safety (incidence of infection), effectiveness (healing time), and clinical utility (ease of application and removal, ease of inspecting the wound through the dressing). Ninety-five patients with 102 sutured wounds were enrolled in the study during a period of 18 months. Forty-three wounds were in anatomic areas considered difficult to dress with such conventional materials as gauze and tape. The overall incidence of infection was 2%; the dressing was found not to be a causal factor. In five wounds, treatment had to be stopped before scheduled. Comfort rating by the

patients and the investigators were "good" and "very good" in 95% and 92% of cases, respectively. A mean of 1.56 dressings per wound was used until removal of the sutures. Because of the reduction in the necessary number of dressing changes, hydrocolloid dressing may help in reducing treatment costs.

Publication Types:
    Clinical Trial
    Research Support, Non-U.S. Gov't

PMID: 8507729 [PubMed - indexed for MEDLINE]

131: Nursing. 1993 Mar;23(3):59-61.

Alternating transparent & hydrocolloid dressings--a difficult case.

Barnes HR.

Publication Types:
    Case Reports

PMID: 8446320 [PubMed - indexed for MEDLINE]

132: J Am Acad Dermatol. 1993 Mar;28(3):418-21.

Planimetric rate of healing in venous ulcers of the leg treated with pressure bandage and hydrocolloid dressing.

Margolis DJ, Gross EA, Wood CR, Lazarus GS.

Department of Dermatology, University of Pennsylvania School of Medicine, Philadelphia.

BACKGROUND: Venous leg ulcers are a common cause of morbidity, but few predictive parameters exist that can be used to follow their progress. OBJECTIVE: We investigated the use of healing rate as a useful parameter in the treatment of venous ulceration. METHODS: Twenty-seven venous ulcers being treated with a standard regimen were evaluated. We calculated the initial (4-week) and overall healing rates using the Gilman method (delta A/p). RESULTS: The average initial healing rate for all ulcers combined, the healed group, and the nonhealing group was 0.069, 0.087, and -0.005 cm/wk, respectively. Similarly, the average overall healing rate for all ulcers combined, the healed group, and the nonhealing group was 0.062, 0.089, and -0.043 cm/wk, respectively. CONCLUSION: The initial healing rate (delta A/p(0-4)) may be an appropriate end point for clinical investigations comparing therapies for the treatment of chronic venous leg ulcers.

Publication Types:
    Research Support, U.S. Gov't, P.H.S.

PMID: 8445057 [PubMed - indexed for MEDLINE]

133: Br J Plast Surg. 1993 Jan;46(1):82-4.

A comparison of Zenoderm with DuoDERM E in the treatment of split skin graft donor sites.

Tan ST, Roberts RH, Sinclair SW.

Plastic Surgery Unit, Burwood Hospital, Christchurch, New Zealand.

A prospective, randomised, controlled study compared Zenoderm (ZM) with DuoDERM E (DE) in the treatment of split skin graft donor areas in 64 patients. The donor site comfort was similar in the two groups. DE usage resulted in significantly faster healing but also a higher leakage rate than ZM. Two patients in the ZM group developed infection in their donor sites. The cost is significantly less with ZM than DE.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 8431749 [PubMed - indexed for MEDLINE]

134: Br J Plast Surg. 1993 Jan;46(1):79-81.

Comparing DuoDERM E with scarlet red in the treatment of split skin graft donor sites.

Tan ST, Roberts RH, Blake GB.

Plastic Surgery Unit, Burwood Hospital, Christchurch, New Zealand.

A prospective, randomised, controlled study compared DuoDERM E (DE) with scarlet red (SR) in the treatment of split skin graft donor areas in 60 patients. Healing and donor site comfort were significantly better in the DE group. There was no clinical infection in either group. The wound leakage rate was higher in the DE group, requiring an average of 0.8 replacement dressings per donor site as compared with an average of 0.04 for the SR group. An estimate of the cost per donor site for the first ten days of dressing is given.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 8431748 [PubMed - indexed for MEDLINE]

135: Decubitus. 1993 Jan;6(1):16-21.

Full-thickness pressure ulcers: patient and wound healing characteristics.

van Rijswijk L.

To investigate the patient and healing characteristics related to full-thickness pressure ulcers, 119 consecutive patients admitted with ulcers in three acute care, four longterm care, and one rehabilitation agency were studied. Of the 119 patients with 153 pressure ulcers, only 48 (40%) had full-thickness ulcers. Compared to patients with partial-thickness ulcers, patients with full-thickness ulcers were more likely to have multiple ulcers, occasional incontinence of

urine and feces, a compromised overall skin condition, and a less than optimal nutritional status at baseline. Full-thickness ulcers treated with a hydrocolloid dressing (DuoDERM Hydroactive) did not develop adverse reactions; clinicians perceived the dressing to be efficacious. Ulcers that healed during the study decreased 47% in area in two weeks. This distinguished ulcers that healed from those that did not heal. The findings suggest that ulcers that do not decrease in size within two weeks should be reevaluated for additional or alternate treatments.

Publication Types:
    Clinical Trial
    Comparative Study

PMID: 8427640 [PubMed - indexed for MEDLINE]

136: Phlebologie. 1992 Nov-Dec;45(4):529-33.

[A comparative study of the hydrocellular dressing Allevyn and the hydrocolloid dressing Duoderm in the local treatment of leg ulcers]

[Article in French]

Zuccarelli F.

Departement de Phlebologie et d'Angeiologie, Hopital Saint-Michel, Paris.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 1302331 [PubMed - indexed for MEDLINE]

137: Prof Nurse. 1992 Sep;7(12):804, 806, 808.

A moist, odour-free environment. A multicentred trial of a foamed gel and a hydrocolloid dressing.

Collier J.

Exuding wounds such as leg ulcers present special problems. A clinical trial of a new foamed gel dressing showed that it provides a moist healing environment without unacceptable odour, and improves the condition of the wound when compared to a hydrocolloid dressing.

Publication Types:
    Clinical Trial
    Comparative Study
    Multicenter Study
    Randomized Controlled Trial

PMID: 1513833 [PubMed - indexed for MEDLINE]

138: Hautarzt. 1992 Sep;43(9):597-606.

[Hydrocolloid dressings]

[Article in German]

Hilty N.

Universitatsklinik fur Dermatologie und Venerologie Innsbruck.

PMID: 1399610 [PubMed - indexed for MEDLINE]

139: Burns. 1992 Aug;18(4):313-6.

DuoDERM hydroactive dressing versus silver sulphadiazine/Bactigras in the emergency treatment of partial skin thickness burns.

Afilalo M, Dankoff J, Guttman A, Lloyd J.

Department of Emergency Medicine, Sir Mortimer B. Davis Jewish General Hospital, McGill University, Montreal, Canada.

The study compared DuoDERM Burn Pack Hydroactive Dressings (DHD) with silver sulphadiazine/Bactigras dressings (SSD/Bactigras) in the outpatient management of small partial skin thickness burns. Forty-eight patients were entered into the study, and randomly allocated into either the DHD or SSD/Bactigras group. Burn wounds were followed until complete re-epithelialization occurred. There were no statistical differences between the groups, either with respect to their composition or characteristics of healing in days, and patients' subjective responses to treatment. However, application was easier in the DHD group (93 per cent), compared with 71 per cent in the SSD/Bactigras group (P = 0.0009), and the SSD/Bactigras were easier to remove (96 per cent) versus DHD (66 per cent, P = 0.0004). Furthermore, the DHD group had significantly less dressing changes; a mean of three changes per subject in the DHD group compared with eight in the SSD/Bactigras group (P = 0.117). Two burn wounds became infected in the DHD group, and one in the SSD/Bactigras group. In this study both modalities were found to be equally suitable and effective for small partial skin thickness burns.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 1418507 [PubMed - indexed for MEDLINE]

140: Am J Med Sci. 1992 Jul;304(1):25-8.

Effect of occlusive dressings on the stratum corneum water holding capacity.

Berardesca E, Vignoli GP, Fideli D, Maibach H.

Department of Dermatology, University of Pavia, Italy.

Occlusion of the skin is used in clinical dermatology to promote wound healing and to increase the transcutaneous penetration of topically applied drugs. These effects are related to the degree of occlusion exerted and depend on the physicochemical nature of the dressing. We have evaluated the effects of four

different materials on the skin barrier and the stratum corneum water holding capacity (WHC) using the Plastic Occlusion Stress Test (POST). The following materials were compared: hydrocolloid dressing, polyurethane film, polyethylene film, and a plastic chamber. These devices were applied on the volar forearm for 24 hours in 10 healthy volunteers (mean age 32 +/- 4 years). Upon their removal, the stratum corneum WHC, measured as skin surface water loss (SSWL), was recorded continuously for 25 minutes using an Evaporimeter. SSWL decay curves showed significant differences between the occlusive materials (analysis of variance, p less than 0.01). Higher SSWL values were recorded in sites occluded with the plastic chamber, whereas the polyurethane film resulted in poor occlusive capacity. Hydrocolloid dressing and polyethylene gave similar responses with higher WHC values compared to polyurethane (p less than 0.05). The relevance of these findings to clinical dermatology in terms of wound healing and drug absorption is discussed.

Publication Types:
    Comparative Study
    Research Support, Non-U.S. Gov't

PMID: 1642249 [PubMed - indexed for MEDLINE]

141: J Anat. 1992 Jun;180 ( Pt 3):545-51.

Tissue reactions induced by hydrocolloid wound dressings.

Leek MD, Barlow YM.

Smith and Nephew Research, Heslington, York, UK.

Porcine full-thickness excisional wounds were treated with 4 different hydrocolloid (HCD) dressings--DuoDERM (ConvaTec/E. R. Squibb), Intrasite HCD (Smith and Nephew Medical), Tegasorb (3M) and Replicare (Smith and Nephew Medical). Animals were killed at 4, 10, 21 and 90 d post-wound, excision sites were fixed in formalin and processed for histological analysis. Granulomatous lesions were observed following treatment with each of the 4 HCD dressings. Such lesions developed between 4 and 10 d post-wound, exhibiting little evidence of resolution at 90 d post-wound. Of the 4 dressings examined, DuoDERM and Intrasite HCD precipitated the most severe reaction, each treatment resulting in granulomata with a distinct and different morphology. Treatment with DuoDERM resulted in granulomata characterised by a random distribution of dendritic cells, epithelioid cells, multinucleated giant cells, lymphocytes and plasma cells. In contrast, treatment with Intrasite HCD resulted in highly organised granulomata, consisting of a central focus of epithelioid cells surrounded by a peripheral cuff of macrophages, lymphocytes and plasma cells. This experimental study highlights chronic inflammatory lesions that may, if reflected in the clinical environment, question the efficacy and indication of HCD dressings in the treatment of wounds having a number of different aetiologies.

PMID: 1487446 [PubMed - indexed for MEDLINE]

142: Arch Phys Med Rehabil. 1992 May;73(5):463-9.

Hydrocolloid versus saline-gauze dressings in treating pressure ulcers: a cost-effectiveness analysis.

Xakellis GC, Chrischilles EA.

Department of Family Practice, University of Iowa College of Medicine, Iowa City 52242.

The cost effectiveness of using hydrocolloid dressings versus nonsterile saline-gauze wet-to-moist dressings for treatment of pressure ulcers in a long-term care setting was evaluated. During 21 months, 39 subjects were enrolled, and treatment was randomly assigned. Eighty-nine percent of the hydrocolloid subjects and 86% of the saline-gauze subjects healed. Median healing time was shorter for the hydrocolloid group (nine days) than for the saline-gauze group (11 days), although the difference did not reach statistical significance (p = .12). Presence of exudate at baseline was associated with a prolonged time to healing. For the hydrocolloid treatment, the median nursing time was one eighth that of the saline-gauze treatment, but its materials cost was 3.3 times higher. Using local nursing wages, median total cost for treatment with hydrocolloid dressing was $15.58; for the saline gauze, it was $22.65. Using national nursing wages, these costs were $15.90 and $25.31, respectively. The cost savings of the hydrocolloid treatment using local wages did not reach statistical significance. However, using national wages, the cost of the hydrocolloid treatment was significantly less expensive. Nursing home treatment of pressure ulcers was inexpensive overall. Consequently, the absolute cost savings of using hydrocolloid dressings instead of nonsterile saline-gauze dressing, although real, was relatively modest. Physicians can use local nursing wages to calculate the magnitude of savings in their area.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 1580775 [PubMed - indexed for MEDLINE]

143: J Invest Dermatol. 1992 May;98(5):816; author reply 816-7.

Comment on:
    J Invest Dermatol. 1991 Sep;97(3):586-92.

Comparison of the effects of semi-occlusive polyurethane dressings and hydrocolloid dressing on dermal repair: 1. Cellular changes.

Phillips T, Colbert D, Palko MJ, Bhawan J.

Publication Types:
    Comment
    Comparative Study
    Letter

PMID: 1569331 [PubMed - indexed for MEDLINE]

144: Rev Paul Enferm. 1992 Jan-Apr;11(1):19-26.

[The use of new dressing resources in the nursing consultation]

[Article in Portuguese]

Monetta L.

The author performed the treatment of infected or non-infected wounds with the association of papain and 2 types of synthetic dressings: activated charcoal cloth dressing and hydrocolloid dressing. Eighteen (18) patients, mean age 58.4

years, were followed during 20 dressings. The treatment period was 2 1/2 months-3 months. The infected wounds were treated with the activated charcoal cloth dressing and the non-infected wounds with the hydrocolloid dressing. The evolution of wound healing until the tenth dressing, (about 1 month of treatment) showed that area initially affected was reduced between 48.6% and 89.7% until the twentieth dressing.

Publication Types:
    English Abstract

PMID: 1306288 [PubMed - indexed for MEDLINE]

145: Int J Sports Med. 1991 Dec;12(6):581-4.

Hydrocolloid dressing versus tulle gauze in the treatment of abrasions in cyclists.

Hermans MH.

ConvaTec, Princeton, N.Y.

Abrasions in cyclists were either treated with an occlusive hydrocolloid dressing or with tulle gauze. The main object of the study was to investigate practical questions, e.g: Could the cyclists go on racing without their injuries impeding their progress? Medical aspects evaluated in the study were: the healing time and the infection rate of the wounds. Twenty-three racing cyclists with 38 abrasions were treated with a hydrocolloid dressing and 41 abrasions in 24 cyclists with tulle gauze. The results of the study show that the occlusive dressing produces a shorter healing time (5.6 days) than the tulle gauze (8.9 days), with smaller risks of infection (0% and 10%, respectively) and a longer wearing period per dressing. The hydrocolloid dressing also gives more pain relief than the tulle gauze (91% no pain during racing with the hydrocolloid dressing, 30% with the tulle gauze) and a higher overall comfort (very comfortable to comfortable versus uncomfortable to moderately uncomfortable, respectively).

Publication Types:
    Comparative Study
    Research Support, Non-U.S. Gov't

PMID: 1797702 [PubMed - indexed for MEDLINE]

146: S Afr J Surg. 1991 Dec;29(4):142-6.

Evaluation of a new hydrocolloid occlusive dressing for central catheters used in total parenteral nutrition.

Haffejee AA, Moodley J, Pillay K, Singh B, Thomson S, Bhamjee A.

Department of Surgery, University of Natal, Durban.

Catheter-related sepsis still remains one of the most frequent and serious complication of total parenteral nutrition. Strategies for preventing contamination of central venous lines have focused on decreasing the number of micro-organisms around the exit site and inhibiting their entry into the catheter wound. This prospective study compares a new occlusive hydrocolloid dressing (Visiband; Convatec Squibb) with that of a polyurethane film dressing for nutritional catheters. Dressings were changed either on day 3 or day 5 after application. Swab smears of the catheter exit site at each dressing change were

stained by Gram's method before inoculation onto a blood agar plate, a chocolate agar plate and a MacConkey agar plate. Significantly less colonisation occurred under the former dressing at day 3 and day 5 dressing changes. In addition, the polyurethane film dressing was associated with a significant increase in skin colonisation (P = 0.04) and the number of positive Gram-stain microbes if left unchanged for 5 days (P = 0.0018). Staphylococcus aureus catheter-related sepsis occurred in 1 patient on day 18 in the polyurethane film dressing group. In addition, Candida albicans colonisation was confined to patients with the polyurethane film dressing. While the type of dressing applied to the catheter exit site may influence the incidence of catheter colonisation and infection, it must be emphasised that strict adherence to aseptic technique during catheter insertion and manipulation of the dressing is vital in the prevention of catheter-related sepsis during total parenteral nutrition.

PMID: 1763392 [PubMed - indexed for MEDLINE]

147: Nurs Stand Spec Suppl. 1991 Sep 4;(13):8-9.

Tissue viability. Toe-nail avulsion.

Bruce G.

Publication Types:
    Clinical Trial
    Comparative Study

PMID: 1911034 [PubMed - indexed for MEDLINE]

148: Nurs Times. 1991 Sep 4-10;87(36):82, 84.

Journal of Wound Care Nursing. A new dressing for pressure sores.

Spurgin S, Clinch K.

PMID: 1886821 [PubMed - indexed for MEDLINE]

149: Nurs Times. 1991 Sep 4-10;87(36):70, 72-4.

Journal of Wound Care Nursing. Examining hydrocolloids.

Milward P.

Publication Types:
    Clinical Trial

PMID: 1886818 [PubMed - indexed for MEDLINE]

150: Injury. 1991 Sep;22(5):429-30.

Treatment of excoriations with a transparent hydrocolloid dressing: a prospective study.

Andersson AP, Puntervold T, Warburg FE.

Department of Surgery, Horsholm Sygehus, Denmark.

A transparent hydrocolloid dressing (THCD) was compared with a traditional paraffin gauze dressing (PGD) in the treatment of excoriations with special focus on patient acceptability. A series of 12 emergency ward patients with 16

traumatic excoriations were included in the study. There were 9 women and 3 men. Average age was 26 years (range 12-66 years). Seven wounds were dressed with THCD and nine with PGD. Patients treated with THCD felt less pain than those treated with PGD. A significantly higher number of patients treated with PGD than THCD complained of wound or bandage sticking to their clothes (P = 0.0007). No infection was seen. We conclude that THCD is suitable for dressing acute excoriations. And the level of comfort is better than in traditional treatment with PGD.

Publication Types:
    Clinical Trial
    Comparative Study
    Controlled Clinical Trial

PMID: 1806520 [PubMed - indexed for MEDLINE]

151: Br J Dermatol. 1991 Aug;125(2):193.

Foam cells after treatment with hydrocolloid dressings.

Agren MS, Franzen L.

Publication Types:
    Letter

PMID: 1911306 [PubMed - indexed for MEDLINE]

152: Surg Gynecol Obstet. 1991 Jul;173(1):1-5.

A prospective trial comparing Biobrane, Duoderm and xeroform for skin graft donor sites.

Feldman DL, Rogers A, Karpinski RH.

Department of Surgery, St. Luke's/Roosevelt Hospital Center, New York, New York.

Many new dressings have been introduced for use on split-thickness skin graft donor sites in an effort to reduce pain at the donor site and decrease healing time, while maintaining a low infection rate and cost. To assess these factors in two such dressings, Biobrane (temporary wound dressing) (Winthrop) and Duoderm (hydrocolloid dressing) (Convatec), we compared them with a conventional fine mesh gauze dressing, xeroform, in a prospective, randomized study of 30 donor sites in the same number of patients. Wounds were considered healed when they were 100 per cent re-epithelialized and required no further dressings. Patient self-assessment of pain was quantified on a scale of zero to ten, with ten being the most severe pain. Donor sites dressed with xeroform had a healing time of 10.5 days, which was significantly better (p less than 0.05) than Duoderm (15.3 days) or Biobrane (19.0 days), although the protocol for Duoderm use (wound visualization at seven day intervals) extended the apparent healing times in this group. Duoderm was the most comfortable dressing (0.53 grade) when compared with Biobrane (1.44) and xeroform (2.41, p less than 0.05). No infections occurred in donor sites dressed with xeroform, but two developed in patients using Biobrane. One patient with a Duoderm dressing had a donor site infection during a drug-related neutropenic reaction. Xeroform was the least expensive dressing to use ($1.16 per patient), followed by Duoderm ($54.88 per patient) and Biobrane ($102.57 per patient). The results of our study confirm the usefulness of xeroform as a donor site dressing as it promotes relatively rapid healing, is easy to use and is inexpensive. We found Duoderm to be ideal for smaller donor sites when pain could be significantly reduced with minimal

increase in cost. Biobrane is too costly and the infection rate too high for it to be used routinely as a skin graft donor site dressing.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 1907769 [PubMed - indexed for MEDLINE]

153: Br J Plast Surg. 1991 Jul;44(5):333-7.

Comment in:
    Br J Plast Surg. 1992 Aug-Sep;45(6):488.
    Br J Plast Surg. 1992 Feb-Mar;45(2):179.

A comparative investigation of re-epithelialisation of split skin graft donor areas after application of hydrocolloid and alginate dressings.

Porter JM.

Plastic Surgery and Burns Unit, Aberdeen Royal Infirmary.

The performances of hydrocolloid and alginate dressing materials have been compared in a study of 65 split skin graft donor areas. The donor areas were randomised between the two dressing materials. The rates of epithelialisation, the discomfort experienced by the patients and the convenience of the dressings in clinical use were compared. At the time of the first dressing change 87% of the donor areas dressed with the hydrocolloid and 86% of the donor areas dressed with the alginate were found to be more than 90% healed. The mean time from operation to the observation of complete healing was 10.0 days for the donor areas dressed with the hydrocolloid and 15.5 days for the donor areas dressed with the alginate: this difference was found to be statistically significant. The discomfort experienced by the two groups of patients was comparable. The rapid healing associated with the hydrocolloid dressing was thought to be of greatest benefit to inpatients; alginate dressings were thought to be more suitable for outpatients, as they proved to be simpler to use.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 1873610 [PubMed - indexed for MEDLINE]

154: Burns. 1991 Jun;17(3):230-2.

Duoderm application on scalp donor sites in children.

Leicht P, Siim E, Dreyer M, Larsen TK.

Department of Plastic Surgery, Kobenhavns Kommunes Hvidovre Hospital, University of Copenhagen, Denmark.

In a search for an invisible skin donor site and a comfortable dressing for the donor site, a study was designed in which the scalp was used as the donor site and Duoderm was applied as the dressing. The study contained 18 children with minor burns. A Duoderm dressing on scalp donor sites showed a normal healing time. In using the scalp as a donor site the patient can be mobilized very

quickly after the operation and the scar is hidden and invisible 1 month postoperation.

PMID: 1892558 [PubMed - indexed for MEDLINE]

155: Nurs Stand Spec Suppl. 1991 Mar 13;(11):4-6.

Comparing efficacies.

Worsley M, Buchanan L.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial
    Research Support, Non-U.S. Gov't

PMID: 2009210 [PubMed - indexed for MEDLINE]

156: Am J Nurs. 1991 Feb;91(2):63-4.

Healing with hydrocolloid.

Fowler E, Cuzzell JZ, Papen JC.

Dynamic New Directions, Fountain Valley, CA.

PMID: 1989450 [PubMed - indexed for MEDLINE]

157: Nurs RSA. 1991 Jan;6(1):19-20, 22.

Making sense of ... hydrocolloid dressings.

Thomas S.

PMID: 2011172 [PubMed - indexed for MEDLINE]

158: Nurs Times. 1990 Nov 7-13;86(45):36-8.

Making sense of .... hydrocolloid dressings.

Thomas S.

PMID: 2235619 [PubMed - indexed for MEDLINE]

159: Arch Surg. 1990 Sep;125(9):1136-9.

Occlusive dressings. Does dressing type influence the growth of common bacterial pathogens?

Marshall DA, Mertz PM, Eaglstein WH.

Department of Dermatology and Cutaneous Surgery, University of Miami School of Medicine, Fla.

We studied the effect of different occlusive dressings and of air exposure on the growth of four pathogenic bacteria in wounds. Partial-thickness wounds on domestic pigs were inoculated with Staphylococcus aureus, Clostridium

perfringens, Bacteroides fragilis, or Pseudomonas aeruginosa. Each wound was covered with three dressings (DuoDERM, Opsite, or Vigilon), or left exposed to air. Groups of wounds were sampled at 24, 48, and 72 hours. Staphylococcus aureus reached high levels beneath all of the dressings and in the air-exposed wounds. The numbers of C perfringens and B fragilis were greatly reduced in the air-exposed wounds and slightly reduced in the Opsite-covered wounds. The numbers of P aeruginosa were greatest in the Opsite- and Vigilon-covered wounds. The results indicate that occlusive dressings are not indicated in wounds that clinically appear to be grossly contaminated or that may contain anaerobic organisms.

PMID: 2119166 [PubMed - indexed for MEDLINE]

160: Decubitus. 1990 Aug;3(3):43-6.

Erratum in:
    Decubitus 1990 Nov;3(4);24.

The effect of a pressure-relieving wound dressing on the interface pressures applied to the trochanter.

Clark M.

A pressure-relieving dressing (PRD/Coloplast A/S, Denmark) was tested on 12 healthy volunteers to determine trochanteric and peritrochanteric interface pressures. Use of the PRD reduced the maximum pressure applied to the apex of the trochanter from a mean of 64.2 mm Hg to a mean of 52.2 mm Hg. The author speculates that this statistically significant difference may have clinical relevance for 79% of pressure ulcers in England and Wales but not for the 21% of pressure ulcers with cavities.

PMID: 2400567 [PubMed - indexed for MEDLINE]

161: Orthop Rev. 1990 Jul;19(7):638-40.

Tips of the trade #26. Treatment of amputation residual limb ulcers with a hydroactive dressing and continued weight bearing.

Pinzur MS, Osterman H.

Loyola University Medical Center, Maywood, Illinois.

This paper discusses treatment methods for amputation residual limb (stump) ulcers and infected or failed-amputation wounds. Local wound care and abstinence from prosthetic limb use and weight bearing have been found effective in the treatment of decubitus ulcers, as has the use of occlusive hydroactive dressings such as DuoDERM (ConvaTec, Princeton, NJ). DuoDERM application and prosthetic socket modification have been found useful for the treatment of decubitus ulcers in ambulatory patients. The techniques of, and benefits obtained from, DuoDERM therapy are explored; we conclude that the relief of local wound pressure and shear forces obtained with this therapy generally enhances ambulation capacity.

Publication Types:
    Research Support, Non-U.S. Gov't

PMID: 2381738 [PubMed - indexed for MEDLINE]

162: J Trauma. 1990 Jul;30(7):857-65.

Comparison of a hydrocolloid dressing and silver sulfadiazine cream in the outpatient management of second-degree burns.

Wyatt D, McGowan DN, Najarian MP.

Conemaugh Valley Memorial Hospital, Johnstown, Pennsylvania 15905.

The purpose of this prospective randomized study was to evaluate the use of an occlusive hydrocolloid dressing (Duoderm hydroactive, Squibb) and silver sulfadiazine (Silvadene, Marion) cream in the outpatient management of second-degree burns. The inclusion criteria consisted of burns less than 15% total body surface area that were evaluated within 24 hours of injury and did not require hospital admission. Fifty patients were randomly assigned after having been screened through a list of seven exclusion criteria. On initial evaluation the burns were photographed and screened for causative agent, location, size, depth, tetanus status, and presence of associated burns and injuries. Patients were seen in followup at least biweekly and evaluated for wound bed healing, wound margin healing, pain, number of dressing changes between visits, and ease of dressing application and removal. On final evaluation the burns were photographed and inspected for appearance of the healed burn, repigmentation, wound contraction, approximate time for dressing change, patient compliance, limitation of activity, overall impression of the treatment, and number of days for complete healing. Results were compared using a two-tailed t-test with p less than 0.01. Both groups were statistically similar in age, sex, and size. Duoderm-treated burns had statistically significantly better wound healing, repigmentation, less pain, fewer dressing changes, less time for dressing changes, and less cost. Duoderm-treated patients had statistically significantly less limitation of activity, better patient compliance, greater patient comfort, better overall acceptance, and felt the treatment was more aesthetically pleasing. The results reveal that the Duoderm Hydroactive dressings are superior to Silvadene cream in the outpatient management of second-degree burns.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 2381003 [PubMed - indexed for MEDLINE]

163: Soins. 1990 Jun;(537):53-4.

[Hydrocolloidal occlusive dressings. Decreasing the risk of infection]

[Article in French]

[No authors listed]

PMID: 2389168 [PubMed - indexed for MEDLINE]

164: Nurs Times. 1990 Apr 11-17;86(15):70-1.

Journal of the Wound Care Society. Does occlusion lead to infection?

Gilchrist B, Hutchinson J.

Publication Types:

Comparative Study

PMID: 2367232 [PubMed - indexed for MEDLINE]

165: Cancer Nurs. 1990 Apr;13(2):71-80.

Erratum in:
Cancer Nurs 1990 Aug;13(4):267.

Management of radiation-induced moist skin desquamation using hydrocolloid dressing.

Margolin SG, Breneman JC, Denman DL, LaChapelle P, Weckbach L, Aron BS.

Barrett Clinical Center for Cancer Prevention, Treatment and Research, University of Cincinnati Medical Center, Ohio 45267-0757.

Moist skin desquamation has been of concern to radiation oncologists, nurses and patients since the inception of this mode of therapy. As radiation treatment machines became more sophisticated, severe reactions became less of a problem. However, with the increasing use of chemotherapy and radiation as combined modalities, moist skin reaction is occurring with greater frequency. A noncomparative study of 20 patients using a hydrocolloid occlusive dressing (Duoderm) was initiated. The purpose of the study was to determine whether moist occlusive healing would be beneficial. The dressing was evaluated on the basis of healing time, safety, wound temperature, bacterial growth, and comfort. Data were collected using photographs, bacterial cultures, temperature probes, and patient evaluations. Eighteen patients completed the study. All patients' skin reactions healed. There were no wound infections evident. Mean healing time was 12 days, with mean wound temperature relative to body core -0.8 degree C on day 1 and -1.2 degrees C on the healed site. Patient results on comfort were: 8 of 18 excellent, 7 of 18 good, 3 of 18 fair, and 0 of 18 poor. The results of this study indicate that a hydrocolloid occlusive dressing can be effective in the healing process of moist skin reaction that is due to radiation therapy.

Publication Types:
Comparative Study
Research Support, Non-U.S. Gov't

PMID: 2331694 [PubMed - indexed for MEDLINE]
166: Acta Chir Scand. 1990 Mar;156(3):211-3.

Occlusive dressing versus petroleum gauze on drainage wounds.

Alsbjorn BF, Ovesen H, Walther-Larsen S.

Department of Thoracic Surgery, Gentofte Hospital, Copenhagen, Denmark.

Two different wound dressings were tested on human drainage wounds. Improved healing was observed under an occlusive, oxygen-impermeable hydrocolloid dressing compared with petroleum gauze. Infection tendency was not increased under the occlusive dressing.

Publication Types:
Comparative Study

PMID: 2336914 [PubMed - indexed for MEDLINE]

167: J Surg Res. 1990 Mar;48(3):245-8.

Second-degree burn healing: the effect of occlusive dressings and a cream.

Davis SC, Mertz PM, Eaglstein WH.

Department of Dermatology & Cutaneous Surgery, University of Miami School of Medicine, Florida 33101.

Because occlusive dressings and some creams have been found to speed epithelialization of blade-induced wounds, we studied the effect of two occlusive dressings and a polyglycerylmethacrylate cream containing low concentration of fibronectin on epithelialization in second-degree burn wounds. Cylindrical brass rods were heated in a boiling water bath, removed, wiped dry, and placed (6 sec) on the skin of domestic pigs. The burned epidermis was removed and each burn wound was assigned to one of the following treatment groups: (1) air-exposed, (2) DuoDERM (hydrocolloid dressing; Squibb Co., New Jersey), (3) Opsite (polyurethane dressing; Smith & Nephew, New Jersey), or (4) experimental cream. Several burn wounds were excised from each treatment group on Days 6 to 14 after wounding. The excised burn wounds were incubated in 0.5 M NaBr for 24 hr which allowed separation of the epidermis from the dermis. The epidermis was examined macroscopically for defects in the area of the burn. Specimens were considered healed when a defect was not present. Neither of the occlusive dressings changed the rate of epithelialization as compared to air exposure. Wounds which were treated with the experimental cream epithelialized faster than the air-exposed wounds (P less than 0.025).

Publication Types:
    Research Support, Non-U.S. Gov't

PMID: 2314098 [PubMed - indexed for MEDLINE]

168: Prof Nurse. 1990 Feb;5(5):244-5.

Using modern dressings to effect debridement.

Bale S, Harding KG.

Before sloughy or necrotic wounds can begin to heal, they must be debrided. Some of the modern wound dressings are not only extremely effective in this, but they do not damage surrounding tissue.

PMID: 2315332 [PubMed - indexed for MEDLINE]

169: Phlebologie. 1990 Jan-Mar;43(1):107-9.

[Clinical significance of duoderm in venous ulcer and clot dissolution in experimental deep wounds]

[Article in French]

Hutchinson J, Lydon MJ, Cherry GW.

Convatec Wound Healing Research Institute, Newtech Square, Deeside CL WYD.

PMID: 2353036 [PubMed - indexed for MEDLINE]

170: J Soc Occup Med. 1990 Autumn;40(3):101-2.

Treatment of industrial wounds with DuoDERM Bordered: a report on medical and patient comfort aspects.

Hermans MH, van Wingerden S.

Convatec Northern Europe, Rijswijk, The Netherlands.

In a prospective study 30 patients with minor industrial wounds were treated with DuoDERM Bordered. Medical aspects, patient comfort and the possibility of continuing activities of daily life are described in this report.

PMID: 2214690 [PubMed - indexed for MEDLINE]

171: Acta Derm Venereol. 1990;70(3):231-5.

A randomized trial of two occlusive dressings in the treatment of leg ulcers.

Brandrup F, Menne T, Agren MS, Stromberg HE, Holst R, Frisen M.

Department of Dermatology, Odense University Hospital, Denmark.

Two occlusive dressings--one zinc oxide medicated (Mezinc) and one hydrocolloid (Duoderm)--were compared in a prospective, randomized trial over a period of 8 weeks to determine their healing ability and effect on pain for venous and arterial leg ulcers. All patients were patch-tested before the study and colophony allergy was an exclusion criterion. Of the 43 outpatients included, 31 completed the trial and 6 patients randomized to each treatment group were withdrawn. The initial ulcer areas decreased after 8 weeks of treatment with Mezinc by 64% and by 48% after treatment with Duoderm. Ulcer pain was relieved in 50% of the patients--with a similar analgesic effect for the two dressings. Mezinc treatment was discontinued in 2 cases due to sensitization to colophony (one ingredient of Mezinc) which indicated a risk of contact allergy to colophony due to Mezinc treatment. 1103 consecutive eczema patients were patch-tested on the back with Mezinc and colophony 20% in petrolatum simultaneously. It was found that 42 (4%) of the patients showed allergic skin reactions to colophony and 19 (2%) to Mezinc. Both dressings were well tolerated by leg ulcer patients and there appeared to be no major differences in the efficacy of the two occlusive dressings.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 1972837 [PubMed - indexed for MEDLINE]

172: Nurs Stand Spec Suppl. 1989 Dec 16;(6):8-11.

Hydrocolloid dressings in accident and emergency.

Knapman L, Bache J.

Publication Types:
    Case Reports

PMID: 2622486 [PubMed - indexed for MEDLINE]

173: J R Soc Med. 1989 Dec;82(12):739-40.

Preliminary observations on clotting under three hydrocolloid dressings.

Mulder GD, Walker A.

Surgery Department, Veterans Administration Hospital, Denver, Colorado.

Four patients with five wounds were randomly assigned to treatment with three occlusive dressings: DuoDERM, Restore and Comfeel Ulcus; the dressings were left intact for 24-48 h. When the dressings were removed, it was found that wounds that had been covered with Restore and Comfeel contained coagulated sanguinous material. Two wounds that had been covered with Comfeel and Restore, respectively, were then covered with DuoDERM, while one wound previously covered with DuoDERM was covered with Restore. Either no clotting occurred under DuoDERM or clots may have resolved. Although these preliminary data suggest that DuoDERM gel may have fibrinolytic properties, more extensive and controlled studies are needed to assess the characteristics of this dressing.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 2614768 [PubMed - indexed for MEDLINE]

174: Burns. 1989 Dec;15(6):385-8.

Design of a new hydrocolloid dressing.

Nangia A, Hung CT.

Department of Pharmacy, University of Otago Medical School, Dunedin, New Zealand.

Hydrocolloid dressings composed of dextran, phospholipid, glycerol and sodium lauryl sulphate have been formulated. A ventilated hygrometer system has been used to study the evaporative water loss (EWL) from the excised wound of rats with and without these dressings. A statistical experimental design has been used to locate a formulation which is flexible and semiocclusive in nature. The phospholipid component of the dressing has a significant role in controlling water vapour permeability of the dressing. The EWL from the excised wound covered with the optimized dressing has been compared with that for two commercial products.

PMID: 2483054 [PubMed - indexed for MEDLINE]

175: Minerva Chir. 1989 Oct 15;44(19):2089-92.

[The use of DuoDerm in the surgical wound after surgical treatment of pilonidal fistulae using the open method]

[Article in Italian]

Estienne G, Di Bella F.

The results of a study on the use of DuoDerm Hydroactive sterile occlusive dressing on the operative wound after simple excision of pilonidal fistula are reported. Two groups of 20 patients were studied: in the first group the wound

was treated with traditional medications, in the second group with DuoDerm. Comparing the results obtained from these two groups, the Authors conclude underlining the therapeutic efficacy of the dressing which stimulates granulation and accelerates re-epithelialization with complete healing in 6 weeks on average compared with the 10 needed with traditional medications.

Publication Types:
    English Abstract

PMID: 2616009 [PubMed - indexed for MEDLINE]

176: Br J Dermatol. 1989 Sep;121(3):337-44.

The bacteriology of chronic venous ulcers treated with occlusive hydrocolloid dressings.

Gilchrist B, Reed C.

Department of Nursing Studies, King's College, London University, U.K.

The bacterial flora of chronic venous ulcers treated with an occlusive hydrocolloid dressing were studied over a period of 8 weeks. A novel exudate sampling method was used in an attempt to isolate anaerobic bacteria. The flora was generally stable. Once a species was present, it remained with the exception of Pseudomonas, which appeared to be inhibited by the dressing. Twelve out of 20 ulcers contained anaerobic bacteria and healing did not appear to be impaired by the presence of any particular species of bacteria.

Publication Types:
    Research Support, Non-U.S. Gov't

PMID: 2803959 [PubMed - indexed for MEDLINE]

177: J Trauma. 1989 Jul;29(7):924-30; discussion 930-1.

Comparison of an occlusive and a semi-occlusive dressing and the effect of the wound exudate upon keratinocyte proliferation.

Madden MR, Nolan E, Finkelstein JL, Yurt RW, Smeland J, Goodwin CW, Hefton J, Staiano-Coico L.

Department of Surgery, New York Hospital-Cornell Medical Center, New York 10021.

Three consecutive studies were performed in 58 patients evaluating the effect of occlusion on the healing of partial-thickness wounds. Mirror-image donor sites were covered with the occlusive hydrocolloid dressing (HCD) (DuoDerm) and compared to fine mesh gauze, and the HCD was subsequently compared to a semi-occlusive dressing of polyurethane film, (Op-site). In addition, partial-thickness burn wounds were covered with the HCD and the remaining burn wound was treated with silver sulfadiazine. The donor sites and burn wounds treated with HCD healed significantly faster than those covered with fine mesh gauze or silver sulfadiazine (p less than 0.001) and with less pain. The HCD and polyurethane film were equivalent. There were no clinical infections with the wounds that were occluded. The exudate collected beneath the DuoDerm and Op-site on donor sites was added to the tissue culture system and resulted in a modest increase in keratinocyte proliferation. However, the exudate from burn wounds under HCD resulted in a marked increase in cell proliferation (p less than 0.001).

Publication Types:
    Comparative Study
    Research Support, U.S. Gov't, P.H.S.

PMID: 2473215 [PubMed - indexed for MEDLINE]

178: Soins Chir. 1989 May;(99):42-4.

[Occlusive dressing or active product?]

[Article in French]

Fairbrother JE.

PMID: 2749085 [PubMed - indexed for MEDLINE]

179: Infection. 1989 Mar-Apr;17(2):81-5.

The effects of an occlusive zinc medicated dressing on the bacterial flora in excised wounds in the rat.

Soderberg T, Agren M, Tengrup I, Hallmans G, Banck G.

Department of Hand- and Plastic Surgery, University Hospital of Umea.

The effects of three different dressings - two occlusive and one non-occlusive - on the bacterial flora of excised wounds in rats were studied. The number of colony forming units per gram of granulation tissue were significantly lower 4, 8 and 12 days postoperatively in wounds treated with a zinc medicated occlusive dressing compared with wounds treated with non-zinc medicated occlusive hydrocolloid dressing or wet-to-dry non-occlusive gauze dressing. The minimum inhibitory concentration (MIC) of zinc sulphate was determined on different strains of bacteria isolated from the wounds of rats and on strains isolated from humans. The most susceptible species isolated from both rat wounds and humans were Streptococcus sp., STaphylococcus aureus and Escherichia coli; whereas, Proteus and Enterococcus sp. had higher MIC-values. In vitro, the hydrocolloid dressing disclosed no antibacterial effects. If the practitioner prefers an occlusive dressing we believe, due to our animal and in vitro experiments, that the zinc medicated occlusive dressing will reduce the risk of wound infection in man.

Publication Types:
    Comparative Study

PMID: 2714861 [PubMed - indexed for MEDLINE]

180: Rev Infirm. 1989 Feb;39(3):7-9.

[Use of a hydrocolloid dressing in the ambulatory treatment of burns]

[Article in French]

Phipps AR, Lawrence JC.

PMID: 2928672 [PubMed - indexed for MEDLINE]

181: J Am Podiatr Med Assoc. 1989 Feb;79(2):74-6.

Hydrocolloid for deep wound dehiscence.

Latham W, Steiner I, Lefkowitz H.

Publication Types:
    Case Reports

PMID: 2732913 [PubMed - indexed for MEDLINE]

182: Burns Incl Therm Inj. 1989 Feb;15(1):7-10.

Treatment of donor sites--Duoderm or Omiderm?

Leicht P, Siim E, Sorensen B.

Department of Plastic Surgery, Kobenhavns Kommunes Hvidovre Hospital, University of Copenhagen, Denmark.

In the search for a good temporary donor site dressing two synthetic products were compared in a randomized controlled clinical trial: Duoderm, a double layer dressing with an inner hydrocolloid polymer complex layer and an outer layer of polyurethane foam, impermeable to water and oxygen, and Omiderm, a hydrophilic polyurethane transparent membrane, permeable to water and oxygen. Sequence analysis showed that the trial could finish when eight patients had been treated. The Duoderm dressing resulted in solid re-epithelialization almost 3 days earlier than Omiderm, and it was more comfortable for the patients. Neither the Duoderm-treated nor the Omiderm-treated donor sites showed any signs of clinical infection. Due to fluid accumulation beneath the dressing during the first postoperative days the Duoderm dressing had to be changed more often than the Omiderm.

Publication Types:
    Clinical Trial
    Comparative Study
    Randomized Controlled Trial

PMID: 2655835 [PubMed - indexed for MEDLINE]

183: Scand J Plast Reconstr Surg Hand Surg. 1989;23(2):89-96.

The effects of occlusive dressings on inflammation and granulation tissue formation in excised wounds in rats.

Reuterving CO, Agren MS, Soderberg TA, Tengrup I, Hallmans G.

Department of Pathology, University Hospital, Umea, Sweden.

The effects on the healing of full-thickness excisional wounds treated with either of two occlusive dressings (Mezinc or Duoderm) were compared with the effects of gauze soaked in saline. The wounds were made on 86 rats and were examined clinically, histologically and biochemically four, eight and twelve days after wounding. Four days postoperatively the Duoderm-treated wounds differed significantly from the other two groups. Clinically, an adherent discolored gelatinous mass remained after removal of the firm part of the Duoderm dressing. Histologically it corresponded to a superficial exudate containing polymorphonuclear leukocytes (PMNs), macrophages and condensed foreign material. There was also a more extensive inflammatory reaction in the

underlying tissues compared with gauze or Mezinc treatment and debris was seen in vesicles extracellularly and in foamy macrophages. Foamy macrophages were only seen in the Duoderm-treated wounds. These macrophages were mainly confined to the granulation tissue, which was about twice as thick as in the other two treatment groups twelve days after excision.

Publication Types:
    Comparative Study

PMID: 2814388 [PubMed - indexed for MEDLINE]

184: Ostomy Wound Manage. 1989 Spring;22:79-83.

Managing peristomal wounds with a hydrocolloid dressing (Duoderm).

Krasner D.

Publication Types:
    Case Reports

PMID: 2719808 [PubMed - indexed for MEDLINE]

185: Acta Derm Venereol Suppl (Stockh). 1989;149:1-10.

Care of pressure sores: a controlled study of the use of a hydrocolloid dressing compared with wet saline gauze compresses.

Alm A, Hornmark AM, Fall PA, Linder L, Bergstrand B, Ehrnebo M, Madsen SM, Setterberg G.

Stureby Hospital, Enskede, Sweden.

An occlusive hydrocolloid dressing (Comfeel Ulcus) was compared with a conventional wet saline gauze dressing regarding the effect on ulcer cleansing and healing processes, experience of pain and the consumption of nursing time, in a controlled, randomized and partially single-blind study with parallel groups of long-stay patients with pressure sores. After a few weeks' treatment the relative decrease in ulcer areas with time was larger in the group treated with the hydrocolloid dressing. The difference was almost statistically significant at week 5 ($p = 0.054$) and definite at week 6 ($p = 0.006$). At week 6 the median remaining ulcer area in per cent of the initial area was 0% in the hydrocolloid dressing group and 31% in the group treated with saline gauze ($p = 0.016$). Analysis of the healing distribution function showed the hydrocolloid dressing to be more effective, although the overall difference was non-significant ($p = 0.15$). Care of the pressure sore took significantly less time with hydrocolloid dressings.

Publication Types:
    Clinical Trial
    Comparative Study
    Multicenter Study
    Randomized Controlled Trial

PMID: 2694713 [PubMed - indexed for MEDLINE]

186: Acta Derm Venereol Suppl (Stockh). 1989;152:1-12.

Treatment of chronic leg ulcers with a hydrocolloid dressing.

Gamborg Nielsen P, Munk Madsen S, Stromberg L.

Department of Dermatology, Central Hospital, Halmstad, Sweden.

The effects of a hydrocolloid dressing (Comfeel Ulcus) on the physical environment of chronic leg ulcers in 58 consecutive out-patients were investigated. Patients were subdivided into two groups of which Group 1 included 31 (53.4%) and Group 2, 27 (46.6%) patients. Twenty-three (39.7%) patients healed within 7 weeks (study period) and 49 (84.5%) within 1 year (follow-up period). Aerobic and anaerobic bacterial cultures as well as mycotic cultures were performed from ulcer bases of both groups of patients. In Group 1 a 3 mm punch biopsy was taken from the ulcer margins for histopathological examination. In Group 2 serum levels of iron, zinc, copper and selenium were measured and in these latter patients a mean temperature difference of 2.8 degrees C between the ulcer base and the skin surrounding the ulcer was found. There was no difference in ulcer pH in patients belonging to Group 2, independent of bacterial or fungal contamination. Low serum iron was found in 74.1% and anaemia in 40.7% of the patients in Group 2. No differences in ulcer healing were seen in these patients compared with those without iron-deficiency or anaemia. No differences were seen in serum iron, zinc, copper or selenium levels between good and poor healers. There were 22.2% ulcer relapses in Group 1 within a year of the start of the study, with no relapses in those 15 patients of Group 2 who used specially designed compression stockings.

Publication Types:
    Clinical Trial
    Controlled Clinical Trial
    Research Support, Non-U.S. Gov't

PMID: 2618526 [PubMed - indexed for MEDLINE]

187: Mil Med. 1988 Apr;153(4):188-90.

Effect of a hydrocolloid dressing on the pain level from abrasions on the feet during intensive marching.

Hedman LA.

PMID: 2898742 [PubMed - indexed for MEDLINE]

188: Decubitus. 1988 Feb;1(1):42-6.

Evaluation of hydrocolloid dressings on healing of pressure ulcers in spinal cord injury patients.

Shannon ML, Miller B.

PMID: 3254702 [PubMed - indexed for MEDLINE]

189: Int J Tissue React. 1988;10(4):267-72.

Use of the hydrocolloidal dressing duoderm for skin donor sites for burns.

Donati L, Vigano M.

Department of Plastic Surgery, University of Milan, Italy.

We have made a study of the use of Duoderm hydroactive sterile occlusive dressing on 10 patients for skin donor sites. Its therapeutic efficacy is evident and the dressing enhances the wound debridement and accelerates the re-epithelialization, with complete healing in 8.5 days on the average. In comparison with a conventional dressing with paraffin gauze, Duoderm allows a more rapid re-epithelialization. In addition, the new skin is softer, smoother and more homogeneous. Duoderm is also easy to use and is well tolerated by the patients.

Publication Types:
    Comparative Study

PMID: 3074956 [PubMed - indexed for MEDLINE]

190: Ostomy Wound Manage. 1988 Winter;21:64-83.

Moist environment for healing: matching the dressing to the wound.

Alvarez O.

Publication Types:
    Research Support, Non-U.S. Gov't
    Review

PMID: 3074811 [PubMed - indexed for MEDLINE]

191: Acta Chir Scand Suppl. 1988;544:47-52.

Local treatment of venous leg ulcers.

Eriksson G.

Danderyd Hospital, Sweden.

At present the following guidelines for treatment of venous leg ulcers from our department are: Check the patients' general health--special attention to heart incompensation with oedema of the legs and the peripheral circulation. The most relevant laboratory tests are haemoglobin and urine-glucose. Routine bacterial cultivation is not necessary in non-diabetic patients as the result will generally not influence diagnosis, treatment or prognosis. Furthermore, treatment with topical antibiotics should be avoided. It is not only unnecessary, wasteful and sensitizing, but it also involves a risk of causing antibiotic resistance. Systematic antibiotic therapy is indicated only when obvious inflammatory signs in the tissues surrounding the ulcer are present, e.g. erysipelas or cellulitis. Non-sensitizing topical remedies should be applied. Avoid wool, alcohols, parabens, topical antibiotics and oxiquinolines. When eczema occurs use a hydrocortisone preparation in an inert base. Epicutaneous testing might be indicated. Bandages to be recommended are double-layer bandages consisting of an inner zinc oxide impregnated stocking and an outer elastic bandage and hydrocolloid dressing plus compression bandage.

PMID: 2972148 [PubMed - indexed for MEDLINE]

192: Ann Dermatol Venereol. 1988;115(12):1301-4.

[Biomaterials and dressings]

[Article in French]

Lacour JP, Ortonne JP.

Service de Dermatologie, Hopital Pasteur, Nice.

PMID: 2468305 [PubMed - indexed for MEDLINE]

193: Scand J Plast Reconstr Surg Hand Surg. 1987;21(3):283-5.

HydroColloid dressing (Duoderm) for the treatment of superficial and deep partial thickness burns.

Hermans MH.

Burn Centre, Rode Kruis Ziekenhuis, Beverwijk, The Netherlands.

HydroColloid Dressing (Duoderm, HCD) is a new kind of dressing, based on the fact that occlusion can provide an optimum wound environment for quick re-epithelialization. Seventy patients with superficial and deep partial thickness burns of up to 7% TBSA were treated with HCD. In 16 patients a second burned area, similar in size and depth of the burn treated with HCD, was treated with human allografts or silversulfadiazine (SSD). Five patients with very small full thickness burns were also treated with HCD. In three patients (4.5%) the treatment with HCD had to be discontinued before total re-epithelialization had occurred, for various reasons. Statistically, HCD provided faster re-epithelialization than allografts or SSD. The cosmetic and functional results were excellent. After six months only one patient was found to have a small area of hypertrophy. In this study HCD was found to be a very good dressing for the treatment of smaller partial thickness burns.

PMID: 3327160 [PubMed - indexed for MEDLINE]

194: J Pediatr Surg. 1986 Oct;21(10):892-4.

The effect of occlusive dressings on re-epithelializations of wounds in children with epidermolysis bullosa.

Eisenberg M.

Hydrocolloid dressing (HCD), a new oxygen impermeable occlusive dressing, was studied in a controlled clinical trial of three pediatric patients with dystrophic epidermolysis bullosa (RDEB). Advantages of this material over such dressings as paraffin gauze (PG) or the perforated plastic film (TELFA), include considerably faster re-epithelialization, pain free movement of the injured part and fewer dressing changes. The most significant advantage of HCD for RDEB patients has been in the reduction of scar tissue formation, because in this disease, wounds heal with scarring that causes mutilating deformities.

Publication Types:
    Comparative Study
    Research Support, Non-U.S. Gov't

PMID: 3783377 [PubMed - indexed for MEDLINE]

195: Arch Dermatol. 1986 Jan;122(1):52-7.

Local environment of chronic wounds under synthetic dressings.

Varghese MC, Balin AK, Carter DM, Caldwell D.

Local wound environment under oxygen-permeable and oxygen-nonpermeable dressings in patients with chronic ulcers was investigated. The oxygen tensions under both these dressings were very low or zero. Wound fluid was more acidic under the nonpermeable hydrocolloid dressing than under the oxygen-permeable polyurethane dressing. Bacterial growth studied in vitro was retarded at the more acidic pH similar to that found under the hydrocolloid dressing. Viable and functioning neutrophils were found under both the polyurethane and hydrocolloid dressings, with a greater percentage of viable cells under the polyurethane film. Our data suggest that these synthetic dressings create hypoxic conditions in which wound healing occurs whether or not the dressing is permeable to oxygen. Furthermore the local wound environment can be modified by use of synthetic dressings.

Publication Types:
    Clinical Trial
    Comparative Study
    Controlled Clinical Trial

PMID: 3079991 [PubMed - indexed for MEDLINE]

196: Cutis. 1985 Apr;35(4):396-7, 400.

Clinical evaluation of a new occlusive hydrocolloid dressing.

Mulder GD, Albert SF, Grimwood RE.

Eighteen patients with a total of twenty-four dermal ulcers of varying causes and unresponsive to other conservative treatment were treated with a new hydrocolloid dressing. All lesions healed in less time than with other modalities. This hydrocolloid dressing is more effective than others presently available for the treatment of noninfected dermal ulcers.

Publication Types:
    Case Reports

PMID: 3996043 [PubMed - indexed for MEDLINE]

197: J Am Acad Dermatol. 1985 Feb;12(2 Pt 2):409-19.

Dermal wound repair: role of collagen matrix implants and synthetic polymer dressings.

Leipziger LS, Glushko V, DiBernardo B, Shafaie F, Noble J, Nichols J, Alvarez OM.

The effects of two different polymeric wound dressings and a new collagen matrix (CM) implant on the healing and scarring of full-thickness excision wounds were studied in swine. The synthetic polymers comprised an occlusive O2-impermeable hydrocolloid dressing (HCD) and an occlusive O2-permeable polyurethane film (PUF). The CM implant consisted of an acellular collagen sponge fabricated from purified bovine tendon type I collagen. Wounds were evaluated for granulation tissue--production capacity by measuring 14C proline incorporation into

collagenase-sensitive protein. Epidermal resurfacing and wound contraction were measured by computerized morphometric image analysis of wounds made on a tattooed grid. In comparison with air-exposed wounds, the relative collagen synthetic capacity was greater in the granulation tissue of wounds treated with HCD, PUF, or CM with occlusion. Both HCD and PUF accelerated by 40% the epidermal resurfacing over the granulating wound bed. Wound contraction was significantly reduced by CM but was not altered by the occlusive dressings.

Publication Types:
    Comparative Study

PMID: 3973142 [PubMed - indexed for MEDLINE]

198: Cutis. 1985 Feb;35(2):173-6.

Multicenter clinical evaluation of a hydrocolloid dressing for leg ulcers.

van Rijswijk L, Brown D, Friedman S, Degreef H, Roed-Petersen J, Borglund E, Ebert HM, Sayag J, Beylot C, Su WP.

The need for a moist environment for the normal healing process led to the development of occlusive dressings. Results from this study support the contention that a moist wound environment is favorable to the healing process in humans as well as in animal models. Hydrocolloid dressings are effective in the practical daily management of chronic and even refractive ulcerations of the lower extremities and offer a time-saving treatment alternative with a high degree of patient acceptability.

Publication Types:
    Clinical Trial

PMID: 3884282 [PubMed - indexed for MEDLINE]

199: Burns Incl Therm Inj. 1984 Dec;11(2):125-9.

Preliminary report on the use of a new hydrocolloid dressing in the treatment of burns.

Hermans MH, Hermans RP.

Twenty-four patients who were referred to our outpatient clinic for treatment of burns were included in a study to evaluate the clinical effectiveness of a new hydrocolloid dressing (HCD). The depth of their burns ranged from superficial partial thickness to full thickness burns and the average size was 1.63 per cent of the total body surface. Seven patients had similar burns on other areas of their body which served as control areas. In six patients healing occurred slightly faster in the HCD treated wounds as compared to silver sulfadiazine (1 per cent), and at least as fast as compared with human allografts in these patients. Two patients were removed from the study; in the remaining non-control group (15 patients) healing progressed rapidly and the patients reported the treatment to be very comfortable. Follow-up visits after 1, 3 and 6 months showed excellent healing and there were no signs of hypertrophic scarring.

Publication Types:
    Clinical Trial
    Comparative Study
    Controlled Clinical Trial

PMID: 6395938 [PubMed - indexed for MEDLINE]