THE EWMA UNIVERSITY CONFERENCE MODEL

READ ALL ABOUT IT INSIDE
Dear Reader

It seems no time since we were anticipating the EWMA Conference in Lisbon, closely followed by the World Union of Wound Healing Societies (WUWHS) meeting in Toronto. It is fair to say that both meetings were very successful and provided great opportunities to make contact with colleagues in other countries to discuss wound care issues. One of the things that stood out for me in Lisbon was the excitement of the students involved in the University Conference Model. Most students attending a university course at whatever level do not get the chance to attend a local conference as part of their course, let alone an international one. So this opportunity which allowed them to hear a considerable number of internationally renowned speakers as well as getting to know students from other countries is unparalleled.

For those of you who are not quite sure what the EWMA University Conference Model actually is, there are more details in Zena Moore’s report on pages 40–41. However, the short answer is that a participating university running a wound management course uses the conference to form one of their modules. The course leader selects relevant lectures, free papers and workshops and so on for the students so that they fulfill the specific requirements of their course. The course leader and students meet regularly throughout the conference to discuss what they have learnt. Needless to say, the conference is a lot of hard work for the course leaders!

Moving onto the WUWHS meeting, we have a formal report from the meeting on page 54. In addition, I would like to give my personal congratulations to three of EWMA’s Past Presidents who were presented with Life Time Achievement Awards at the conference. They were Christine Moffat, George Cherry and Finn Gottstrup. They have all made major contributions to wound healing and management in their different ways over the years as well as to EWMA and it was very nice to see this being recognized at the meeting.

This issue of the Journal has our usual mixture of scientific papers, reports and news items. We also have something completely new in the Electronic Supplement: papers from the Polish journal “Leczenie Ran” (Wound Management) translated into English. Although we have occasionally translated a paper into English so it can be shared with a wider audience, this is the first time that we have had a collection of papers translated. The purpose is to showcase some of the research and developments in wound healing being undertaken in one country and only published in the language of that country. It allows our readership to learn more about the country in relation to wound management and gives the research greater exposure. We intend to dedicate one electronic supplement a year to this venture, utilizing interested journals of EWMA’s Cooperating Organisations. I am indebted to Deborah Hofman, the Electronic Supplement Editor, for her hard work in facilitating the selection process, checking the translations and so on. Deborah selected 10 abstracts of papers relevant to the EWMA Journal published over the last two years. They were then read by the Editorial Board who selected the best five papers for the Supplement. We welcome any comments from readers on this venture.

Another new venture that is discussed within the pages of this issue is the formation of an Advanced Wound Care Sector (AWCS) within the European Medical Technology Association (EUCOMED). As can be seen in the paper by Hans Lundgren, this is an interesting new venture to try and raise awareness of the burden of chronic wounds within the European Union. EWMA is an active partner in this project and it is only by developing this type of collaborative partnership with the wound care industry that we can hope to get chronic wounds onto the agenda in Brussels. A number of unsuccessful initiatives have been undertaken over the years with much the same goals. However, AWCS has a carefully planned strategy which would seem to have a greater potential for success. I know that I have written optimistically in the past about the possibility of the European Commission funding research in wound healing and wound management and never seen my hopes materialize, but maybe, just maybe, this new venture will be successful and we will be able to undertake some of the large multi-centre studies that are necessary to provide us the type of evidence we need to support our clinical practice.

Carol Dealey
We call it QuadraFoam® because “Healing-Cleansing-Absorbing-Moisturising-Comfortable-Easy-Fast-Acting Dressing” just didn’t seem as catchy.

QuadraFoam. The 4-in-1 dressing formulation.
PolyMem, the only QuadraFoam dressing, simplifies your work and improves healing by effectively cleansing, filling, absorbing, and moistening wounds throughout the healing continuum. Finally, a dressing that lives up to its name.

Find your local distributor at www.PolyMem.eu.
Abstract

Background: For companies in the wound care sector, the lack of a common voice in Europe has hindered the visibility and promotion of the industry to political and policy decision-makers, and the creation of a regional awareness of the issues around chronic wounds. With the mechanisms of healthcare systems being different within the EU Member States, a common EU approach and collaboration within the industry is essential.

Strategy: The industry solution has been to create a sector group for Advanced Wound Care (AWCS) under the auspices of Eucomed (European Medical Technology Industry Association). This sector group will also work in active partnership with the European Wound Management Association (EWMA).

Objective: The overall objective of the sector group is to raise the profile of advanced wound care, and bring it into the context of current and future social healthcare issues under debate.

Goals:

Short term goals (less than 1 year)
- Present a ‘Burden-of-Illness Paper’ on chronic wounds in Europe
- Present an article around ‘Evidence in Wound Care’
- Participate in a ‘Clinical Working Group’ to evaluate outcome measures other than just healing efficacy
- Arrange a ‘Wound Care Session’ in Brussels
- Initiate a ‘Data Collection Programme’ of wound care epidemiology in selected countries
- Position the ‘Best Evidence Standpoint’ to the 3Ps (payers, practitioners and patients)

Medium term goals (1-3 years)
- Educational activities about health economics, cost-effectiveness and patient related outcomes
- Continuation of the ‘Data Collection Programme’ to a number of European countries
- Scoping and defining the trends within ‘Primary vs. Secondary Care’ (Cost consequence analysis)

Long term goals (2-5 years)
- To promote and get acceptance of ‘Innovation in Wound Care’

Conclusion: Modern wound management is complex and could have a huge impact on a patient’s everyday life. Therefore it is important that all involved parties work together to minimize the patient suffering and to optimize health care costs for the entire society.

INTRODUCTION

Eucomed (www.eucomed.org) is a trade organization for medical technology companies and national associations in Europe. It is based in Brussels with a broad network and many various focus groups within e.g. patient safety, regulatory affairs, economic affairs, home care and now also advanced wound care.

Modern wound care is complex and furthermore supported by opaque and heterogeneous funding and reimbursement systems. The health care sector is full of ongoing “projects”, “official reports” and “reorganizations”. They have their place, but much of tomorrow’s success can only come from wrestling with real and concrete issues like: What is evidence? How should evidence be measured? What is the value proposition of a new technology? Etc.

The purpose of this article is to give a description of the fruitful collaboration between practitioners, represented by EWMA and the wound care industry (represented by companies from Eucomed). Group members: Hans Lundgren (Chairman, Mölnlycke Health Care), Johannes G. Böttrich (B. Braun), Kristina Jensen (Coloplast), Ameer Ally (ConvaTec), David Hibbitt (Covidien), Julie Bjerregaard (EWMA), Finn Gottrup (EWMA), Luc Gryson (EWMA), Henrik J. Nielsen (EWMA), Laurent Metz (Johnson & Johnson)
Science, Practice and Education

Jo Johnson, Achim Vogel (Paul Hartmann) and John Posnett (Smith & Nephew).

Founded in June 2007 with the support of a White Paper, the AWCS group has had six regular meetings resulting in the creation of a goal and strategy plan.

**POSITIONING OF ADVANCED WOUND CARE**

Chronic wound management is not only about a single dressing, it is much more than that. By definition any device/dressing does not have any pharmacological effect in itself but must by applied by a practitioner on a patient with a chronic wound. What makes it then so complicated? Because in the real clinical world there are various diagnostic and prognostic instruments, differentiated procedures and application techniques, different knowledge and habits of the practitioners, and very often old patients with all sorts of comorbidities. All these ingoing variables make the treatment so complex and thus the patient outcomes so unforeseeable and uncertain. This outlook also means that any patient with a chronic wound is unique and consequently should be treated with the most suitable tools/dressings.

For many people in the inner circle (health care professionals and wound care companies) these daily conditions are well-known but for the outer circle (politicians, policy makers, purchasing managers, patients etc.) they are often completely unknown. That is why we must present advanced wound care in a daily environment, where the dressing is not a simple consumable but a specially designed tool for the clinicians in their multidisciplinary treatment of wounds and chronic ulcers. By this approach you will see that the dressings are only a small part of the total costs and the combination device + clinician + patient must be seen as a health technology. So by defining advanced wound care as a medical technology we can enter the scene of HTA (Health Technology Assessment) discussions. A consequence of that will be that we can make the evidence debate to a higher and more scientific discussions. A consequence of that will be that we can enter the scene of HTA and the ongoing evidence debate as to the level of clinical evidence required to justify the use of modern wound dressings and their reimbursement. Both industry and clinicians have been invited to join the group which is established on the basic idea that industry and clinicians should cooperate on common goals.

**SHORT TERM GOALS**

**Burden-of-Illness Paper**

To get a stable foundation for our work and discussions, Prof. John Posnett (S&N) is working on a ‘Burden-of-Illness Paper’ in chronic wounds (venous ulcers, pressure ulcers and diabetic ulcers) in Europe. The data collection and literature search have focused on quality of life, prevalence and cost of treatment in France, Germany, Italy, Spain, UK and a number of smaller countries. The overall argumentation will be illustrated by examples/data from the literature. Geographical spread has a priority to the extent possible (not cost data from all countries).

Efforts should be made to connect the study to the reimbursement discussion with key points such as,

- Access is a key issue, e.g. pressure ulcers can be prevented if the right products are used.
- Making sure that the proper products are available to people – essential to decrease total costs.

**Article on ‘Evidence in Wound Care’**

In the continuing evidence debate, Prof. Finn Gottrup has published a letter in the British Medical Journal where he proposed the establishment of a clinical working group to address the controversial issue of evidence in wound care. As a follow-up to this letter, Prof. Finn Gottrup will write an article to highlight the published evidence of the benefits of advanced wound care interventions compared to traditional products.

**EWMA Patient Outcome Group**

Supported by the Eucomed AWCS group, EWMA has decided to start a clinical working group to address the ongoing evidence debate as to the level of clinical evidence required to justify the use of modern wound dressings and their reimbursement. Both industry and clinicians have been invited to join the group which is established on the basic idea that industry and clinicians should cooperate on common goals.

**Wound Care Session**

The goal of the AWCS group is to feature modern wound care and the ongoing work in the sector group, with the ‘Burden-of-Illness Paper’ as a central piece. Market access is also a key issue, because there are too many obstacles when companies are trying to get new innovative products into the market. Both demand for evidence to introduce new products but also to keep products on the market.

The competition for a slot-time in Brussels is fierce, and it is always difficult to reach the right target audience due to other lobbying activities. One possibility to create awareness and educate around chronic wound care is through a separate breakfast/lunch/dinner event to relevant target audience at the European Parliament, the Commission or other policy decision-makers.
See what Gelling Foam can do for your patients

Versiva® XC™ Gelling Foam Dressing-
The only dressing with the gelling foam advantage, redefining patient care

• Offers more for wound management than just a moist wound environment
  • Designed to protect periwound skin and reduce the risk of maceration
  • Comforts patients over time whilst the dressing is in situ and upon removal
  • Gel cushions in a way that only a Gelling Foam dressing can


www.convatec.com
MEDIUM TERM GOALS

Data Collection Programme
Epidemiology studies should be conducted in as many European countries as possible. Based on a common protocol, the studies should be limited to prevalence and costs. E.g. start with leg ulcers – like the EWMA Eastern European leg ulcer project, but without the implementation part (too complicated and expensive to do in all countries).

The standardized tool (protocol) should
- Include information about who treats and outcomes
- Show prevalence in all countries
- Use the Eastern European implementation study to show what can be done to limit costs related to chronic wounds
- Connect with prevalence figures in all countries to show how costly chronic wounds are

Educational activities
Education about health economics, cost-effectiveness, quality of life and patient outcomes is needed. EWMA will define a curriculum in cooperation with the AWCS group, identifying the different aspects of wound care relevant for company staff.

Courses will be held in Brussels (European course) and as national courses (arranged in cooperation with the national organizations). The course could be over several days with the possibility for attendants to choose for participation some or all days, depending on the specific need.

Primary vs. Secondary Care
We should try to scope and define the trends within primary and secondary care. Which are the definitions of acute vs. chronic wounds? Is primary care more cost-effective than hospital care? If yes, is the health care sector willing to invest in early diagnosis and prognostic instruments to reduce the treatment time and total costs? (cost-consequence analysis).

Is there any correlation between acute and chronic wound healing? E.g. can we use evidence from acute wounds in the chronic wounds area?

LONG TERM GOALS

Innovation in Wound Care
Continuously there will be a strong demand for rapid patient access to effective, reliable and safe technologies, which only can be materialized through innovative wound management. On the other hand, innovative medtechs are subject to increasing scrutiny before being reimbursed, because of the constant pressure on health care budgets. That is why all the above activities and projects are so important and must be tackled in joint efforts and combined operations.

At the same time the industry is worried about the bottlenecks and the opacity of the reimbursement process, which make investments in research, innovation and product development risky and hazardous.

Finally, the evolution and multifold support of innovations within wound care are imperative to improve patient outcomes and in extension the socio-economic conditions.

ETHICS IN THE COLLABORATION BETWEEN INDUSTRY AND CLINICIANS
At all meetings and collaboration between companies and health care professionals, ethics and the code of conduct are essential. The AWCS group follows the ‘Eucomed Ethics and Guiding Principles’ which are signed by participants at all meetings.

(www.eucomed.be/abouteucomed/ethics.aspx)

CONCLUSION
This paper only represents a synopsis of all the challenges and opportunities in modern wound management, but the key message is that real and lasting results can only be achieved through a broad collaboration between all active and interested stakeholders in the health care sector. Many problems and defiances in wound care are common for the whole sector, and can not be solved by a single system participant. Therefore we need an interaction between practitioners and the industry, and this AWCS group is the visual evidence of such initiative.

It is my hope that this group will be a significant contributor to the safety and well-being of patients in the wound care sector and also to take a leading position in the improvement of health care systems.

References
New evidence confirms the advantages of Biatain Ibu

Wound pain challenges a patient’s quality of life. However, until recently the debate has focused on pain at dressing change. Now an international consensus document concludes that chronic wound pain may be as great a challenge as pain at dressing change. International clinical studies also confirm that the quality of life of patients with chronic wounds can be improved through the use of the foam dressing Biatain Ibu, Thanks to a unique combination of moist wound healing and continuous release of ibuprofen. Biatain Ibu improves appetite, well-being, overall mobility and social activities significantly when compared to local best practice.

For a summary of the evidence on Biatain Ibu please visit www.biatain.coloplast.com


A secondary dressing needs to be applied to keep the non-adhesive Biatain Ibu dressing in place.
CALL FOR ABSTRACTS

HELP in HELSINKI

HEALING
EDUCATING
LEARNING and
PREVENTING in wound care

EWMA2009 • 20-22 May
Helsinki • Finland

ABSTRACT DEADLINE 15 JANUARY 2009

WWW.EWMA.ORG

Organised by the European Wound Management Association
in cooperation with the Finnish Wound Care Society FWCS
A Laboratory Survey of the Antimicrobial Properties of Honey-Containing Dressings

Abstract
Background: Many new sterile honey impregnated wound dressings have recently become available for clinical use. These dressings contain different honey formulations, and therefore differing antibacterial efficacy.

Aim: To investigate the antimicrobial properties of six licensed wound dressings containing honey.

Method: 2 x 2 cm samples of each of six honey containing dressings were applied to the surface of bioassay plates seeded with overnight broth cultures of bacteria. The organisms tested: *Staphylococcus aureus* NCTC 6571, EMRSA-15 NCTC 13142 and a clinical isolate of *Pseudomonas aeruginosa*. The plates were incubated at 37°C for 24 hours. Zones of inhibition were measured and corrected zone sizes calculated, the plates were prepared in duplicate on three separate occasions.

Results: Two dressings gave negligible zones of inhibition with each of the three test organisms. The remaining four dressings gave distinct zones of inhibition with all organisms, staphylococci were found to be more sensitive to honey than pseudomonads.

Conclusion: The dressings that caused inhibition of the test organisms all contained manuka honey at relatively high concentrations. The dressings that did not give rise to zones of inhibition contained other honeys at lower concentrations. The type and concentration of honey in wound dressings influences efficacy in vitro.

INTRODUCTION

Honey has been used since ancient times as not only a food source but also a medicinal product and was used routinely in British hospitals up until the 1970s, however with the advent of antibiotics use of honey was reduced and eventually lost from mainstream medicine. Since the advent of antibiotic resistance there has been a growing need for wound management products that can act as an alternative to antibiotics.

Honey has several advantages as a wound therapy product, showing broad spectrum antimicrobial activity against bacteria, protozoa and some viruses. It has also been reported to improve wound healing, stimulate wound healing factors, remove sloughy tissue and reduce wound odour. There are several reasons for the antimicrobial action. Honey has a high sugar content leading to high osmolarity in the wound, removing water available for bacteria, and it also has a low pH unsuitable for the growth of most wound infecting pathogens. Some honeys generate hydrogen peroxide on dilution in a wound and others contain phytochemicals which may account for their antimicrobial activity.

Honey wound products have now been on the market in the UK since 2004 and several brands are available. Not all of the dressings produced are the same; they can be made of differing materials: gauze, tulle, mesh, polyethylenevinylacetate, alginate or hydrogel. They contain different types of honey such as Leptospermum honeys (manuka and jelly bush), others use buckwheat or unspecified honeys in their dressings. Some of the dressings also contain formulations adding components such as aloe vera and cod liver oil. These differing products need comparative analysis to ensure that informed decisions can be made when selecting them for clinical practice.

METHODS

Test Organisms
- *Staphylococcus aureus* NCTC 6571 (Oxford staph)
- Epidemic methicillin-resistant *Staphylococcus aureus* (EMRSA-15) NCTC 13142
- *Pseudomonas aeruginosa* (clinical isolate)
Dressings: Six different commercial honey impregnated dressings were used in the study:
1. Leptospermum impregnated calcium alginate
2. Leptospermum impregnated calcium alginate
3. Leptospermum impregnated calcium alginate
4. Leptospermum impregnated tulle
5. Buckwheat impregnated mesh
6. Multi floral impregnated mesh

TEST METHODS
Zone of inhibition: This test measures the release of antimicrobial agents from dressings, it is an adaptation of a technique used to determine the antimicrobial sensitivity of organisms, by Thomas & McCubin, 2003.

Test cell suspensions were prepared from 24 hour broth cultures of each organism, diluted with sterile broth to give optical density readings between 0.5 and 1 using a spectrophotometer (Cecil Instruments, Cambridge, UK) at wavelength 540nm. Sterile molten Tryptic Soy Agar (TSA) (Oxoid, Cambridge, UK) 200ml was inoculated with 0.2ml of the broth culture and poured into bio assay plates. Samples of the dressings cut to 2 x 2 cm squares were placed evenly on the plates once set and incubated overnight at 37°C. After incubation plates were examined for zones of inhibition, if one was detected the length and width were measured in mm.

Table 1. Semi-quantitative growth of 3 species of bacteria on the upper surface of six dressings (barrier effect)

<table>
<thead>
<tr>
<th>Dressings</th>
<th>Oxford Staphylococcus aureus</th>
<th>EMRSA</th>
<th>P. aeruginosa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leptospermum impregnated calcium alginate 1</td>
<td>NG</td>
<td>NG</td>
<td>+++</td>
</tr>
<tr>
<td>Leptospermum impregnated calcium alginate 2</td>
<td>NG</td>
<td>NG</td>
<td>+++</td>
</tr>
<tr>
<td>Leptospermum impregnated calcium alginate 3</td>
<td>NG</td>
<td>NG</td>
<td>+++</td>
</tr>
<tr>
<td>Leptospermum impregnated tulle</td>
<td>NG</td>
<td>++</td>
<td>+++</td>
</tr>
<tr>
<td>Buckwheat impregnated mesh</td>
<td>+</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>Multifloral impregnated mesh</td>
<td>+</td>
<td>++</td>
<td>+++</td>
</tr>
</tbody>
</table>

NG = no growth from upper surface of dressing after subculture onto new medium; + = light growth, ++ = growth, +++ = heavy growth. All three Leptospermum honey impregnated calcium alginites were effective barriers against staphylococci.

Figure 1. Zones of inhibition caused by six wound dressings against EMRSA-15. Zones of inhibition were observed around dressings 1-4 the Leptospermum honey impregnated dressings indicating that the test organisms were inhibited. No zones of inhibition seen around dressings 5 and 6 the buckwheat and multi floral honey impregnated dressings.

Figure 2. Zones of inhibition caused by each of six dressings against three species of bacteria. Solid line indicated Staphylococcus aureus most sensitive to the dressings giving largest zones of inhibition. Dashed line indicates zones of inhibition against EMRSA-15. Solid filled bars indicate zones of inhibition seen against Pseudomonas aeruginosa, much smaller zones seen, indicating less sensitivity to the honey impregnated dressings.
Table 2. Semi-quantitative growth of three organisms on the lower surface of six dressings

<table>
<thead>
<tr>
<th>Dressings</th>
<th>Oxford Staphylococcus aureus</th>
<th>EMRSA</th>
<th>P. aeruginosa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leptospermum impregnated</td>
<td>+</td>
<td>++</td>
<td>+++</td>
</tr>
<tr>
<td>calcium alginate 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum impregnated</td>
<td>NG</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>calcium alginate 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum impregnated</td>
<td>+</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>calcium alginate 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum impregnated</td>
<td>+</td>
<td>++</td>
<td>+++</td>
</tr>
<tr>
<td>tulle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buckwheat impregnated mesh</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Multi floral impregnated mesh</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
</tbody>
</table>

NG = no growth under dressing after subculture onto new medium; + = light growth, ++ = growth, +++ = heavy growth. Mode of action shown to be bacteriostatic from all dressings against all species of bacteria except Leptospermum honey impregnated calcium alginate 2 showing bactericidal action against S. aureus.

Figure 3. The antimicrobial barrier effect of dressing 4, Leptospermum impregnated tulle tested against Staphylococcus aureus. Leptospermum honey impregnated tulle showed zones of inhibition against S. aureus at 24 hours (picture on left). However after subculture of dressing underside (top plate) and upper surface of dressing (bottom plate) viable organisms were seen indicating that the inhibition effect was bacteriostatic.

Figure 4. The antimicrobial barrier effect of dressing 2, Leptospermum honey impregnated calcium alginate 2 tested against Staphylococcus aureus. Leptospermum impregnated calcium alginate 2 shows zone of inhibition against S. aureus (picture on left). After sub culture of dressing underside (top plate) and upper surface of dressing (bottom plate) effect was shown to be bactericidal, because no viable bacteria were recovered.

Barrier effect of dressings: Samples of each dressing were tested on lawn plates prepared of each test organism on Petri dishes and incubated overnight at 37°C. The sample was then removed using sterile forceps and placed onto the surface of a sterile TSA plate and left for 5 minutes in the same orientation. A second set of sterile forceps was then used to lift the dressing; it was then inverted and placed onto another sterile TSA plate. After five minutes the dressing was discarded and the plates incubated at 37°C for 24 hours (Edwards-Jones, 2006). Aseptic technique was used throughout; experiments were performed in duplicate on three separate occasions.
RESULTS

Zone of inhibition: Both the buckwheat honey impregnated dressing and the multi floral honey impregnated dressing (5 and 6) showed no zones of inhibition against any species of bacteria. The Leptospermum honey impregnated dressings (1-4) gave zones of inhibition against all three species of bacteria (Figure 1). The staphylococci were more sensitive to this honey than the Pseudomonas aeruginosa (Figure 2).

Barrier effect of Dressings: There was no observed growth of either strain of Staphylococcus on the upper surface of the calcium alginate dressings, indicating that all three dressings were acting as a barrier preventing migration of bacteria from the surface of the TSA plate to the upper surface of the dressing (Table 1). The buckwheat and multi floral honey impregnated dressings allowed some translocation of bacteria from the surface of the plate to the upper surface of the dressings, indicating these dressings were not such an effective barrier (Table 1). The Pseudomonas aeruginosa penetrated through to the upper surface of all the dressings (Table 1). This experiment showed that mode of action was mainly bacteriostatic, dressings which had shown large zones of inhibition all allowed growth of organisms from the underside of the dressing once transferred onto fresh agar plates (Figure 3). The exception to this was Leptospermum honey impregnated calcium alginate number two which did not give rise to any colonies once transferred onto fresh plates, it therefore demonstrated a bactericidal mode of action against S. aureus (Figure 4) and (Table 2).

DISCUSSION

Health care associated infections continue to be a major problem in the health care environment, especially with an increase in the prevalence of antibiotic resistance. These infections can lead to delayed healing and increased morbidity, higher hospital costs and increased risk of spread of infection.

This in vitro study was designed to allow comparison of efficacy between the selected dressings as antibacterial devices and barriers.

The results of this study demonstrate that all of the Leptospermum honey impregnated dressings possessed sufficient antimicrobial activity to inhibit the growth of all the organisms tested. This result is not surprising in view of the known broad spectrum activity of Leptospermum honey. The lack of zones of inhibition from the buckwheat and the multi floral honey impregnated dressings reinforces the importance of selecting the appropriate dressing for each wound individually. Not all honey impregnated dressings make antibacterial claims, and have greater potential for stimulating healing rather than having antiseptic properties.

The importance of careful dressing choice is again emphasized by the results of the barrier test; the Leptospermum honey impregnated tulle gave large zones of inhibition similar to those of the alginates, however only the alginates prevented migration of the staphylococci through the dressing therefore making honey impregnated alginate a more appropriate dressing if trying to prevent the spread of antibiotic resistant staphylococci into the environment or between individuals. There could be several reasons why the other three dressings did not provide a barrier: the concentration of honey within the dressings may have been low, the antibacterial activity of the honey may have been too low, and the dispersal of honey within the dressings may have been inconsistent. In the case of the motile bacteria they could have penetrated from around the edges in.

The methods described here using zone of inhibition and barrier tests gave us semi quantifiable data (no kill rates) but allowed us to see that the honey impregnated dressings had differing modes of action on the bacteria tested. Both bactericidal and bacteriostatic modes of action were observed, this again is probably due to the differing formulations and concentration of honey used within the dressings.

References:

containing dressings.” Journal of Wound Care 12(8): 305-308.
tional Wound Journal 4: 124-137.
Limitations of the Study: The bacteria tested here were grown in pure culture and it is likely that this does not closely representing the multi microorganism environment of a wound. The pH and oxygen availability of the wound would also be different to that of the agar plates\textsuperscript{14}. Care must be taken when taking \textit{in vitro} data into the clinical environment, as this study investigated the antimicrobial properties of these dressings and therefore did not take into account the wound healing properties or fluid handling capacity of the dressings. The results here show that \textit{Leptospermum} impregnated honey dressings have more effective antimicrobial properties than those impregnated with buckwheat or multi floral honeys and that the alginates were more effective as barriers. These results could vary if tested with a different model \textit{in vitro} or if tested \textit{in vivo}, as there would be more variables\textsuperscript{15}.

CONCLUSION
There is much evidence for honey as both an antibacterial and a wound healing agent and therefore impregnated dressings are desirable\textsuperscript{16-18}. It has been demonstrated in this \textit{in vitro} test that the \textit{Leptospermum} honey impregnated calcium alginates exhibited not only effective antibacterial activity but also worked efficiently as barriers to staphylococcal spread. It also revealed that although all the dressings are honey impregnated, that there were differences in the properties of these dressings. Great care should be taken in selecting the appropriate one for use in a clinical situation.

Implications for Clinical Practice
- Care should be taken when selecting a dressing to ensure that it is appropriate for the use intended. Those dressings with highest antibacterial activity may not give highest wound healing activity.
- \textit{Leptospermum} calcium alginates have potential as an effective barrier to prevent spread of MRSA through the dressing.

Further Research:
- Future research could investigate the performance of these dressings under a different model system.
- There is a need to explore the other wound healing properties of dressings to get a view of the efficacy of the dressings as a whole.

---

**Pressured to Prevent Heel Ulcers?**

\textbf{Choose Heelift\textsuperscript{®} Suspension Boot}
\textbf{The Pressure-Free Solution}

Now there’s proof that Heelift\textsuperscript{®} Suspension Boots provide a pressure-free environment to help eliminate the onset of pressure ulcers and to help heal existing ulcers. Using a 16-sensor force sensing pad affixed to the heel of the subject patient, pressure was “mapped” using various pressure reduction products. In all tests, Heelift\textsuperscript{®} provided a pressure-free solution!

Heelift\textsuperscript{®} has added design features for more comfort, support and easier, one-handed closure.

- Extended stitching along the top rim narrows the forefoot, increasing support to protect against foot drop, equinus deformity or heel cord contracture
- Two non-abrasive, soft straps with D-ring closures permit easy adjustment of strap tension

---

Heelift\textsuperscript{®} Original and Smooth Patent No. 5489339. Additional patents pending.

©2006 DM Systems, Inc.
Suprasorb® X + PHMB recommended for critically colonised or infected wounds.

- rapid and lasting reduction of germs
- wide antimicrobial spectrum
- excellent cell and tissue tolerance
- self-regulating moisture control through unique HydroBalance fibres
- for wounds with light to moderate exudation

Antimicrobial effect also against MRSA and VRE!
Topical negative pressure versus conventional treatment of deep sternal wound infection in cardiac surgery

Abstract
Background: Deep sternal wound infection is a devastating, potentially life-threatening complication following cardiac surgery. It is associated with a significant increase in morbidity and mortality and also with a significant utilization of hospital resources.

Aim: We sought to compare clinical outcomes, in-hospital mortality and 1-year survival of two different treatment modalities of deep sternal wound infection - topical negative pressure and conventional therapy.

Methods: Prospective analysis of 62 consecutive patients treated for deep sternal infection at our institution. A total of 28 patients (February 2002 through October 2004) underwent conventional treatment and 34 patients (November 2004 through October 2007) underwent the application of topical negative pressure. Clinical and wound care outcomes of both treatment strategies – focusing on therapeutic failure rate in-hospital and 1-year mortality – were compared.

Results: Topical negative pressure was associated with a significantly lower failure rate of the primary therapy (p<0.05), a shortening of the intensive care unit stay (p<0.001), and, particularly, a decrease in the length of hospital stay (p<0.05) and the 1-year mortality (p<0.05). Comparable overall length of the therapy, in-hospital stay and the risk of wire-related fistulas after the chest reconstruction were found.

Conclusion: Topical negative pressure is a superior method of treatment for deep sternal wound infection, based on lower therapeutic failure rate, significant decrease in hospital stay, and the decrease of 1-year mortality rate, compared with the conventional therapy methods.

INTRODUCTION
Deep sternal wound infection (DSWI) is considered one of the most feared complications following a median sternotomy. It affects 0.5% to 5% of patients (1). This carries a considerable mortality rate ranging from 10% to 40%, long-term morbidity of survivors and almost three times higher cost than uncomplicated surgery. This represents a challenging problem for modern cardiac surgery (2, 3). Several treatment strategies have been adopted for the treatment of DSWI including surgical debridement with closed irrigation, open dressing with delayed chest reconstruction, and more recently, the application of topical negative pressure (TNP) followed by subsequent chest closure (4,5,6,7). However, there is little consensus among surgical teams on the ideal management of DSWI (8).

METHODS
Between 2002 and 2007, 62 patients underwent treatment of DSWI at our institution. The diagnosis of DSWI was based on the guidelines of the Centre for Disease Control since 1996 (9). From March 2002 to October 2004, 28 patients underwent conventional treatment (CONV group) of DSWI involving one-step surgical debridement followed by chest rewiring and closed irrigation with antiseptics for six to eight days. Consequently, from November 2004 to December 2007, 34 patients were primarily scheduled for the application of TNP (TNP groups). In this group, surgical debridement with repetitive application of TNP (Vacuum-assisted closure™, KCI Austria GmbH) was carried out. The detailed therapeutic protocol has been described previously (7,10,11,12). Once the wound bed was found free of infection, covered by well-vascularised granulation tissue, and the C-reactive protein level dropped to 50 mg/l, the chest was reclosed (11,12). Periprocedural, wound care characteristics and clinical outcomes were collected in a prospective manner. In addition, all patients had a 1-year follow-up for the
evaluation of long-term morbidity and mortality. Local ethics committee approval was obtained for the protocol of the application of TNP to the open chest in 2004.

**STATISTICAL ANALYSIS**
Statistical analysis was performed with SPSS for Windows (version 14, SPSS Inc. Chicago, USA). Continuous variables are expressed as mean ± SD. Categorical variables are presented as absolute numbers in addition to percentages. Categorical data was compared by χ² test and Fisher exact test. Student’s t test or Mann-Whitney test were used to compare continuous data. Survival was plotted using the Kaplan-Meier method for all patients. A p-value of less than 0.05 was considered significant. Analysis was based on the intention-to-treat principle.

**RESULTS**
Comparing demographic and operative characteristics, no significant differences were found between both groups (Table 1). Likewise, comparable number of patients underwent reopening of the chest for bleeding or cardiac tamponade (12% vs. 8%, NS) in the intermediate post-operative course, however, in the TNP group there was a higher number of later chest revisions for mechanical sternal instability prior to DSWI compared with the CONV group (44% vs. 21%, p<0.05). The various treatment strategies for DSWI reflected the differences in the length of primary therapy (14.3±7.6 vs. 6.8±2.1 days, p<0.001) and number of revision/dressing changes (5.4±2.3 vs. 1.0±0.0, p<0.001) in favour of the CONV group. Nevertheless, this strategy was associated with a significantly lower failure rate of the primary therapy in comparison with TNP (5.8% vs. 39.2%, p<0.05). Where recurrence of DSWI after the definitive chest closure occurred, two patients (5.8%) from the TNP group were treated again by TNP (rescue therapy). In the case of conventional therapy failure, nine patients (32.1%) underwent a repeated closed irrigation and in two patients (7.1%) the chest was left open for multiple wet to dry dressing changes. The overall therapy characteristics including the primary therapy as well as subsequent therapy, showed a comparable length of the therapy (14.9±7.9 vs. 14.3±11.9 days, NS) and the in-hospital stay (40.2±16.3 vs. 48.8±29.2 days, NS). Of the spectrum of organisms cultivated from the wounds, gram-positive strains dominated in both groups. However, no differences in the proportional presentation of each microorganism were found (Table 2).

Regarding in-hospital mortality, TNP therapy led to a significant reduction in comparison with the conventional therapy (5.8% vs. 25.0%, p<0.05). In the TNP group only two patients were lost - one patient (2.9%) was lost immediately after the initial surgical debridement for intractable bleeding from an injured right ventricle, and one died of multiple organ failure due to severe sepsis. Conversely, six patients (21.4%) from the CONV group died of multiple organ failure due to an overwhelming sepsis, and one patient (3.6%) of bleeding from an eroded venous graft. Similarly, significantly lower 1-year mortality was achieved in the TNP group according to the comparison analy-

### Table 1. Demographics and operative characteristics

<table>
<thead>
<tr>
<th></th>
<th>TNP</th>
<th>CONV</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>66.4±9.8</td>
<td>71.2±7.9</td>
<td>NS</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>29.7±4.2</td>
<td>30.7±3.8</td>
<td>NS</td>
</tr>
<tr>
<td>Male/female ratio (%)</td>
<td>52.9/47.1</td>
<td>67.9/32.1</td>
<td>NS</td>
</tr>
<tr>
<td>DM (%)</td>
<td>52.9</td>
<td>60.7</td>
<td>NS</td>
</tr>
<tr>
<td>COPD (%)</td>
<td>32.4</td>
<td>25.0</td>
<td>NS</td>
</tr>
<tr>
<td>Immunosuppressive therapy</td>
<td>14.7</td>
<td>10.7</td>
<td>NS</td>
</tr>
<tr>
<td>Renal impairment (creatinine&gt;120 mmol/l)</td>
<td>23.5</td>
<td>35.7</td>
<td>NS</td>
</tr>
<tr>
<td>LVEF (%)</td>
<td>44.7±12.9</td>
<td>46.3±9.7</td>
<td>NS</td>
</tr>
<tr>
<td>CABG/valve/combined procedure (%)</td>
<td>72.7/6.1/21.2</td>
<td>78.6/7.1/14.3</td>
<td>NS</td>
</tr>
<tr>
<td>Mean operation time (min)</td>
<td>215.3±42.7</td>
<td>235.0±52.5</td>
<td>NS</td>
</tr>
<tr>
<td>Mean XC time (min)</td>
<td>56.7±30.6</td>
<td>47.6±24.8</td>
<td>NS</td>
</tr>
<tr>
<td>Mean ECC time (min)</td>
<td>88.2±39.7</td>
<td>83.4±41.6</td>
<td>NS</td>
</tr>
<tr>
<td>Postoperative blood loss (ml)</td>
<td>949.3±617.7</td>
<td>697.1±297.8</td>
<td>NS</td>
</tr>
<tr>
<td>Emergency surgery (%)</td>
<td>14.7</td>
<td>14.3</td>
<td>NS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>TNP</th>
<th>CONV</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcus aureus (%)</td>
<td>38.2</td>
<td>42.8</td>
<td>NS</td>
</tr>
<tr>
<td>CoNS (%)</td>
<td>32.8</td>
<td>39.2</td>
<td>NS</td>
</tr>
<tr>
<td>MRSA (%)</td>
<td>2.9</td>
<td>0</td>
<td>NS</td>
</tr>
<tr>
<td>Streptococcus species (%)</td>
<td>5.8</td>
<td>3.6</td>
<td>NS</td>
</tr>
<tr>
<td>Escherichia coli (%)</td>
<td>2.9</td>
<td>3.6</td>
<td>NS</td>
</tr>
<tr>
<td>Klebsiella species (%)</td>
<td>5.8</td>
<td>3.6</td>
<td>NS</td>
</tr>
<tr>
<td>Pseudomonas aeruginosa (%)</td>
<td>5.8</td>
<td>7.2</td>
<td>NS</td>
</tr>
<tr>
<td>Enterococcus species (%)</td>
<td>5.8</td>
<td>0</td>
<td>NS</td>
</tr>
</tbody>
</table>

CoNS – coagulase negative staphylococcus
MRSA – methicillin-resistant staphylococcus
NS – statistically non-significant

BMI – body mass index
DM – diabetes mellitus
CABG – coronary artery bypass grafting
XC – cross clamp
ECC – extracorporeal circulation

**EWMA Journal 2008 vol 8 no 3**
Table 3. Therapy characteristics and outcomes

<table>
<thead>
<tr>
<th></th>
<th>TNP</th>
<th>CONV</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time to presentation of DSWI (days)</td>
<td>17.5±15.0</td>
<td>13.8±16.3</td>
<td>NS</td>
</tr>
<tr>
<td>Need for readmission for DSWI (%)</td>
<td>28.6</td>
<td>50.0</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Length of primary therapy (days)</td>
<td>14.3±7.6</td>
<td>6.8±2.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Failure of primary therapy (%)</td>
<td>5.8</td>
<td>39.2</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Overall length of therapy (days)</td>
<td>14.9±7.9</td>
<td>14.3±11.9</td>
<td>NS</td>
</tr>
<tr>
<td>Overall No. of revision/dressing changes</td>
<td>5.4±2.3</td>
<td>1.8±1.2</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>In-ICU stay (hours)</td>
<td>209.6±331.3</td>
<td>516.1±449.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>In-hospital stay (days)</td>
<td>40.2±16.3</td>
<td>48.8±29.2</td>
<td>NS</td>
</tr>
<tr>
<td>In-hospital mortality (%)</td>
<td>5.8</td>
<td>21.4</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Multiple organ failure (%)</td>
<td>2.9</td>
<td>17.8</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Intractable bleeding (%)</td>
<td>2.9</td>
<td>3.6</td>
<td>NS</td>
</tr>
<tr>
<td>1-year mortality (%)</td>
<td>14.7</td>
<td>39.2</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Fistula (%)</td>
<td>14.7</td>
<td>10.7</td>
<td>NS</td>
</tr>
</tbody>
</table>

ICU – intensive care unit
NS – statistically non-significant

sis (14.7% vs. 39.2, p<0.05), whereas the 1-year plotted survival analysis using the Kaplan-Meier method showed borderline significance (p=0.05, Figure 1). Late wound-related morbidity including the incidence of wire-related fistula during the one year follow-up was comparable in both groups (14.7% vs. 10.7%, NS). Detailed therapy characteristics and clinical outcomes are summarized in Table 3.

DISCUSSION

Prior to the TNP era, two treatment modalities for DSWI had been widely used and described as a conventional treatment (2, 8) - open chest technique where, after the initial surgical debridement, repetitive wet to dry dressing changes and topical antiseptics are applied, and closed irrigation technique, where surgical debridement is followed by sternum reclosure as a one-step procedure with irrigation of antiseptics through in-dwelling drains (2, 4). A chest left opened causes a mechanical sternal instability which requires not only prolonged artificial pulmonary ventilation but also represents a considerable risk of intractable bleeding from injured right ventricle or venous grafts. Moreover, prolonged immobilization, specific respiator-related complications and the need for flap transfer to cover residual defects create the main disadvantages of the open chest therapy (2, 8). Conversely, closed irrigation, a single-step procedure preserving the sternal stability with no need for plastic chest reconstruction, seems to be an optimal therapy (2, 5). However, there is a considerable risk of re-infection due to osteosynthetic material, drainage gullies forms, and deep bone involvement is particularly heavy to deal with (2, 8). Although recently, several authors reported improved results of these methods, an increase in the long-term morbidity and mortality remained (4, 5, and 13).

TNP has recently gained popularity in many wound care settings, however, its exact mechanism of action on wound healing has not been fully explained yet (14). Experimental studies, clinical experience and some recent randomized studies have shown TNP can result in acceleration of granulation tissue building, reduction of wound surface area, decreased local and interstitial tissue oedema, and increased perfusion of the peri- and wound area (14, 15). Diminished bacterial load or modulation of bacterial species together with the reduction of the amount of metalloproteinase detected in the wound bed also strongly suggest that the effect of TNP on wound healing processes is more fundamental than adjunct (16,17).

TNP therapy has been used in cardiac surgery since 1997 (7), and has brought a unique dimension to DSWI treatment (18). Even in the absence of sternal closure, applied negative pressure of 125 mm Hg effectively stabilizes the chest, thus allowing immediate postoperative extubation and mobilization of the patient (18, 19). Additionally, a significant increase of microvascular circulation preferably in the muscular layer has been described during TNP therapy even when the left internal mammary artery has been harvested for bypass grafting (20, 21).
Although the popularity of TNP in cardiac surgery is growing, only few studies comparing TNP with conventional treatment have been conducted (22, 23). However, superiority of TNP has been proved in terms of reduction of primary therapy failure and in-hospital mortality. Moreover, the first available data of long-term analysis showed reduction of the long-term mortality; a better quality of life in comparison with the conventional therapy (24).

Presented comparative studies showed that the conventional therapy of DSWI is associated with an unacceptable high risk of failure. Additionally, those patients who had required further surgery because of the primary therapy failure had also been at considerably high risk of prolonged ICU-, in-hospital stay, and particularly an increased risk of in-hospital mortality. TNP requires multiple surgical procedures including debridement and foam dressing changes, however, the overall length of the therapy as well as the hospital stay is shown to be comparable with the conventional therapy if the additional therapy for the primary failure has been included. The risk to right ventricle or grafts injury was comparably rare in both techniques, but nevertheless, represented a fatal consequence of DSWI. The TNP group showed a statistically significant decrease in primary therapy failure (p<0.05), ICU stay, in-hospital mortality (p<0.05), and 1-year mortality (p<0.05) when compared with the CONV group.

We are aware that the small number of enrolled patients and the asynchronously acquired groups of patients are a limitation of this study. Calculated statistical power of applied tests reached 0.641, whereas to achieve its proper value (>0.850) at least 90 patients should be enrolled into the study. However, in both groups the demographic and operative data were comparable and the patients were followed-up prospectively in the same fashion.

CONCLUSION

Results suggested the superiority of TNP over closed irrigation in the treatment of DSWI following cardiac surgery. Very low therapeutic failure rate, significant decrease in hospital stay, and the lower 1-year mortality were achieved by TNP.

Implications for Clinical Practice

TNP is the most effective treatment for deep sternal infection after cardiac surgery

- TNP is associated with significant decrease in therapy failure rate, hospital stay, and 1-year mortality in comparison with conventional therapy
- TNP should be widely accepted as a first-line treatment strategy for DSWI in cardiac surgery

Further Research

- Multi-centre prospective randomized trial comparing TNP with the conventional therapy
- Influence of individual wound-healing risk factors and microbiological agents on effectiveness of TNP therapy.

References

Approximately 2.8 million people contract a nosocomial infection each year in Europe, costing the EU an estimated €6.3 billion (1).

**AMD infection control products help to reduce infections by between 52% (3) and 91% (2)**

- A highly effective low cost solution
- Broad spectrum effectiveness and proven effective at preventing dressing colonisation against MRSA, VRE & Acinetobacter Baumannii and many more
- No known resistance
- Works within and through the dressing
- Gentle to healthy cells

**WWW.COVIDIEN.COM**

www.kendallamd.com

COVIDIEN, COVIDIEN with logo and™ marked brands are trademarks of Covidien AG or its affiliate.

© 2007 Covidien AG or its affiliate. All rights reserved

(1) Hospitals in European Link for Infection Control through Surveillance (HELICS) 2001
(2) The Reduction of Vascular Surgical Site Infections with the Use of Antimicrobial Gauze Dressing; Robert G. Penn, MD, Sandra K. Vyhlidal, RN, MSN, CIC, Sylvia Roberts, RN, Susan Miller, BSN, CIC. Dept. of Epidemiology, Nebraska Methodist Hospital, Omaha, NE, USA. Observation of Nosocomial Surgical-Site Infection rates with Utilization of Antimicrobial Gauze Dressing in an Acute Care Setting: Mary Jo Beneke, RN BS, CWOCN; Josephine Doner, RN BSN MA CIC. Yuma Regional Medical Center, Yuma, AZ.
(3) Observation of Nosocomial Surgical-Site Infection Rates with Utilization of Antimicrobial Gauze Dressing in an Acute Care Setting Mary Jo Beneke, RN BS, CWOCN; Josephine Doner, RN BSN MA CIC. Yuma Regional Medical Center, Yuma, AZ.
Use only validated Negative Pressure Wound Therapy for reliable outcomes.

The only NPWT with over 400 peer-reviewed journal articles.

When you need confidence in your wound healing outcomes, choose the only NPWT with 400 peer-reviewed journal articles, 461 abstracts, 61 textbook citations, 15 RCTs and thousands of case studies from the more than 2,800,000 patients treated to date.

www.kci-medical.com
Quality of Life in the Patients with Chronic Leg Ulcers – A Preliminary Report

Abstract

Aim: Leg ulcers represent an important health problem because their prevalence in western countries varies from 0.6 to 3.6 per 1000. A survey among leg ulcer patients carried out in the Czech Republic in 2006 revealed more than 3% respondents suffer or had suffered from leg ulcers, either currently or in the past. In last years, many studies evaluated quality of life of leg ulcer patients which is decreased as it was shown by many of these studies. The aim of this preliminary study was to collect data about quality of life of the patients with chronic leg ulcers in the Czech Republic.

Methods: A special questionnaire focused on quality of life of patients with chronic leg ulcers was developed in our department of dermatology. A questionnaire is divided into 6 parts, the questions are aimed at pain, physical, social and psychological impact, at daily activities and at aspects of treatment. 30 patients (8 men and 22 women) have been included in the study so far, with mean age 68.0 years (range 47-87 years). Mean ulcer duration was 29.3 months (range 4-120 months). Most patients (63%) had leg ulcers of venous origin, 37% had mixed leg ulcers. Psychometric data of our questionnaire are part of a study to establish the reliability/validity of the tool and they will be published later.

Results: Pain is the most dominant negative experience of leg ulcer patients. In our study, 97% reported ulcer pain. 47% experienced pain during the night, 29% reported pain during the day and 23% reported pain both during the day and night. 26.2% patients described the pain located in the wound bed, 13.6% reported pain in the area surrounding the wound. Most patients, 60.2%, reported pain both in the wound bed and in the surrounding area. 66% reported persistent pain, 19.5% reported pain with activity, 36% described pain at dressing change. Mean pain intensity score was 5.43 (using numerical rating scale as an assessment of pain intensity). Pain may lead to sleep disturbance. In our study, 43.7% patients reported disturbed sleep every night or very often. According to literature, chronic leg ulcers may negatively influence daily activities. 74.9% patients experienced moderate restrictions in leisure activities and 59.3% reported moderate restrictions in household duties. Many patients have problems with their clothing style, they usually wear long skirts or trousers. 44.6% patients reported partial or complete change of their clothing style (especially women). The patients usually have to wear larger size of shoes especially because of compression bandages. In our study, 38.9% patients had to change their shoes completely and 41.6% changed their shoes partially. Social impact of leg ulcers is also considerable. 80.6% reported certain social isolation caused by problems connected with their leg ulcer. Psychological aspects are very important, our patients often complained about bad mood, they described depression and feelings of hopelessness.

Conclusions: Leg ulcers can influence nearly every aspect of the patient’s life. Therefore the care must be more intensively focused on quality of life of these patients.

References

Maximising performance and protection.
Minimising pain.

At EWMA this year we are focusing on new therapeutic solutions that maximise performance and protection for your patients while minimising pain:

**ALLEVYN Ag** containing silver combines the antimicrobial protection with all the benefits of triple-action ALLEVYN technology.¹

**ALLEVYN Gentle and ALLEVYN Gentle Border** minimise pain on removal²,³ and provide all the benefits of triple-action ALLEVYN technology.

**EZCARE** and **VISTA** provide Negative Pressure Wound Therapy that is gentle on the patient, with proven clinical effects, improving patient outcome and experience⁴.

Smith & Nephew - your complete solution for wound management.
Compression therapy for venous leg ulcers
– how to get more value for money

Abstract

Background: Compression therapy is a time-consuming and often inefficient service delivered by nurses in homecare.

EWMA guidelines for the management of leg ulcers and expert opinions seem to have had little impact on the daily practice.

Hypothesis/aim: Evidence-based guidelines can be implemented in primary health care and deliver more value for money. By meeting the standards you can obtain better patient compliance and quicker wound healing.

Methods: Six different types of compression, cost of material and cost of manpower are compared in three different patient cases. This comparison is linked to the EWMA standards.

Results: Compression therapy must be kept simple and must succeed in the hands of a large group of non-specialised nurses and other healthcare professionals.

1. Reduce oedema with disposable multilayered bandages or inelastic lined bandages (use sub-bandage pressure measuring device) or elastic bandages with indicators.
2. Proceed to compression hosiery when the oedema has been treated and the ulcer is less exuding.

Conclusions: We wonder why the EWMA guidelines have not been widely implemented and ask the following question:
Is it due to lack of knowledge or is the reason that prescribing authorities fail to consider the socio-economic implications?

INTRODUCTION

In the western world approximately 10% of the population will suffer from chronic venous insufficiency and approximately 1% of the population will develop venous leg ulcers and need compression therapy (1).

The recommended standards for the treatment of venous leg ulcers and mixed arterial and venous leg ulcers are (2):

Superficial venous insufficiency; 60% healed in 3 months and 15 % recurrences within 1 year
Mixed insufficiency; 40% healed in 3 months and 40% recurrences within 1 year

Studies have shown that a 97% healing rate can be obtained in four weeks (3)

In an average community in Denmark the healing rate for venous leg ulcers is estimated to be approximately 40% in 12 weeks (3) plus a high recurrence of up to 75% the first year after healing. (4) The healing time for venous leg ulcers can be unnecessarily prolonged by many years especially where compression therapy is ineffective.

These numbers indicate potential room for improvement. The incidence of venous leg ulcers in the population will increase, as a consequence of an increase in the numbers of elderly people in the decades to come. It is necessary to make effective improvements in this area, considering the quality of life for these many patients – as a study from the southern part of Denmark has shown (5) Furthermore it is imperative to find new methods so that the communities get more value for money, since the major part of the treatment of venous leg ulcers takes place in the primary health care sector. ‘New health care issues – focus on competency development’ – the Danish communities’ national association (KL) latest publication along with the Danish government’s quality reform (www.kvalitetsreform.dk) and the Danish nurses’ union’s many publications concerning quality development in the healthcare system all stress these facts.

A decade ago studies in Sweden showed that approximately five million dressing changes for leg ulcers took place per year which is equivalent to a cost of approximately 1 million kroner, equivalent to 1333 mill Euro. (6)
PRACTICE TODAY
In Denmark non-disposable inelastic bandages have commonly been used for the treatment of venous leg ulcers. The benefit is that patient can keep the bandages on at night – the bandages only need changing every third day and not necessarily in the busy mornings. However, inelastic bandages need to be washed every time they are changed to ensure optimal effect. For immobile patients elastic bandages have often been chosen due to their high pressure when resting. Many patients in Denmark do not have a Doppler or toe pressure index measured before compression therapy is prescribed. Removing the bandages at night has been widely recommended, to reduce the theoretical risk of suppressing the arterial flow (4, 6). However, elastic bandages need to be reapplied in the morning, before the patient gets out of bed. When the ulcers are healed compression therapy is continued with hosiery. This practice had been common in Denmark until the late 90s when modern multilayer bandages were introduced to the Danish market and gained acceptance. As a new initiative, hosiery treatment kits are being introduced for patients with leg ulcers, and intermittent compression therapy is gaining a foothold.

Often practice today in Denmark shows a large insecurity and lack of knowledge of how to apply and maintain different types of bandages. High staff turnover in the primary healthcare sector (estimated to be 25% per year by the Danish communities national association KL) results in a high demand for education of all personnel treating wounds to keep them updated on applying the correct type of compression therapy and maintaining the bandages.

Compression therapy can be carried out with many different products in Denmark today. We have based the following overview (figure 1) on a questionnaire asking which products were available in their areas completed by 25 nurses responsible for wound care in their home areas in West Zealand, Denmark. In line 6, for instance, you can see that in four areas nurses have a choice of using either inelastic bandages or multi-layer bandages for their patients. Note that four nurses work for local GPs and two are employed at the local hospitals.

To one question “Do you think that there is a need for increasing the quality of prevention and treatment of venous leg ulcers in your own area to ensure evidence-based nursing and treatment?” 24 of the 25 nurses have answered “Yes”.

The study can be seen on www.kvalicare.dk.

VALUE FOR MONEY
“How to obtain more value for money” is a highly relevant question in healthcare systems in general. Concerning “treatment of venous leg ulcers and mixed arterial and venous ulcers” we need to consider which type of compression therapy to choose, based on studies on efficiency and socio-economics.

Demands to be met for compression therapy;
- High level of safety
- High patient compliance
- Highest healing rate
- Sustainable sub-bandage pressure
- Socio-economical (Personnel time spent, bandages, lost earnings)

EWMA, European Wound Management Association published the Position Document “Understanding compression therapy” in 2002. This document was developed by a panel of international experts (7) and includes a recommended management pathway. The above mentioned issues are taken into account. See figure 2.

HIGH LEVEL OF SAFETY
Compression must be applied with the correct sub-bandage pressure cf. ankle-brachial pressure index ABPI. If elastic, inelastic or multi-layer bandages are used, the outcome depends on the applying nurse’s estimate of how to apply the bandage, resulting in possible ineffective treatment if the bandages are applied too loosely and risking severe injury if the bandages are applied too tightly. This risk can be avoided by using bandages with pressure indicators and/or by teaching staff how to apply the bandages with a sub-bandage pressure measuring device, which can also

<table>
<thead>
<tr>
<th>Combinations of Compression therapy available</th>
<th>Number of communities (Two hospitals and four GPs included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hosiery</td>
<td>1</td>
</tr>
<tr>
<td>Elastic bandages</td>
<td>1</td>
</tr>
<tr>
<td>Inelastic bandages</td>
<td>3</td>
</tr>
<tr>
<td>Elastic and inelastic bandages</td>
<td>3</td>
</tr>
<tr>
<td>Elastic and multi-layer bandages</td>
<td>2</td>
</tr>
<tr>
<td>Inelastic and multi-layer bandages</td>
<td>4</td>
</tr>
<tr>
<td>Inelastic bandages + others</td>
<td>1</td>
</tr>
<tr>
<td>Elastic, inelastic and multi-layer bandages</td>
<td>7</td>
</tr>
<tr>
<td>Elastic multi-layer bandages and hosiery</td>
<td>2</td>
</tr>
<tr>
<td>Inelastic, elastic multi-layer bandages + others</td>
<td>1</td>
</tr>
</tbody>
</table>
be used in routine clinical practice (Kikuhime) (8,9,10). Hosiery provides the highest level of assurance for correct sub-bandage pressure (8). This treatment does not require further training except putting on and removing the hosiery. This means that personnel already taking care of the patient in his/her home can apply the compression without risking the quality of the compression treatment – including patients suffering from leg ulcers. Often the patient will be able to take off the hosiery themselves before bedtime and when showering.

HIGH PATIENT COMPLIANCE
Patient compliance is closely connected with the level of knowledge and motivation of the patient with a leg ulcer (9). Patient information, guidance in self care and participation in the treatment are therefore important factors.

It is important to aim for optimal freedom of movement during treatment. Movement of the foot and activation of the ankle and calf muscle seems to be better when hosiery is worn rather than when bandages are used. (10)

A further advantage of using hosiery is that the patient is able to use his or her own footwear – which often can be an issue when using some bandages.

Improved patient compliance, assurance of correct sub-bandage pressure with faster healing and easier working conditions for healthcare personnel are all good reasons for changing to hosiery as soon as possible when treating venous leg ulcers and mixed arterial and venous ulcers.

HIGHEST HEALING RATE
There is a connection between healing rates and type of compression, but conclusions are difficult to draw. For instance, a search in the Cochrane library has shown that a healing rate of 84% in 12 weeks can be obtained using hosiery compared to using inelastic bandages which showed a rate of 53% in 12 weeks. (11)

A comparison of elastic and inelastic bandages showed a healing rate of 35% for inelastic bandages compared with 58% for elastic bandages. (12) Multi-layer bandages have obtained a healing rate of 75% compared to usual treatment (13). As stated in a status article in 2001 (14) many studies have been carried out with few participants and different conditions making a comparison difficult. These studies cannot be directly compared due to different conditions but they do indicate that multi-layer bandages and hosiery, which are recommended in the EWMA document (7), lead to the highest healing rates.

SUSTAINABLE SUB-BANDAGE PRESSURE
To be effective the bandage must sustain the pressure it is applied with. In the Danish wound care magazine SÅR (2003 no 2) and EWMA Journal (autumn 2004) an article has been published “Watch the pressure – it drops!” (8) This article is a study of the pressure conditions under the bandages over time. Here are some results from the study (figure 3):
It clearly shows that hosiery is sustaining the sub-bandage pressure over time more efficiently. As far as we know no similar studies have been carried out on multi-layer bandages.

Figure 4

<table>
<thead>
<tr>
<th>Patient 1 self sufficient person</th>
<th>Applied by</th>
<th>Taken off by</th>
<th>Washed by</th>
<th>Price / month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of compression</td>
<td>Inelastic bandage</td>
<td>Disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
<tr>
<td></td>
<td>Inelastic bandage</td>
<td>Non disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Patient</td>
</tr>
<tr>
<td></td>
<td>Elastic bandage</td>
<td>Non disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Patient</td>
</tr>
<tr>
<td></td>
<td>Multi-layer bandages</td>
<td>Disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
<tr>
<td></td>
<td>Hosiery Kit</td>
<td>Liner + stocking. 10 + 30 mmHg</td>
<td>Patient</td>
<td>Patient</td>
</tr>
<tr>
<td></td>
<td>Hosiery</td>
<td>Sigvaris 503. 34-46 mmHg</td>
<td>Patient</td>
<td>Patient</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient 2 partially self sufficient person</th>
<th>Applied by</th>
<th>Taken off by</th>
<th>Washed by</th>
<th>Price / month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of compression</td>
<td>Inelastic bandage</td>
<td>Disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
<tr>
<td></td>
<td>Inelastic bandage</td>
<td>Non disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Patient</td>
</tr>
<tr>
<td></td>
<td>Elastic bandage</td>
<td>Non disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Patient</td>
</tr>
<tr>
<td></td>
<td>Multi-layer bandages</td>
<td>Disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
<tr>
<td></td>
<td>Hosiery Kit</td>
<td>Liner + stocking. 10 + 30 mmHg</td>
<td>Patient</td>
<td>Patient</td>
</tr>
<tr>
<td></td>
<td>Hosiery</td>
<td>Sigvaris 503. 34-46 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient 3 health care requiring person</th>
<th>Applied by</th>
<th>Taken off by</th>
<th>Washed by</th>
<th>Price / month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of compression</td>
<td>Inelastic bandage</td>
<td>Disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
<tr>
<td></td>
<td>Inelastic bandage</td>
<td>Non disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
<tr>
<td></td>
<td>Elastic bandage</td>
<td>Non disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
<tr>
<td></td>
<td>Multi-layer bandages</td>
<td>Disposable. 40 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
<tr>
<td></td>
<td>Hosiery Kit</td>
<td>Liner + stocking. 10 + 30 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
<tr>
<td></td>
<td>Hosiery</td>
<td>Sigvaris 503. 34-46 mmHg</td>
<td>Health care personnel</td>
<td>Health care personnel</td>
</tr>
</tbody>
</table>
SOCIO-ECONOMICAL ASPECTS

In order to create an overview of the cost of different compression treatments we have calculated the costs of six different types of compression bandages compared by three different theoretical patient categories (figure 4).

The calculation is carried out in the period from the 2nd to the 6th week of treatment where we assume that the oedema has been efficiently treated with compression bandages and the ulcer has reached a moderate exudate level (as photo).

For the comparison we have used the products shown in figure 5.

The comparison shows that the costs of using the various types of compression differ widely. The smallest difference lies in the choice of compression – the largest difference occurs due to the difference in personnel time spent. This has previously been shown in a cost benefit analysis using multi-layer bandages in the primary healthcare sector. (15) It is of course essential for the expenses that the healing rate is high.

TRANSPORTATION

Transportation is one of the major aspects of the nursing time consumption. It makes a difference whether the treating person walks from flat to flat in an apartment block or drives many kilometres by car from house to house. The extent of the problem is even larger for the distances between patients on the Faroe Islands or in the outer reaches of our neighbouring countries Norway, Sweden and Finland.

It is evident that if you follow the EWMA guidelines an economical advantage is obtained. (7) Multi-layer bandages or hosiery are the best choices.

DISCUSSION

Based on this study, EWMA guidelines, economical calculations and the results by Jünger, one might suggest handling the issues around compression therapy in venous ulcers as follows:

1. Reduction of oedema by using multi-layer bandage systems
2. Patients who do not tolerate multi-layer bandage systems: use inelastic or elastic bandages with indicators or applied with sub-bandage-pressure measuring device.

As soon as the UE is slim, the oedema has disappeared and the ulcer exudate has decreased, measure the limb and apply the hosiery for ulcer treatment. Stockings ensure the highest safety. Stockings cannot be applied with a wrong sub-bandage pressure since the hosiery has been measured individually. Hosiery is efficient and sustains pressure over time, is economical to use and gives the highest degree of compliance. Many patients can often manage the stocking themselves either with an application system or by using a two stocking system. Often a carer, who is helping the elderly with other things as well, can help with the application. The patients can use normal footwear and hosiery is more discrete to wear than other types of compression, which carries the additional benefit of improved patient self esteem. (body image)

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actico from Activa Healthcare</td>
<td>These cohesive bandages are new on the Danish Market. Can be worn up to one week and do not need washing. A padding layer under the bandage is required.</td>
</tr>
<tr>
<td>Comprilan from Smith &amp; Nephew</td>
<td>The bandages are to be changed every 3rd day or more frequently (8). The bandages need to be washed at every change.</td>
</tr>
<tr>
<td>Dauer from Lohmann &amp; Rauscher</td>
<td>The bandages have to be taken off at night due to high resting pressure. The bandages need washing at approximately every 3rd changing or when stained. To be applied in the morning before the patient gets out of bed.</td>
</tr>
<tr>
<td>ProGuide from Smith &amp; Nephew</td>
<td>The package includes a foam bandage for the wound. The multi-layer bandage can be kept on for up to one week and is disposable.</td>
</tr>
<tr>
<td>Activa Hosiery Kit from Activa</td>
<td>The kit is new on the Danish market. It consists of a 10 mmHg liner + 30 mmHg stocking. The advantage of this combination is that the patient can sleep with the liner on – keeping the wound bandage in place – and maintaining a 10 mmHg pressure at night. This solution also provides the advantage of the stocking being easier to apply when the smooth liner is in place first.</td>
</tr>
<tr>
<td>Sigvaris 503 from Simonsen &amp; Weel</td>
<td>An application system is needed when putting this hosiery. In the example we have used easy glide.</td>
</tr>
</tbody>
</table>
This regimen can be implemented in most home care settings.

Patients who are seen in wound care centres and who often suffer more complicated wounds must be treated by highly qualified tissue viability nurses. In these cases you need not consider that compression has to succeed in the hands of a large group of nurses with different qualifications, which is the case in the communities. But when the patients are discharged from the wound care centre and the community nurses take over, there is an urgent need to rethink how to continue the compression therapy in order to avoid set backs and recurrence. In some countries – like Denmark – it makes a difference in the communities – from a financial point of view – whether or not the hosiery has to be used for treatment or for prevention of leg ulcers.

When used for prevention the patients get the hosiery for free, but when used for treatment the rules vary from one community to the other since the stockings have to be supplied from the nurses’ depot of wound care products. In some communities the treatment stocking systems are regarded as another type of compression bandage system, which belongs in the depot - and the patient is reimbursed. But in others the stocking systems are seen as prevention since stockings have not traditionally been used for treatment of ulcers. This means that the patients have to pay themselves, which in practice means a barrier to implementation of stocking systems despite the fact that the systems save a lot of manpower and ensure more value for money. This problem needs to be solved in the best interest of the overall economy especially when it comes to nursing hours.

The studies in Germany by Michael Jünger have shown that compression hosiery lead to quicker wound healing in many cases (10). Franks and Moffatt argued that ‘effectiveness and cost effectiveness of compression bandages should be shown” (16) and stated that the ‘time has come to evaluate how to deliver this service with the purpose of avoiding unnecessary waste and suffering due to inadequate treatment.’

One can’t help wondering why these expert opinions and the EWMA guidelines for management of venous leg ulcers published four years later in 2002, are still not being followed and implemented widely.

Lack of knowledge may be one reason, and lack of focus on health-economics by prescribing authorities another.

Acknowledgements
This project was sponsored by Sponsor: AdvaNordic Medical Group, Søleddet 15, 4180 Sore. AdvaNordic supports Activa products in Denmark.

“WOUND INFECTION SCARES ME ON A DAILY BASIS. IT IS ONE OF THE MOST CHALLENGING ASPECTS OF WOUND MANAGEMENT TODAY - A MAJOR CONTRIBUTOR TO HEALTHCARE COSTS AROUND THE WORLD, AND THE CAUSE OF SIGNIFICANT DISTRESS TO PATIENTS AND CARERS.”
Professor Keith Harding, Chair of the International Wound Infection Institute

The International Wound Infection Institute is an international group of clinicians, scientists and other stakeholders committed to advancing best clinical practice in wound infection through research, teaching and learning.

When you join the International Wound Infection Institute you get:

- Access to our web site, a free resource containing original publications and documents on wound infection
- Regular updates and newsletters
- The opportunity to participate in meetings and events
- Access to a network of senior clinicians of international repute
- The opportunity to participate in new original projects

Joining couldn’t be easier, and it’s free! Just visit our website:

www.woundinfection-institute.com

We welcome all members from the International Healthcare Community with an interest in wound infection.
Joining couldn’t be easier, and it’s free! Just visit our website: www.wuwhs.org

When you join the International Wound Infection Institute you get:

- Access to a network of senior clinicians of international repute
- The opportunity to participate in meetings and events
- Regular updates and newsletters
- Access to our web site, a free resource containing original publications and documents on wound infection

The most important aspect of becoming a member of EWMA is the influence this membership can give you. As a EWMA member you can vote and even stand for election for the EWMA Council, which will give you direct influence on future developments within European wound healing.

Please register as a EWMA member at www.ewma.org

A membership only costs 25 EUR a year.
You can pay by credit card as well as bank transfer.
Existing members of EWMA can also renew their membership online.
ABSTRACTS OF RECENT COCHRANE REVIEWS

Debridement for surgical wounds

Nancy Dryburgh, Fiona Smith, Jayne Donaldson, Melloney Mitchell
The Cochrane Database of Systematic Reviews
To be published in Issue 3, 2008 Copyright © 2005
The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

ABSTRACT

Background: Surgical wounds that become infected are often debrided because clinicians believe that removal of this necrotic or infected tissue will expedite wound healing. There are numerous methods available but no consensus on which one is most effective for surgical wounds.

Objectives: The aim of this review is to determine the effect of different methods of debridement on the rate of debridement and healing of surgical wounds.

Search strategy: We developed a search strategy to search the following electronic databases: Wounds Group Specialised Trials Register (searched 3/3/08), Cochrane Central Register of Controlled Trials (CENTRAL) (the Cochrane Library, 2008, issue 1), MEDLINE (1950 to February Week 3 2008), EMBASE (1980 to 2008 Week 09) and CINHAL (1982 to February Week 4 2008). We checked the citations within obtained studies to identify additional papers and also relevant conference proceedings. We contacted manufacturers of wound debridement agents to ascertain the existence of published, unpublished and ongoing trials. Our search was not limited by language or publication status.

Selection criteria
We included relevant randomised controlled trials (RCT) with outcomes including at least one of the following: time to complete debridement, or time to complete healing.

Data collection and analysis
Two authors independently reviewed the abstracts and titles obtained from the search, two extracted data independently using a standardised extraction sheet, and two independently assessed methodological quality. One author was involved in all stages of the data collection and extraction process, thus ensuring continuity.

Main results
Five RCTs were eligible for inclusion; all compared treatments for infected surgical wounds and reported time required to achieve a clean wound bed (complete debridement). One trial compared an enzymatic agent (Streptokinase/streptodornase) with saline-soaked dressings and reported the time to complete debridement. Four of the trials compared the effectiveness of dextranomer beads or paste with other products (different comparator in each trial) to achieve complete debridement. Meta analysis was not possible due to the unique comparisons within each trial. One trial reported that dextranomer achieved a clean wound bed significantly more quickly than Eusol, and one trial comparing enzymatic debridement with saline-soaked dressings reported that the enzyme treated wounds were cleaned more quickly. However methodological quality was poor in these two trials.

Authors’ conclusions
There is a lack of large, high quality published RCTs evaluating debridement per se or comparing different methods of debridement for surgical wounds, to guide clinical decision making.

Plain language summary
Debridement for surgical wounds
Following surgery most surgical wounds heal naturally with no complications. However, complications such as infection and wound dehiscence (opening) can occur which may result in delayed healing or wound breakdown. Infected surgical wounds may contain dead (devitalised) tissue. Removal of this dead tissue (debridement) from surgical wounds is believed to enable wound healing. Many methods are available to clinicians to debride surgical wounds. This review showed that there is insufficient valid research evidence to recommend any one particular method. There is a clear need for more research into which method is most effective, in removing dead tissue from surgical wounds that have become infected.

Risk assessment tools for the prevention of pressure ulcers

Zena EH Moore, Seamus Cowman
The Cochrane Database of Systematic Reviews
To be published in Issue 3, 2008 Copyright © 2005
The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

ABSTRACT

Background: Pressure ulcer risk assessment is a component of the assessment process used to identify individuals at risk of developing a pressure ulcer. Use
of a risk assessment tool is recommended by many international pressure ulcer prevention guidelines however it is not known whether using a risk assessment tool makes a difference to patient outcomes. A review was conducted to clarify the role of pressure ulcer risk assessment in clinical practice.

Objectives: The objective of this review was to determine whether using structured, systematic pressure ulcer risk assessment tools, in any health care setting, reduces the incidence of pressure ulcers.

Search strategy: The following databases were searched: MEDLINE (January 1966 to April Week 3, 2008); EMBASE (1974 to Week 17, 2008); CINAHL (1982 to April Week 4, 2008); The Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library, issue 2, 2008); The Wounds Group Specialised Register (searched 29/4/2008). There were no restrictions on articles on the basis of language or date of publication.

Selection criteria: Randomised controlled trials (RCTs) comparing the use of structured, systematic, pressure ulcer risk assessment tools with no structured pressure ulcer risk assessment, or with unaided clinical judgement, or RCTs comparing the use of different structured pressure ulcer risk assessment tools were considered for this review.

Data collection and analysis: Titles and, where available, abstracts of the studies identified by the search strategy were assessed by two authors independently for their eligibility. Full versions of potentially relevant studies were obtained and screened against the inclusion criteria by two authors independently.

Main results: No studies were identified that met the inclusion criteria.

Authors’ conclusions: Despite the widespread use of risk assessment tools for the assessment of individuals’ risk of developing pressure ulcers, no randomised trials exist that compare them with unaided clinical judgement or no risk assessment in terms of rates of pressure ulceration. Therefore, we cannot conclude whether the use of structured, systematic pressure ulcer risk assessment tools, in any health care setting, reduces the incidence of pressure ulcers. The effect of structured risk assessment tools on pressure ulcer incidence needs to be evaluated.

Plain language summary

Risk assessment tools used for preventing pressure ulcers

Pressure ulcers (also known as bed sores, pressure sores and decubitus ulcers) are localised areas of tissue damage caused by excess pressure, shearing or friction forces. Pressure ulcers mainly occur in people who have limited mobility and/or nerve damage. Pressure ulcer risk assessment is part of the process used to identify individuals at risk of developing a pressure ulcer. Risk assessments generally use checklists and their use is recommended by pressure ulcer prevention guidelines. The authors found no studies that were eligible for inclusion in the review. Therefore, we do not know whether conducting a risk assessment makes any difference to the number of new pressure ulcers that occur.

Publication in The Cochrane Library Issue 4, 2008

Mupirocin ointment for preventing Staphylococcus aureus infections in nasal carriers

Miranda van Rijen, Marc Bonten, Richard Wenzel, Jan Kluytmans


ABSTRACT

Background: Staphylococcus aureus (S. aureus) is the leading nosocomial (hospital acquired) pathogen in hospitals throughout the world. Traditionally, control of S. aureus has been focused on preventing cross-infection between patients, however, it has been shown repeatedly that a large proportion of nosocomial S. aureus infections originate from the patient’s own flora. Nasal carriage of S. aureus is now considered a well defined risk factor for subsequent infection in various groups of patients. Local antibiotic treatment with mupirocin ointment is often used to eradicate nasal S. aureus.

Objectives: To determine whether the use of mupirocin nasal ointment in patients with identified S. aureus nasal carriage reduced S. aureus infection rates.

Search strategy: We searched the Cochrane Wounds Group Specialised Register (May 2008), the Cochrane Central Register of Controlled Trials (CENTRAL, Issue 2 2008), MEDLINE (1950 to May 2008), EMBASE (1980 to May 2008) and CINAHL (1982 to May 2008). To identify unpublished trials, abstract books from major scientific meetings (ICAAC, ESCMID and SHEA) were handsearched, researchers and manufacturers of mupirocin were contacted and other electronic databases were searched (SIGLE, ASLIB Index, mRCT, USA Clinical Trials).

Selection criteria: Randomised controlled trials (RCTs) comparing nasal mupirocin with no treatment or placebo or alternative nasal treatment in the prevention of S. aureus infections in nasal S. aureus carriers were included.

Data collection and analysis: Titles, abstracts and full-text articles of studies retrieved from the search process were independently assessed by two authors for inclusion. From included studies a data extraction form was made and the quality of the trial was assessed. The primary outcome was the S. aureus infection rate (any site). Secondary outcomes were time to infection, mortality, adverse events and infection rate caused by micro-organisms other than S. aureus.

Main results: Nine RCTs involving 3396 participants met the inclusion criteria. Patient populations varied and several types of nosocomial S. aureus infection were described including bacteremia, exit-site infections, peritonitis, respiratory tract infections, skin infections, surgical site infections (SSI) and urinary tract infections. After pooling the eight studies that compared mupirocin with placebo or with no treatment, there was a statistically significant reduction in the rate of S. aureus infection associated with intranasal mupirocin (RR 0.55, 95% CI 0.43 to 0.70). A planned subgroup analysis of surgical trials demonstrated a significant reduction in the rate of nosocomial S. aureus infec-
Dressings for superficial and partial thickness burns

Jason Wasiak, Heather Cleland, Fiona Campbell

This record should be cited as: Wasiak J, Cleland H, Campbell F. Dressings for superficial and partial thickness burns. Cochrane Database of Systematic Reviews 2008, Issue 4. Art. No.: CD002106. DOI: 10.1002/14651858.CD002106.pub2.

ABSTRACT

Background: An acute burn wound is a complex and evolving injury. Extensive burns produce, in addition to local tissue damage, systemic consequences. Treatment of partial thickness burn wounds is directed towards promoting healing, and a wide variety of dressings is currently available. Improvements in technology and advances in understanding of wound healing have driven the development of new dressings. Dressing selection should be based on their effects of healing, but ease of application and removal, dressing change requirements, cost and patient comfort should also be considered.

Objectives: To assess the effects of burn wound dressings for superficial and partial thickness burns.


Selection criteria: All randomised controlled trials (RCTs) that evaluated the effects of burn wound dressings for superficial and partial thickness burns.

Data collection and analysis:

Two authors using standardised forms extracted the data independently. Each trial was assessed for internal validity with differences resolved by discussion.

Main results: A total of 26 RCTs are included in this review and most were methodologically poor. A number of dressings appear to have some benefit over other products in the management of superficial and partial thickness burns. This benefit relates to time to wound healing, the number of dressing changes and the level of pain experienced. The use of biosynthetic dressings is associated with a decrease in time to healing and reduction in pain during dressing changes. The use of silver sulphadiazine (SSD) as a comparator on burn wounds for the full duration of treatment needs to be reconsidered, as a number of studies showed delays in time to wound healing and increased number of dressing applications in patients treated with SSD dressings.

Authors’ conclusions: There is a paucity of high quality RCTs on dressings for superficial and partial thickness burn injury. The studies summarised in this review evaluated a variety of interventions, comparators and clinical endpoints. Despite some potentially positive findings, the evidence, which largely derives from trials with methodological shortcomings, is of limited usefulness in aiding clinicians in choosing suitable treatments.

Plain language summary

Dressings for treating superficial and partial thickness burns

Superficial burns are those which involve the epidermal skin layer and partial thickness burns involve deeper damage to structures such as blood vessels and nerves. There are many dressing materials available to treat these burns but none have strong evidence to support their use. Evidence from small trials, many with methodological limitations, suggests that superficial and partial thickness burns may be managed with hydrocolloid, silicon nylon, antimicrobial (containing silver), polyurethane film and biosynthetic dressings. There was no evidence to support the use of silver sulphadiazine.

Honey as a topical treatment for wounds

Andrew B Jull, Anthony Rodgers, Natalie Walker


ABSTRACT

Background: Honey is a viscous, supersaturated sugar solution derived from nectar gathered and modified by the honeybee, Apis mellifera. Honey has been used since ancient times as a remedy in wound care. Evidence from animal studies and some trials has suggested honey may accelerate wound healing.

Objectives: The objective was to determine whether honey increases the rate of healing in acute wounds (burns, lacerations and other traumatic wounds) and chronic wounds (venous ulcers, arterial ulcers, diabetic ulcers, pressure ulcers, infected surgical wounds).

Search strategy: We searched the Cochrane Wounds Group Specialised Register (May 2008), CENTRAL (May 2008) and several other electronic databases (May 2008). Bibliographies
were searched and manufacturers of dressing products were contacted for unpublished trials.

Selection criteria: Randomised and quasi randomised trials that evaluated honey as a treatment for any sort of acute or chronic wound were sought. There was no restriction in terms of source, date of publication or language. Wound healing was the primary endpoint.

Data collection and analysis: Data from eligible trials were extracted and summarised using a data extraction sheet by one author and independently verified by a second author.

Main results: 19 trials (n=2554) were identified that met the inclusion criteria. In acute wounds, three trials evaluated the effect of honey in acute lacerations, abrasions or minor surgical wounds and nine trials evaluated the effect the honey in burns. In chronic wounds two trials evaluated the effect of honey in venous leg ulcers and one trial in pressure ulcers, infected post-operative wounds, and Fournier’s gangrene respectively. Two trials recruited people with mixed groups of chronic or acute wounds. The poor quality of most of the trial reports means the results should be interpreted with caution, except in venous leg ulcers. In acute wounds, honey may reduce time to healing compared with some conventional dressings in partial thickness burns (WMD -4.68 days, 95%CI -4.28 to -5.09 days). All the included burns trials have originated from a single centre, which may have impact on replicability. In chronic wounds, honey in addition to compression bandaging does not significantly increase healing in venous leg ulcers (RR 1.15, 95%CI 0.96 to 1.38). There is insufficient evidence to determine the effect of honey compared with other treatments for burns or in other acute or chronic wound types.

Authors’ conclusions: Honey may improve healing times in mild to moderate superficial and partial thickness burns compared with some conventional dressings. Honey dressings as an adjuvant to compression do not significantly increase leg ulcer healing at 12 weeks. There is insufficient evidence to guide clinical practice in other areas.

Plain language summary
Honey as a topical treatment for acute and chronic wounds
Honey is a viscous, supersaturated sugar solution derived from nectar gathered and modified by the honeybee, Apis mellifera. Honey has been used since ancient times as a remedy in wound care. More recently trials have evaluated the effects of using honey to help wound healing in both acute wounds (for example burns, lacerations) and chronic wounds (for example venous leg ulcers, pressure ulcers). Although honey may improve healing times in mild to moderate superficial and partial thickness burns compared with some conventional dressings, it was found that honey dressings used alongside compression therapy do not significantly increase leg ulcer healing at 12 weeks. There is insufficient evidence to guide clinical practice for other wound types.
Hard-to-heal wounds
a holistic approach

Editor: Christine Moffatt

The seventh European Wound Management Association position document will be launched in May 2008 at the EWMA congress ‘Wound Management · Wound Healing – Responsibility and Actions’, to be held in Lisbon, Portugal, 14-16 May 2008.

The document will be available in English, French, German, Italian and Spanish, and can be downloaded from www.ewma.org

It is possible to obtain permission to translate the EWMA Position Documents into other languages. Please contact EWMA Business Office.

For further details contact MEP Ltd, 53 Hargrave Road, London N19 5SH. www.mep ltd.co.uk

or

EWMA Business Office, Congress Consultants, Martensens Allé 8, 1828 Frederiksberg, Denmark
Tel: +45 7020 0305
Fax: +45 7020 0315
ewma@ewma.org

References:

We regret to inform our readers that the references published for the paper entitled Treatment of chronic wounds with autologous platelet-rich plasma in EWMA Journal, Vol 8, No 2 are incorrect. The correct references are listed below.
At dressing changes, pain matters most

Ask patients with chronic wounds for their views on pain and you’ll find that one of their biggest worries is dressing changes. In a survey of 2018 patients, 40.3% said pain at dressing change was the most devastating part of living with a wound. Since 53.8% of all respondents also reported pain ‘frequently’ or ‘most of the time’ during dressing changes, this is a significant problem.

The solution? In a separate survey, 93% of 3034 patients said they preferred dressings with Safetac® technology because they are less painful. The new 2008 WUWHS Principles of Best Practice guidelines also refer to Safetac technology for atraumatic dressing removal. Which means you can make your patients feel a lot better by choosing the dressings that are less painful and that professionals prefer – dressings with patented Safetac technology.

For more information about Safetac technology, please visit www.safetac.com

Patented Safetac® technology is available exclusively on Mepilex® wound dressings, Mepitel® and other selected Mölnlycke Health Care dressings.

Order your full copy of the new 2008 WUWHS guidelines at www.molnlycke.com
The EWMA Journals can be downloaded free of charge from www.ewma.org.

**International Journals**

The section on International Journals is part of EWMA’s attempt to exchange information on wound healing in a broad perspective.

**English**

Advances in Skin & Wound Care, vol. 21, no 9, 2008
http://aswcjournal.com

Expedited Wound Healing with Noncontact, Low-Frequency Ultrasound Therapy in Chronic Wounds: A Retrospective Analysis
Steven J. Kavros, David A. Liedl, Andrea J. Boon, Jenny L. Miller, Julie A. Hobbs, Karen L. Andrews

Skin and Wound Care: Important Considerations in the Elderly
Madhun Reddy

**Finnish**

Haava, no 3, 2008
www.suomenhaavanhoitoyhdistys.fi

Mechanism of Pain
Eero Vuoren

Patient’s Experience Can Be Made Visible by Documentation
Marja Kaupala

Pain – stimulus, experience, feeling
Challenges of Children’s Pain Management
Paivi Järvinen

Pain Management in First Aid
Timo Järvi

Difference in Treatment of Surgical Wound
– When the wound was healed and unhealed
Mikko Tauliranta

Pain Management in Bullet Wounds
Pia Volmaren

Pain as a Partner of Wound Patient
Sipa Kuusinen

The Development Project of Pain Management in Surgical Hospital of Turku University Hospital
Kristina Kuusinen

The Implementation of Outpatient Clinic for Patients with Pain in Helsinki University Hospital
Anna-Maja Konusalo

**Additional Resources**

- **Volume 7, no 1, January 2008**
  - Problem drug injecting: Wound care, harm reduction and social impact
    - Angela D. Guild
  - Larval therapy in the treatment of diabetic foot wounds
    - Frank L. Bowling
  - Opinion piece: Wound healing in hot climates
    - Terence J. Ryan
  - Developing research capacity and capability in skin breakdown
    - Jim Dick

- **Volume 7, no 2, May 2007**
  - Is it safe to use saline solution to clean wounds?
    - João C. F. Gouveia, Cristina I. M. Nagureiro, Célia L. S. Nagureiro, Marta I. P. Alves
  - The cost of pressure ulceration
    - Peter J. Franks
  - Evidence-Based Medicine and the Management of the Chronic Wound: Is It Enough?
    - Than Doh, Aristidis Yeves
  - Pathologic Scars: An Overview of Surgical Strategies
    - Luc Téot

- **Volume 7, no 3, October 2007**
  - Guidelines for the management of partial-thickness burns in general hospital-recommendation of a European working party
    - Bjørn Aldsjørn, Annelie Buntzen
  - Vacuum assisted closure for chronic wounds: a review of the evidence
    - E. Andrea Nelson
  - General practitioner support to care homes: collaboration with a tissue viability nurse specialist and prescribing support pharmacist
    - Lynne Watret, Rachel Bruce
  - Integrated system of chronic wound care healing
    - Heinz J. Janßen, Roland Becker
  - Wound Healing in Medieval England
    - Carol Dealey

- **Volume 8, no 1, January 2008**
  - Treatment of chronic wounds with autologous platelet-rich plasma
    - Marcus Gürben
  - Polyhexanide (PHMB) and Betaine in wound care management
    - Kurt Kaehn, Thomas Eberlein
  - Patients’ experience of wound-related pain: An international perspective
    - Elizabeth J. Nudge
  - Efficacy of honey as a desloughing agent: overview of current evidence
    - Georgina Gethin

- **Volume 8, no 21, May 2008**
  - Treatment of chronic wounds with autologous platelet-rich plasma
    - Marcus Gürben
  - Polyhexanide (PHMB) and Betaine in wound care management
    - Kurt Kaehn, Thomas Eberlein
  - Patients’ experience of wound-related pain: An international perspective
    - Elizabeth J. Nudge
  - Efficacy of honey as a desloughing agent: overview of current evidence
    - Georgina Gethin

The EWMA Journals can be downloaded free of charge from www.ewma.org.
INTRODUCTION
The members of the EWMA education committee have been aware for some time that health professionals are seeking alternative approaches to professional development and have created a unique model that combines attendance at the annual EWMA Conference with academic study at a university of their own choice. This model is called the EWMA University Conference Model (EWMA UCM) and has arisen from a pragmatic desire at future EWMA conferences to:

- Combine academic study with existing professional development activities
- Enable maximum utilisation of expert knowledge & skills
- Utilise excellent facilities & learning resources

The EWMA UCM was piloted in Glasgow in May 2007, proving highly successful. The second EWMA UCM took place in Lisbon in May 2008, where the success of the programme surpassed all expectations. The challenge ahead is now to use the student evaluations and lessons learned from Lisbon to prepare for another successful EWMA UCM course in Helsinki in 2009.

For participation in the Helsinki course, EWMA welcomes all teaching institutions who find the description of the EWMA UCM programme interesting to contact the EWMA Business Office at ewma@ewma.org

EVALUATION OF EWMA UCM LISBON 2008
EWMA was delighted to see a total of 110 students from teaching institutions in Belgium (Centre of Continuing & Professional Development), Ireland (Royal College of Surgeons Ireland), Portugal (Universidade Atlântica, ESS Setúbal and Universidade dos Açores), Switzerland (Haute école de Santé, Geneva) and the United Kingdom (University of Hertfordshire) undertake the EWMA UCM in Lisbon 2008.

The students added a unique dimension, contributing positively to the overall success of the conference. Feedback from the students, a central component in the future development of the EWMA UCM, was facilitated through an open forum and the completion of written evaluation forms.

One of the highlights of the feedback includes a strong sense of the importance of being a part of an international group where the opportunity to share different practice experiences is facilitated. The challenges of achieving evidence based practice were also considered an important issue, with the EWMA UCM facilitating open discussion of these challenges. Furthermore, the students were pleased to discover that they were not isolated in seeking the best answers to wound care problems. Indeed that fact that there is much debate on the subject, especially among “experts” was a reassurance. The emphasis, throughout the conference, on critical appraisal of research evidence for its application to clinical practice was also highlighted as important. This skill is central to enabling the student address the variety of clinical problems faced each day in their individual practices. Overall, the student found the programme to be a rewarding, valuable experience, one which they would have no hesitation recommending to others.
WHY SHOULD YOU UNDERTAKE THE EWMA UCM?

The EWMA conference brings together international experts in the field of wound healing and provides a dynamic platform for ‘real world’ research, professional debate and networking opportunities and presentation of the latest practice developments. It is an ideal educational environment to provide registered student’s with a challenging, analytical conference experience from which they can develop reflective practice skills and is one that cannot hope to be replicated by any one individual university. Making use of the educational opportunities available at the EWMA conference will allow registered students to explore the wider perspectives of wound management from an international perspective.

The overall aims of the programme are to facilitate the student to:
- Identify the process and concepts involved in the conduct of research in wound management
- Increase their understanding of the dissemination of research findings
- Critically appraise the outcomes of research and its applicability in clinical practice
- Identify key priorities in the delivery of wound management services
- Understand the importance of European dimensions and diversity in wound management

CONCLUSION

In the light of the epidemiological, financial and human costs associated with wound management, there is a need for practitioners to have in depth knowledge and skills in the provision of effective, efficient, evidence-based practice for individuals suffering from the most common chronic wounds encountered. The EWMA UCM aims to achieve this by providing a medium where students, from a wide variety of clinical backgrounds and cultural experiences, can come together to hear, confront and debate the latest evidence in wound care. This unique learning experience strengthens the link between theory and practice, facilitating the development of enhanced skills and knowledge in chronic wound management. We look forward to seeing you in Helsinki in May 2009 where you can share in this highly rewarding experience.
QUALITATIVE RESPONSES TO PAIN BETWEEN COUNTRIES

Aim: Cross- (and within-) cultural variations in clinical practice can have an impact on professional- patient interaction; implicate beliefs about health, illness and expectations for the professional- patient relationship, and health communication preferences.

Methods: This cross-sectional international survey collected the self-report-ed views of patients using a specifically designed questionnaire developed from issues relevant to patients captured through focus groups. Results were obtained for 2018 patients from 15 different countries across Europe, North America and Australia, with a mean age of 68.6 years (st dev 15.4), and a mean wound duration of 19.6 months (st dev 51.8). When asked two ques-tions related to reducing pain at dressing-related procedures, responses were given by 1523 patients in relation to their own/carers’ involvement, and by 1344 patients in relation to health care professionals’ involvement.

Results: 40.4% of patients felt that neither they nor their carer or health care professional could do anything to ease the pain experienced during dressing related procedures. However, it is not clear as to whether this was due to patients’ feeling resigned to the situation and the treatment provided or due to not knowing of anything that could benefit them. Further, many patients made suggestions in relation to the procedure and handling of the wound to reduce discomfort and pain; wanting careful and gentle treatment, to soak/ moisten the dressing before removal, to be consulted, listened to, communicated with and distracted from the dressing related procedures, not having the wound touched or scrubbed, to have consistent quality of care, for the procedure to be carried out slowly, for the wound to be washed with water and to have the dressings changed regularly.

Conclusions: These results highlight the importance of identifying and incorporating a patient’s concerns into their goals for treatment, participants involved in the treatment, and patterns of communicating health informa-tion to improve and facilitate positive health outcomes.
The innovative **WoundASSIST® TNP** system provides cost effective and easy to use topical negative pressure wound therapy, enabling access to the therapy for patients across all healthcare settings.

Advanced therapies can be effective but these may also be bulky or costly and this can force compromise. **WoundASSIST TNP** system now gives the option of TNP therapy to patients in multiple care settings who may otherwise have not been able to access the therapy.

[www.easytnp.com](http://www.easytnp.com)
EWMA Travel Grants

EWMA is committed to the advancement of wound care and wound management in Europe and it encourages international understanding and learning between nurses, doctors and other healthcare workers. Therefore, EWMA provides travel grants to young practitioners who wish to develop their skills within wound care and wound management abroad.

The travel grants will primarily be given for educational purposes or clinical experiences outside the applicants’ own countries. Novice practitioners have priority, but more experienced applicants are also accepted.

Requirements:
• Applicants must have been a member of EWMA for 1 year.
• The grants are limited to travelling within Europe.
• The maximum amount that can be applied for per applicant is 3000 EUR
• All grant receivers must write a report of 1-2 pages about their stay abroad.
  This report will be published in EWMA Journal

How to apply:
1. Write a letter in English to EWMA stating
   a. the purpose of your travels
   b. what you aim to achieve during your travels
   c. where you are traveling to (address(es), institution(s) etc.)
   d. dates and duration of your stay
2. Attach a letter of acceptance from centre/institution to be visited
3. Address the letter to Zena Moore, Chair of the Travel Grant Committee
   and send the letter and the letter of acceptance electronically and via regular post to:

EWMA Business Office
C/o Congress Consultants
Martensens Allé 8
DK-1828 Frederiksberg C
Denmark
ewma@ewma.org

Deadline for submission of applications is 15 February 2009
You will receive notification of whether or not you have been given a travel grant by 15 March 2009.

After your travels:
1. It is obligatory to write a report (1-2 pages) about your travels
   and what your outcome of the stay was.
   This report will be published in EWMA Journal.
2. Please send this report to EWMA Business Office
   Further information about travel grants please contact
   EWMA Business Office at ewma@ewma.org
Protease-inhibiting lipido-colloid dressings containing NOSF

The Urgo Start range consists of two protease-inhibiting dressings impregnated with NOSF: Urgotul® Start and UrgoCell® Start. NOSF is an innovative compound, combined with a lipido-colloid TLC matrix (Urgotul® Start), or an absorbent lipido-colloid TLC matrix (UrgoCell® Start). NOSF inhibits excess proteinases and promotes the action of growth factors.

The Urgo Start range is indicated for the treatment of all types of low-exuding (Urgotul® Start) and exuding (UrgoCell® Start) chronic wounds after debridement, particularly if delayed healing is clinically suspected.
HELP in HELSINKI

HEALING
EDUCATING
LEARNING and
PREVENTING in wound care

EWMA2009 · 20-22 May
Helsinki · Finland

WWW.EWMA.ORG/EWMA2009

Organised by the European Wound Management Association
in cooperation with the Finnish Wound Care Society FWCS
The EWMA 2008 conference was held 14-16 May at Lisbon Congress Centre in Lisbon, Portugal. It was organised in cooperation with the two Portuguese wound management associations APTFeridas and GAIF and the theme of the conference was:

Wound Management & Wound Healing
– Responsibility and Actions

The conference was attended by just over 2300 participants mostly from all over Europe, but there were also participants from as far away as Angola, Israel, Japan and USA among others. In all 34 International speakers gave presentations in 8 key sessions on topics such as, Malignant Ulcers – Multidisciplinary Treatment, Measuring Infection in Surgical Wounds, Immunopression and Chronic Wounds – Friend or FoE? among others.

EWMA received more than 600 abstracts of which 379 were accepted as poster presentations and 107 as free paper presentations. These can now be downloaded from the conference web site www.ewma.org/ewma2008. Other activities include workshops on e.g. Paediatric Wound Care and Decision Making for Patients with Complex Wound Problems.

The first time presenter award was given to:
Hilde Fagervik-Morton, United Kingdom:
Qualitative responses to Pain Between Countries

The awards for best posters were given to:
Veronika Woskova, Czech Republic
The Neuropad: A Simple Test to Evaluate Diabetic Neuropathy and Risk of Diabetic Foot Ulcer

Anna Marie Nielsen, Denmark
Methods for Evaluation of Bacterial Contamination as a Result of Treatment with High Pressure Irrigation

Pedro Pacheco, Portugal
Compression Therapy in Treating Venous Ulcers in a Health-care Sub Region

Javier Hernández Toledo, Spain
Clinical Evidence of Infection and its Correlation with the Microbiological Diagnosis in Diabetic Foot Wounds

Poster Prizes given to Centres
This year the poster award committee decided to award centres with poster prizes, as each centre has contributed a number of high class posters across a range of topics, involving a team of people. The following centres were awarded poster prizes:
- University of Pisa, Italy
- University of Essen, Germany
- Polish Academy of Sciences, Warsaw, Poland

All of EWMA’s 42 Cooperating Organisations met at the Cooperating Organisations Board Meeting held on Thursday 15 May in Lisbon. This is one area where EWMA continues to develop its activities in the collaboration with wound healing and management associations across Europe. Since this time last year, EWMA has welcomed the Wound Management Association of Kosova (WMAK) and the Slovak Association for Open Wounds Curing (SSOOR) as Cooperating Organisations. In terms of networking as well as direct access to contemporary knowledge and scientific resource persons within wound management, the Cooperating Organisations are crucial partners.

The work on education activities coordinated by the Education Committee, chaired by Zena Moore, remains central to EWMA. Many courses are built on the EWMA Modules and endorsed by EWMA. Furthermore, we have now seen that the EWMA UCM (University Conference Model) piloted in Glasgow, this year in Lisbon, has developed into a full programme where approximately 120 students from four European countries have studied part of their curriculum during the Conference.

The EWMA 2008 Conference was a great opportunity for colleagues and friends from all over Europe (and other parts of the world) to meet. We look forward to our next conference in Helsinki in May 2009.

www.ewma.org/ewma2009

Finn Gottrup, EWMA Recorder
The exhibition was well-visited as was the Poster area on the balcony above the exhibition.

With so many participants attending EWMA 2008, the registration desk was very busy – especially on the first day.

Carolyn Wyndham-White uses the opportunity to network with Hubert Vuagnat and a colleague at the Conference Evening at Convento do Beato.
Corporate Sponsor Contact Data

Corporate A

Coloplast
Holtedam 1-3
DK-3050 Humlebaek
Denmark
Tel: +45 49 11 15 88
Fax: +45 49 11 15 80
www.coloplast.com

Convatec

Convatec Europe
Harrington House
Milton Road, Ickenham, Uxbridge
UB10 8PU
United Kingdom
Tel: +44 (0) 1895 62 8300
Fax: +44 (0) 1895 62 8362
www.convatec.com

Covidien
154, Fareham Road
PO13 0AS Gosport
United Kingdom
Tel: +44 (0) 1329 224479
Fax: +44 (0) 1329 224107
www.covidien.com

Johnson & Johnson Wound Management
Gargrave
North Yorkshire
BD23 3RX
United Kingdom
Tel: +44 1756 747200
Fax: +44 1756 747590
www.jnjgateway.com

Use the EWMA Journal to profile your company
Deadline for advertising in the February 2009 issue is 1 December 2008

Corporate B

3M
3M Health Care
Morley Street, Loughborough
LE11 1EP Leicestershire
United Kingdom
Tel: +44 1509 260 869
Fax: +44 1 509 613326
www.mmm.com

Activa Healthcare Ltd
1 Lancaster Park
Newborough Road
Needwood, Burton on Trent
Staffordshire
DE13 9PD
United Kingdom
Tel: +44 (0) 8450 606 707
Fax: +44 (0) 1283 576808
www.activahealthcare.co.uk

ARJO HUNTLEIGH
ArjoHuntleigh
310-312 Dallow Road
Luton
Bedfordshire
LU1 1TD
United Kingdom
Tel: +44 1582 413104
Fax: +44 1582 745778
www.ArjoHuntleigh.com

B. Braun Medical
204 avenue du Maréchal Juin
92107 Boulogne Billancourt
France
Tel: +33 1 41 10 75 66
Fax: +33 1 41 10 75 69
www.bbraun.com

Ferris Mfg. Corp.
16W300 83rd Street
Burr Ridge,
Illinois 60527-5848 U.S.A.
Tel: +1 (630) 887-9797
Toll-Free: +1 (630) 800 765-9636
Fax: +1 (630) 887-1008
www.polymem.com
NEW Corporate B Sponsor

ARJO HUNTLEIGH

...WITH PEOPLE IN MIND

ArjoHuntleigh is a global medical equipment supplier offering its customers a broad range of integrated solutions for the care of people with reduced mobility and related conditions.

The ArjoHuntleigh product portfolio encompasses medical equipment and integrated solutions for patient handling and hygiene, medical beds and therapeutic surfaces, wound healing and therapy, DVT prevention, disinfection and diagnostics.

At the centre of our activities we place the residents and patients that are cared for using our equipment. We also place great value on the welfare of healthcare professionals that care for them. Our products, programmes and services are designed with these people in mind.

Our aim is to provide solutions that:
- improve the quality of life for residents/patients
- create a better working environment for nursing staff
- reduce the cost of care.

ArjoHuntleigh have been providing cost-effective solutions to healthcare providers throughout the world for more than 25 years. During this time, patients have benefited from our highly effective and technologically advanced medical devices, designed to prevent and treat both complex and chronic wounds; including pressure ulcers, leg ulcers and non-healing surgical wounds.

We believe that the best formula for achieving optimum patient outcomes requires a multidisciplinary approach. We involve end-users and seek expert opinion at all stages of product evolution; from the initial design through clinical investigation to the delivery of comprehensive solutions which include education, training, competency assessment and outcome measurement.
EWMA was one of the supporting societies for the 3rd Congress of The World Union of Wound Healing Societies which took place in Toronto, Canada, 4-8 June 2008. EWMA was well represented as many of the Council members were on the international conference faculty and spoke at the conference. In addition, three of our past presidents, Christine Moffatt, George Cherry and Finn Gottrup received Lifetime Achievement Awards, for which they must be congratulated.

More than 3,000 from all over the world participated in the congress, and made it a truly world wide wound meeting.

The programme was divided into 10 streams:
- Pressure Ulcers
- Diabetic Foot Ulcers
- Ostomy/ Continence/ Skin Care
- Leg Ulcers
- Acute Wounds
- Complex Wounds
- Global Perspectives
- Free Papers
- Canadian Perspectives in Wound Care
- Research

The streams allowed people to customize their own programme, and benefit from the many parallel sessions although at times it could be difficult to choose among the many sessions.

EWMA also had an information booth at the congress. Side by side with the Australian Wound Management Association and the European Tissue Repair Society, the EWMA information booth demonstrated that EWMA is one of the key players within wound care. The booths were situated within the large exhibition area which was the central point of the centre, and where lunch and coffee were served. Many well-known and less well known companies were exhibiting at the congress providing a useful resource for the delegates.

Toronto and the congress centre were perfect for the world meeting. It was easy to find the many meeting rooms in the congress centre and many hotels were in walking distance from the centre.

The “Taste of Toronto Reception” at the Fairmont Royal York Hotel reflected the different nationalities in the many different buffets and many participants enjoyed an evening with food, drinks and music.

We are pleased to announce that The 4th WUWHS Congress will be held in Tokyo, Japan in 2012. As ever, EWMA expects to be involved and to support the organisers for this meeting.

Marco Romanelli
SILVERCEL* dressing uses new hydro-alginate technology to complement the effectiveness of silver release. It is a dressing that becomes stronger as it absorbs, facilitating removal from the wound. Clinically tested, SILVERCEL* dressing encourages healing even in very wet wound situations by providing an optimal moist wound environment. The sustained and balanced release of silver ions kills a broad spectrum of microorganisms associated with the bacterial colonization and infection of wounds, including MRSA, MRSE and VRE.
## Conference Calendar

<table>
<thead>
<tr>
<th>Conference</th>
<th>Theme</th>
<th>2008</th>
<th>Days</th>
<th>City</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lindsay Leg Club Foundation Leg Club Conference</td>
<td>The Art &amp; Science of Nursing in the 21st Century</td>
<td>Oct</td>
<td>1-2</td>
<td>Worcester</td>
<td>UK</td>
</tr>
<tr>
<td>NOVW Annual Meeting</td>
<td>Op weg naar een betere wondzorg</td>
<td>Oct</td>
<td>8</td>
<td>UniPlaza te Culemborg</td>
<td>Netherlands</td>
</tr>
<tr>
<td>11th Conference of SEBINKO</td>
<td>The Development of Clinical Validy and Best Practices Requirements</td>
<td>Oct</td>
<td>16-17</td>
<td>Tatabánya</td>
<td>Hungary</td>
</tr>
<tr>
<td>2nd World Congress of TeleDermatology</td>
<td>Healty Present and Healthier Future</td>
<td>Oct</td>
<td>16-18</td>
<td>Chinnai</td>
<td>India</td>
</tr>
<tr>
<td>3rd Interdisciplinary School in Wound Healing</td>
<td>Diabetic Foot Ulcers</td>
<td>Oct</td>
<td>23-24</td>
<td>Southampton</td>
<td>UK</td>
</tr>
<tr>
<td>Annual Meeting: SumS</td>
<td>Heridas y globalización</td>
<td>Nov</td>
<td>12-14</td>
<td>Tarragona</td>
<td>Spain</td>
</tr>
<tr>
<td>Croatian Wound Association Symposium</td>
<td>Decubitus</td>
<td>Nov</td>
<td>13-15</td>
<td>Stubičke Toplice, Zagreb</td>
<td>Croatia</td>
</tr>
<tr>
<td>5° Congress Nazionale AISLeC</td>
<td>EBN e Wound Care: Nuove Frontiere</td>
<td>Nov</td>
<td>13-15</td>
<td>Napoli</td>
<td>Italy</td>
</tr>
<tr>
<td>Danish Wound Healing Society (DSFS) Annual Meeting</td>
<td>Manifestation ved medicinsk sygdom</td>
<td>Nov</td>
<td>20-21</td>
<td>Svendborg</td>
<td>Denmark</td>
</tr>
<tr>
<td>3rd European Academy of Wound Technology / French Session</td>
<td></td>
<td>Nov</td>
<td>24-26</td>
<td>Elancourt</td>
<td>France</td>
</tr>
<tr>
<td>WMAT, Wound Management Association of Turkey. 3rd National Congress</td>
<td></td>
<td>Nov</td>
<td>27-29</td>
<td>Cesme, Izmir</td>
<td>Turkey</td>
</tr>
<tr>
<td>NIFS The Norwegian Wound Association</td>
<td>Wound Infections</td>
<td>Feb</td>
<td>5-6</td>
<td>Bodø</td>
<td>Norway</td>
</tr>
<tr>
<td>First International Lymphoedema Framework Conference</td>
<td>International Lymphoedema Framework Conference</td>
<td>Apr</td>
<td>21-23</td>
<td>Royal Ascot, Berkshire</td>
<td>UK</td>
</tr>
<tr>
<td>6th EADV Spring Symposium</td>
<td></td>
<td>Apr</td>
<td>23-26</td>
<td>Bucharest</td>
<td>Romania</td>
</tr>
<tr>
<td>WHS (Wound Healing Society) Syposium on Advanced Wound Care 2009</td>
<td></td>
<td>April</td>
<td>26-29</td>
<td>Grapevine, Texas</td>
<td>USA</td>
</tr>
<tr>
<td>TVS Annual Conference</td>
<td>Care – Science and Practice</td>
<td>April</td>
<td>27-28</td>
<td>Llandudno</td>
<td>Wales</td>
</tr>
<tr>
<td>ICW National Congress</td>
<td></td>
<td>May</td>
<td>9-19</td>
<td>Bremen</td>
<td>Germany</td>
</tr>
<tr>
<td>19th Conference of the European Wound Management Association</td>
<td>Healing, Education, Learning and Preventing in Wound Care</td>
<td>May</td>
<td>20-22</td>
<td>Helsinki</td>
<td>Finland</td>
</tr>
<tr>
<td>AWA &amp; SAFW. AWA Annual Meeting</td>
<td>Treatment of Wounds: Recommendationes for best practice in wound healing</td>
<td>Jun</td>
<td>19-20</td>
<td>Zürich</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Annual National Congress of the DGFW</td>
<td>Lymphology and Compression</td>
<td>Jun</td>
<td>25-27</td>
<td>Kassel</td>
<td>Germany</td>
</tr>
<tr>
<td>ETRS and WHS joint meeting</td>
<td></td>
<td>Aug</td>
<td>25-29</td>
<td>Limoges</td>
<td>France</td>
</tr>
<tr>
<td>European Burns Association Congress</td>
<td>EBA 2009</td>
<td>Sep</td>
<td>2-5</td>
<td>Lausanne</td>
<td>Switzerland</td>
</tr>
<tr>
<td>EPUAP</td>
<td>12th. Annual European Pressure Ulcer Meeting</td>
<td>Sep</td>
<td>3-5</td>
<td>Amsterdam</td>
<td>Netherlands</td>
</tr>
<tr>
<td>8th Scientific Meeting of the Diabetic Foot Study Group (DFSG) of the EASD</td>
<td>12th. Annual European Pressure Ulcer Meeting</td>
<td>Sep</td>
<td>3-5</td>
<td>Bled</td>
<td>Slovenia</td>
</tr>
<tr>
<td>18th EADV Congress</td>
<td>Wound Care Conference</td>
<td>Nov</td>
<td>10-11</td>
<td>Harrogate</td>
<td>UK</td>
</tr>
<tr>
<td>Wounds UK</td>
<td></td>
<td>Oct</td>
<td>7-11</td>
<td>Berlin</td>
<td>Germany</td>
</tr>
</tbody>
</table>

For web addresses please visit www.ewma.org

---

**NEW EWMA WEB SITE**

EWMA has a new web site, the address is the same, but the design, navigation and content has improved. You can now search for and download all EWMA conference abstracts, view pictures from previous EWMA Conferences in the photo gallery, read about the EWMA Projects: Patient Outcome Group and Leg Ulcer Project, read about the EWMA University Conference Model (UCM), find information about EWMA Travel Grants and much more.

WWW.EWMA.ORG
ICW-activities

The ICW has been active throughout the year 2008 in its 13 local groups where members try to optimize the care of patients with chronic wounds in their region. Each group provides educational activities for its members and guests but the main purpose is the discussion of the everyday problems people with chronic wounds and caregivers meet in their practice. The ICW courses were held in more than 80 venues in all parts of Germany with 15 to 25 participants in each course. Those who passed the courses in previous years successfully are now engaged in continuing education in order to recertify their diploma after 5 years.

Our last national congress proved extremely successful with more than 2000 participants, mostly registered nurses of all specialities.

The currently elected new board of ICW now plans the congress 2009 which will be held from 9th to 19th May in Bremen – come and see!

The Executive Committee of ICW.

8th Scientific Meeting of the Diabetic Foot Study Group of the EASD

September 2009

Bled, Slovenia

www.dfsg.org
### Cooperating Organisations

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFI Scep, be</td>
<td>Francophone Nurses Association in Stoma Therapy, Wound Healing and Wounds</td>
</tr>
<tr>
<td>AISLeC</td>
<td>Association of Nurses for the Study of Cutaneous Ulcers</td>
</tr>
<tr>
<td>AIUC</td>
<td>Italian Association for the study of Cutaneous Ulcers</td>
</tr>
<tr>
<td>APT Feridas</td>
<td>Portuguese Association for the Treatment of Wounds</td>
</tr>
<tr>
<td>AWA</td>
<td>Austrian Wound Association</td>
</tr>
<tr>
<td>BFW</td>
<td>Belgian Federation of Woundcare</td>
</tr>
<tr>
<td>CNC</td>
<td>Clinical Nursing Consulting – Wondzorg</td>
</tr>
<tr>
<td>CSLR</td>
<td>Czech Wound Management Society</td>
</tr>
<tr>
<td>CWA</td>
<td>Croatian Wound Association</td>
</tr>
<tr>
<td>DGfW</td>
<td>German Wound Healing Society</td>
</tr>
<tr>
<td>DWHS</td>
<td>Danish Wound Healing Society</td>
</tr>
<tr>
<td>FWCSC</td>
<td>Finnish Wound Care Society</td>
</tr>
<tr>
<td>GAIF</td>
<td>Associated Group of Research in Wounds</td>
</tr>
<tr>
<td>GNEAUPP</td>
<td>National Advisory Group for the Study of Pressure Ulcers and Chronic Wounds</td>
</tr>
<tr>
<td>ICW</td>
<td>Chronic Wounds Initiative</td>
</tr>
<tr>
<td>LBAA</td>
<td>Latvian Wound Treating Organisation</td>
</tr>
<tr>
<td>LUF</td>
<td>The Leg Ulcer Forum</td>
</tr>
<tr>
<td>LWMA</td>
<td>Lithuanian Wound Management Association</td>
</tr>
<tr>
<td>MST</td>
<td>Hungarian Wound Care Society</td>
</tr>
<tr>
<td>MWMA</td>
<td>Macedonian Wound Management Association</td>
</tr>
<tr>
<td>NATVNS</td>
<td>National Association of Viability Nurse Specialists (Scotland)</td>
</tr>
<tr>
<td>NIFS</td>
<td>Norwegian Wound Healing Association</td>
</tr>
<tr>
<td>NOVW</td>
<td>Dutch Organisation of Wound Care Nurses</td>
</tr>
<tr>
<td>PWMA</td>
<td>Polish Wound Management Association</td>
</tr>
<tr>
<td>ROWMA</td>
<td>Romanian Wound Management Association</td>
</tr>
<tr>
<td>SAFW</td>
<td>Swiss Association for Wound Care</td>
</tr>
</tbody>
</table>

**Note:** EWMA Journal 2008 vol 8 no 3
SAWMA
Serbian Advanced Wound Management Association

SEBINKO
Hungarian Association for the Improvement in Care of Chronic Wounds and Incontinencia
www.sebinko.hu

SFFPC
The French and Francophone Society of Wounds and Wound Healing
www.sffpc.org

SSiS
Swedish Wound Care Nurses Association
www.sarsjukskoterskor.se

SSOOR
Slovak Association for Wound Care

SUMS
Iceland Wound Healing Society
www.sum.is.org

SWHS
Serbian Wound Healing Society
www.lecenjerana.com

SWHS
Swedish Wound Healing Society
www.sarlakning.se

TVNA
Tissue Viability Nurses Association
www.tvna.org

TVS
Tissue Viability Society
www.tvs.org.uk

WMAI
Wound Management Association of Ireland
www.wmaoi.org

WMAS
Wound Management Association of Kosova

WMAT
Wound Management Association Turkey
www.yaradernegi.org

For more information about EWMA’s Cooperating Organisations please visit www.ewma.org

Associated Organisations

Leg Club
Lindsay Leg Club Foundation
www.legclub.org

LF
Lymphoedema Framework
www.lymphoedemaframework.org

LSN
The Lymphoedema Support Network
www.lymphoedema.org/lsn

Present your national wound management organisation or write a report about your organisation’s latest meeting.

ewma@ewma.org

Deadline for submitting papers for the January 2009 issue is 1 November 2008
Conferences
Organisations

EWMA
Journal

3 Editorial
Carol Dealey

Science, Practice and Education

5 Eucomed – Advanced Wound Care Sector (AWCS).
Positioning of advanced wound care
Hans Lundgren

11 A Laboratory Survey of the Antimicrobial Properties of Honey-Containing Dressings
Rowena Jenkins

17 Topical negative pressure versus conventional treatment of deep sternal wound infection in cardiac surgery
Martin Šimek

23 Quality of Life in the Patients with Chronic Leg Ulcers – A Preliminary Report
Veronika Slonkova

25 Compression therapy for venous leg ulcers – how to get more value for money
Susan F. Jørgensen

EBWM

32 Abstracts of recent Cochrane Reviews
Sally Bell-Syer

EWMA

38 EWMA Journal Previous Issues
38 International Journals
40 The EWMA University Conference Model: Lessons learned from Lisbon
Zena Moore

42 EWMA2008 First Time presenter
44 EWMA Travel Grants
47 EWMA 2008 – a very successful conference in Lisbon!
Finn Gottrup

52 EWMA Corporate Sponsor Contact Data
54 WUWHS 2008
Marco Romanelli

Conferences

56 Conference Calendar

Organisations

57 ICW-activities
58 Cooperating Organisations
59 Associated Organisations