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Wound management organisation
– the on-going challenge in Europe

This issue of the EWMA Journal focuses on the host country of the EWMA 2013 Conference: Denmark. The Danish Wound Management Association presents its efforts to meet some of the challenges related to providing the best possible care for wound patients in hospitals as well as in the home care sector. Most of these challenges are related to the organisational aspects of care.

The Danish Wound Management Association was one of the first organisations to develop a model for multidisciplinary and intersectoral organisation of wound management. This model has become widely recognised throughout the world. Multidisciplinary wound management centres have been widely implemented in Denmark, but there is still room for improvement; especially within the home care sector.

Establishing efficient wound management is an on-going challenge all over Europe. EWMA is continuously looking for new ways to meet this challenge. Recently EWMA joined the European Innovation Partnership on Active and Healthy Ageing (AHAIP) established by the European Commission. EWMA uses this collaboration to advocate the importance of a multidisciplinary and integrated care for elderly people suffering from non-healing wounds. You can read more about this initiative in this issue of the EWMA Journal.

Another opportunity for securing specialised wound care throughout Europe is further utilisation of modern technologies. In recent years Denmark has moved towards greater use of e-health services. Telemedicine systems developed for wound management offer improved wound care in home care settings outside the most populated areas. This is expected to lead to a significant reduction in the cost of wound management within the Danish municipalities.

This focus on organisation of care and collaboration between various sectors has been a primary focus of the Danish organisation for many years, which made it the natural choice of theme and title for the EWMA 2013 Conference: Organisation and Cooperation in Copenhagen. This topic will be reflected in several activities during the conference, such as key sessions on e-health and multidisciplinary treatment, and sessions targeting home care nurses without specialisation in wound management.

In this and the next issue of the EWMA Journal we will offer various articles leading up to the conference sessions and activities. We look forward to discussing these topics with you at the conference.

Jan Apelqvist, EWMA President
and Eskild Henneberg, DSFS President
INTRODUCTION/EPIDEMIOLOGY

The increasing worldwide prevalence of diabetes mellitus (DM) has resulted in an inevitable rise in diabetes-related complications. Diabetic foot ulceration (DFU) precedes >85% of major amputations in patients with diabetes and despite evidence to suggest that targeted interventions resulting from multidisciplinary care can reduce limb loss,1 progress to date has been slow. The National Diabetes Audit conducted in the UK estimates that the risk of a person with diabetes undergoing a lower extremity amputation is 23-fold higher than that of a person without diabetes.2 Whilst the number and incidence of amputations have fallen in an ageing population without diabetes, those in patients with type 2 diabetes have risen.3 In 2010-2011 there were 72,459 hospital admissions for diabetes-related foot complications, costing the National Health Service in England and Wales an estimated £639 million to £662 million.4, 5

Observational data from the Eurodiale study of all patients presenting with DFU to 14 specialised foot centres in Europe suggests marked variation in patterns of referral, the use of casting and vascular assessment and intervention between centres and countries.6 Of concern is that gaps in the use of evidence-based therapies highlighted by Eurodiale are likely to be far wider outside of specialised centres. A lack of both multidisciplinary diabetic foot clinics and appropriate re-imbursement schemes in many European countries are barriers to achieving good care. This review focuses on recent evidence-based guidelines, in particular those produced by the International Working Group on the Diabetic Foot (IWGDF), to help clinicians make treatment decisions in the management of DFU.

PATHOLOGY IN DFU

The aetiology of diabetic foot ulceration is multifactorial, involving a complex interplay between distal polyneuropathy (motor, sensory and autonomic), microangiopathy and peripheral arterial disease (PAD). Ulceration typically follows abnormal loading or trauma of the neuropathic foot, which may be poorly perfused due to PAD, rendering it less able to heal. Wound repair may be further impaired by virtue of various biological factors inherent to diabetes, including impaired humoral immunity and abnormal inflammatory responses.7, 8 Infection in DFU is more common than in other types of chronic wounds and contributes to failure to heal, especially in the presence of PAD.9

Diabetes is no longer considered an occlusive small vessel disease, but involves several functional abnormalities of the microvasculature including an increase in arterio-venous shunting and impaired vasoreactivity.10 The growth of new blood vessels in response to ischaemia is also impaired in DM,11 resulting in reduced formation of collateral vessels and a more profound perfusion deficit. The distribution of PAD in patients with diabetes is characteristically distal and diffuse, with a greater prevalence of crural disease and long arterial occlusions.12-14

EVALUATION

There are robust data to demonstrate that multidisciplinary care of patients with DFU reduces amputation rates. Guidance from the National Institute for Health and Clinical Excellence and Diabetes UK is consistent in recommending prompt recognition of foot ulceration and rapid assessment in a specialised limb salvage unit.15, 16 Krishnan et al observed a 62% reduction in major amputations in a catchment general population following the introduction of a multidisciplinary foot team at Ipswich Hospital, UK.1 Early inter-
Peripheral arterial disease

PAD is present in >50% of patients with DFU and its presence must be excluded. Diagnosing PAD in patients with diabetes can be difficult as symptoms and signs are frequently masked by co-existing distal symmetrical polyneuropathy. Furthermore, most patients with DFU present to primary care or internal medicine clinicians or podiatrists who often lack expertise in the diagnosis of PAD. IWGDF guidelines recommend that, in addition to a thorough history for symptoms of arterial insufficiency, all patients with DFU should undergo hand-held Doppler evaluation of both pedal pulses, measurement of ankle-brachial index (ABI) and, in cases of diagnostic uncertainty, measurement of toe-brachial index (TBI). Once PAD is diagnosed, the severity of the perfusion deficit and its impact on ulcer healing should be assessed. With respect to ankle pressures, an ABI of <0.6 corresponds to a significant impairment in wound healing (Figure 1), and an ABI of >0.6 has a poor predictive value for severity of ischaemia and warrants the measurement of toe pressures. A low probability of wound healing due to poor perfusion should prompt further investigations to establish the distribution of PAD.

Duplex ultrasonography (DUS), magnetic resonance angiography (MRA) and computed tomography angiography (CTA) all enable imaging of the lower-limb arteries in a non-invasive manner and each technique has its advantages and drawbacks. DUS and MRA avoid the need for iodinated contrast, which can be problematic in patients with diabetes and a high prevalence of diabetic nephropathy. CTA is faster and more comfortable for patients than MRA, although image interference from calcified arteries can make interpretation difficult. Digital subtraction angiography remains the gold standard imaging modality for evaluating the distribution of PAD when revascularisation is planned and has the advantage of allowing simultaneous endovascular intervention. Its main drawback is the risk of contrast-induced nephropathy.

The decision to revascularise the ulcerated foot is complex. Multiple factors influence wound healing in diabetics and only those patients with a perfusion deficit will derive any benefit from revascularisation. Patients with mild PAD and adequate perfusion measurements (ABI ≥ 0.6, TcPO2 >50mmHg) should be initially managed with optimal wound care and a 6-week period of observation. In large ulcers and in those with infection, the expected outcome of conservative treatment is poor and earlier vascular intervention may be required. In cases where PAD is contributing towards impaired wound healing then all ambulatory patients should be considered for revas-

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cularisation, with the exception of the severely frail (life expectancy <6 months), the functionally impaired, those with an unsalvageable foot or those where the ulcer is not impairing quality of life.

**ULCER/ WOUND MANAGEMENT**

There are several simple yet important principles of wound bed management, which should be adhered to in DFU. Regular inspection, cleaning with saline, removal of surface debris with sharp debridement and protection of regenerating tissue are paramount. Controlling exudate to maintain a moist environment can be achieved with a simple, inert dressing in most cases. The evidence to support the use of a particular dressing or topical therapy for the ulcer bed is thin. Providing a comprehensive environment to improve healing with debridement, offloading and antibiotics in the presence of infection is superior to the use of a novel, and often expensive, dressing.

**Offloading**

Biomechanical factors play an important role in the aetiology of DFU and the cornerstone of early management in neuropathic plantar ulcers is offloading pressure with appropriate footwear, removable devices or total contact casts (TCCs). The efficacy of prescribed footwear and removable devices is dependent on patient compliance and, probably for this reason, the TCC has demonstrated superior results in randomised trials, and is recommended by the IWGDF as first-choice treatment. A perception of increased risk of falls with TCCs appears to be unfounded.

Despite all this, only 18% of approximately 600 patients with a plantar foot ulcer in the Eurodiale study were treated with TCCs. Callus formation contributes to abnormal loading and failure to heal, and debridement should be routinely provided by trained podiatrists. Debridement is beneficial for reducing plantar pressures, although this has yet to be confirmed in randomised trials.

**Dressings/ Topical therapies**

Despite their widespread use, the quality of published reports supporting the application of topical therapies in DFU is poor. The IWGDF and a Cochrane review identified no good quality randomised controlled trials (RCTs) reporting healing outcomes from which to produce clinical guidelines. Bioengineered skin grafts have demonstrated favorable results in a prospective RCT involving more than 300 patients receiving a dermal fibroblast culture. A greater proportion of patients receiving the bioengineered skin achieved complete healing at 12 weeks (30% vs 18%), however the healing rates in the control group were lower than expected.

Although negative pressure wound therapy (NPWT) has been extensively adopted in the treatment of chronic wounds, much of the supporting evidence is based on industry-funded trials. More than half of studies have not been reported and unpublished data are largely inaccessible. One well-designed, industry supported RCT of 342 patients with an ulcer >2cm² reported promising outcomes. NPWT was associated with reduced time to wound closure, increased incidence of healing by 16 weeks and reduced incidence of minor amputation. Further study is, however, needed to justify the use of NPWT in routine clinical practice. A marked benefit in terms of healing is unlikely given most wounds take months to heal and NPWT is only applied for a short period of time. Hyperbaric oxygen therapy (HBO) has also been used with limited supporting evidence. Two double-blinded RCTs have provided stronger justification for HBO in selected patients although issues of cost-effectiveness, patient selection and timing of treatment remain. The larger of the RCTs involved patients with either no evidence of PAD or unreconstructable disease and demonstrated significantly improved ulcer healing at 12 months in the intervention group: 25/48 (52%) versus 12/42 (27%); p=0.03.
Infection of a foot ulcer represents a major threat to limb and life and must be recognised and treated promptly. The diagnosis of diabetic foot infection is based on clinical findings; superficial wound cultures are not useful and should not be treated, as bacterial colonisation appears to be ubiquitous in DFU. Infection may spread to involve underlying bone in a broad spectrum of cases (osteomyelitis), which is associated with a worse outcome. Bone biopsy for histopathology and culture remains the “gold standard” for diagnosing osteomyelitis, however, this procedure is not routinely performed in clinical practice. Results from both histopathology and culture may be misleading where appropriate expertise is not available.

The IWGDF has produced guidelines for the diagnosis and treatment of diabetic foot infections based on the severity of infection. Ulcers with superficial infection should be treated with debridement and oral antibiotics aimed at Staphylococcus aureus and streptococci. Targeted therapy against gram +ve cocci has been shown to be equally effective as broader spectrum regimens, even in the presence of osteomyelitis, which will respond to antibiotics in most cases. Deep infection, characterised by purulent discharge or fullness in the plantar space necessitates urgent debridement of necrotic tissue including infected bone, and revascularisation if indicated. Intravenous broad-spectrum antibiotics should target Gram-positive and negative microorganisms, including anaerobes. Signs of life and limb threatening infection include bullae, ecchymoses, soft tissue crepitus and rapid spread of infection.

In the Eurodiale cohort, investigators observed a markedly negative impact of infection on ulcer healing that was confined to patients with PAD. These findings emphasise the need for studies evaluating the effects of early revascularisation on control of infection and different antibiotic regimens in PAD.

Modifying cardiovascular risk
DM is recognised as a key risk factor for the development of cardiovascular disease (CVD) and mortality from CV causes is 2-fold higher compared with individuals without DM. A recent meta-analysis suggests that a history of DFU may increase this risk still further, reporting excess all-cause mortality compared to patients with diabetes but without a history of DFU. A report by Young et al suggests this excess risk in DFU can be attenuated by intensive CVD risk modification. In a foot clinic population, five year mortality fell from 48% to 27% following introduction of a protocol incorporating CV risk screening and administration of an antiplatelet agent, statin and antihypertensive where indicated.

VASCULAR INTERVENTION
The importance of a multidisciplinary decision involving clinicians offering expertise in revascularisation cannot be underestimated. Revascularisation in patients with diabetes can be technically difficult by virtue of the distal distribution of disease, impaired collateral formation and vessel calcification. Data pooled by the IWGDF from 19 studies of patients with DFU and PAD showed a median limb salvage rate of 85% at one year. Half of patients with DFU and PAD can expect to be alive at five years and mortality rises to 50% in two years following a major amputation. Patients with co-existing chronic kidney disease (CKD) fare worse and the severity of CKD has been shown to correspond with poor outcomes and mortality following revascularisation. There are no scoring systems which reliably predict outcome in patients with DFU and PAD undergoing revascularisation procedures.
There are no randomised trial data comparing surgical bypass and endovascular techniques in selected patients with diabetes, however, in patients with diabetes and an ischaemic foot ulcer, these techniques appear to offer equivalent outcomes where revascularisation is successful. Endovascular techniques performed under local anaesthesia are lower-risk than bypass surgery, cost considerably less and are an appropriate initial approach to restoring perfusion. Surgical bypass has the advantage of increased durability when autologous vein is used but patients with multiple comorbidities and a short life expectancy (6-12 months) are unlikely to realise this benefit.

**PREVENTION**

Foot examination focusing on the presence of peripheral neuropathy, PAD and abnormal foot anatomy can predict risk of developing a diabetic foot ulcer. In the UK, screening for foot disease in diabetes is undertaken by primary care physicians who stratify patients with diabetes according to their risk of ulceration. Evidence to support the effectiveness of such screening programmes and complex interventions (education, podiatry, orthoses) in reducing both the risk of foot ulceration and mortality is still lacking.

**CLASSIFICATION AND OUTCOMES (REPORTING)**

Interpreting studies evaluating healing in DFU is made difficult by poor classification of PAD and ulcer characteristics. The Wagner classification should be avoided and more recent systems used (The University of Texas Wound classification system or the Size (Area and Depth), Sepsis, Arteriopathy, and Denervation score). A universal classification system of diabetic foot ulcers would enable consistent reporting among studies to guide the development of novel therapies. To this end, the European Wound Management Association (EWMA) has produced a set of recommendations for standardised reporting of outcomes in studies of wound management, which would enhance the external validity of research in this field and allow fair comparison between centres. Trial outcomes in DFU should include ulcer healing, which has been shown to be of particular importance to patients with diabetes. Patients with active ulceration report poorer health-related quality of life than those who have undergone successful minor lower extremity amputation. The balance of risk and benefit for interventions in diabetic foot disease is probably best assessed through a combination of endpoints including mortality, amputation, healing and re-ulceration.

**CONCLUSIONS**

Studies evaluating the effectiveness of therapies in DFU are of mostly poor methodological quality in part because of the complexity of disease and inherent problems with study design. The Eurodiale study has highlighted gaps between current clinical practice and the best available evidence for treatment. To achieve improved outcomes with respect to healing, amputation and mortality, treatment in primary care and hospital settings should aim to adhere to the available guidelines. Particular emphasis should be placed on early recognition of DFU and rapid assessment by a specialized limb salvage team.
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Mechanical pressures on the foot during walking are elevated in patients who have diabetes and who are complicated with neuropathy and foot deformity. These elevated pressures are an important risk factor for the development of diabetic foot ulcers.\textsuperscript{1,2} For this reason, the reduction of pressure, or “offloading”, has become an important component in the prevention and treatment of foot ulcers in this patient group.

To offload the diabetic foot, different techniques have been developed and used over the last 30 years. The conservative treatment modalities include casting, such as the total contact cast (TCC) and cast shoe, prefabricated below-the-knee removable walkers, different types of footwear such as forefoot offloading shoes, therapeutic footwear, and athletic footwear, and felted-foam dressings.

The TCC and removable walkers have by far the best offloading capacity of all modalities, with peak foot pressures that can be reduced up to an average 80% compared to a control shoe condition.\textsuperscript{3} This is most likely an important component in the efficacy of these devices to heal plantar foot ulcers.\textsuperscript{4-6} Other treatment options, such as footwear, reduce peak pressure to a much smaller degree, between 20% and 50% compared to control, and therefore show a lower efficacy in healing plantar diabetic foot ulcers.\textsuperscript{4,7}

In 2007, the International Working Group on the Diabetic Foot developed and published evidence-based guidelines on the use of offloading for ulcer prevention and healing.\textsuperscript{8} The evidence to support the use of offloading for healing foot ulcers is clear.\textsuperscript{9} The TCC is the preferred treatment, and if not available removable walkers should be used.

---

**Figure 1.**
Plantar pressure distribution diagrams shown for a diabetic patient with severe limited joint mobility in the hallux.
Right is the pressure distribution shown with wearing a total contact cast (TCC), left with wearing therapeutic footwear. Notice the large pressure reduction achieved in the TCC (no warm colors visible). Below shows the healing of a neuropathic foot ulcer in 10 weeks time with the TCC.
to heal the ulcer. Preferably, these removable devices are made irremovable, simply by wrapping co-band or a tie-rap around the device, to force continuous use of the device which promotes ulcer healing.\(^6\,^{10}\) Only when below the knee devices are contra-indicated, should cast shoes or forefoot offloading shoes be recommended to offload the foot. The evidence is also clear in that conventional or standard therapeutic footwear should not be used for offloading foot ulcers, and no evidence exists to support the use of (temporary) custom-made footwear for ulcer healing. More studies are needed to better define the role of surgical offloading interventions.

The evidence is, however, in large contrast to what is used for offloading diabetic foot ulcers in clinical practice. Studies from the US and Europe show that the most effective devices are used the least. In the US, the TCC is the preferred treatment in only 2% of centres and the most common modality used is to modify the footwear of the patient (47%).\(^11\) In Europe, specialized centres vary greatly in the use of casting techniques to offload the ulcer.\(^12\) Some centres, like in Germany, do not use casting at all, whereas others treat more than 60% of their ulcers with a TCC or cast shoe. Fortunately, in Germany reimbursement policies have recently changed with the result that reimbursement is now provided for TCC treatment, which will probably boost the use of the TCC for offloading the diabetic foot. Again, (temporary) footwear was the most commonly used modality.

This gap between evidence and practice has to be bridged. Cavanagh and Bus have recently suggested ways to do this.\(^3\,^{13}\,^{14}\) It starts with the adoption of the above international guidelines by national professional societies. These societies play an important role in promoting widespread implementation of these guidelines in clinical practice. Furthermore, expectation on time to healing should be changed with those responsible for ulcer treatment. Time to healing does not seem an explicit target in ulcer treatment. Neuropathic plantar foot ulcers can heal in 6-8 weeks time, and this should be the reference for treatment of any such ulcer. Additionally, the burden of financial responsibility should be changed for neuropathic ulcers that do not heal within 12 weeks time to a ‘no cure no pay’ reimbursement system. And requirements for demonstrated efficacy of offloading should be introduced. If such a policy requires specialized referral centres where trained personnel, skills, and equipment are available, then these should be established. Finally, the use of any device for which no evidence exists should be discouraged, since many effective treatments already exist. One of the main reasons that many different modalities are used in clinical practice to offload the ulcer is simply because they are available and have been developed and marketed specifically for the diabetic foot, without any evidence to support their use in clinical practice. Because poor offloading is poor treatment, this practice should be changed.

The evidence-base to support interventions to prevent foot ulcers is still not large.\(^9\) Regular calls removal has become common practice and patients should be urged not to walk barefoot. But the widespread prescription of therapeutic footwear is not yet supported by a large amount of evidence, despite that clinical opinion favours the use of this type of footwear above any other kind of treatment.
Recent data suggests that a structured approach to custom footwear prescription based on previous prescription algorithms can certainly reduce the risk for foot ulceration in diabetes, but more well-designed prospective trials are urgently needed to draw stronger conclusions on this aspect. Prophylactic surgery of the foot may be another option, but no definitive statement can be made about the efficacy and safety of these procedures.

In summary, offloading plays an important role in healing and preventing foot ulcers in patients with diabetes. Clinical decision making in treating plantar diabetic foot ulcers should be determined more by the widely available and convincing evidence, than by personal beliefs, patient’s preferences, and by the simple fact that other options are available. Additionally, a larger focus should be on the role of offloading in preventing foot ulcers in diabetes with the goal to establish a larger evidence-base for making treatment choices in this area of foot care.

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References

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Soft-tissue complications during treatment of children with congenital clubfoot

ABSTRACT

Background: Serial casting in children with congenital clubfoot is a standard management protocol. The Ponseti method has become popular during the last decade. This method consists of serial casting, percutaneous Achilles tenotomy and wearing of the abduction splint.

Aim: The aim of the study was to assess the risk of soft-tissue damage during early treatment of children with congenital clubfoot in order to avoid possible complications.

Method: In a consequential series of 180 children with congenital clubfoot (248 feet) we assessed the number of soft-tissue complications. Correlation of the incidence of complication with age of the child, severity of initial deformity, and details of treatment protocol were assessed.

Results: Soft tissue lesions were observed in 49 feet (19.7%). A young age at the beginning of treatment did not enhance the risk of a lesion to occur. Severity of the initial deformity was observed to be the most important prerequisite for the occurrence of soft-tissue lesions. In children, treated with the Ignacio Ponseti method we detected fewer complications in terms of soft-tissue lesions.

Conclusion: Soft tissue damage during Ponseti casting is associated with poor clinical treatment result and may have a predictive value for poor treatment outcome.

INTRODUCTION

Congenital clubfoot is one of the most common congenital orthopaedic disorders. The incidence of clubfoot in a total population is 1-2 per 1000 newborns\(^1\). Serial casting in children with congenital clubfoot is a standard treatment for the management of this severe orthopaedic disorder\(^1\). During the last decade non-surgical management of children with congenital clubfoot became more popular because of a well introduced method, pioneered by Ignacio Ponseti\(^2,3,4\). This method consists of serial casting performed on special biomechanically and anatomically based principles, percutaneous tenotomy of the Achilles tendon, followed by long-lasting wear time of a special abduction splint (braces). Popularity of the Ponseti casting method brings to light some problems, not related to the main orthopaedic condition, but interfering with the course of treatment. Casting starts usually immediately after birth of the child. Depending on the specific skin and soft tissue condition of the newborns, clinicians face numerous problems. Pressure on the skin over bony prominences under casting is inevitable. In the cases of severe deformity the duration of casting and stiffness of the foot are possible sources of a higher risk of soft tissue damage. Therefore surgical management may be the method of choice in some of the complicated cases.

AIM OF THE STUDY

To assess the risk of soft-tissue damage during early treatment of children with congenital clubfoot when using the Ponseti casting method in order to avoid possible complications, and improve treatment outcomes.

MATERIAL AND METHODS

In a consequential series of 180 children with congenital clubfoot (N=248 feet) we assessed the number of soft-tissue complications. The age at the beginning of treatment was from 7 days to 1 year. The duration of management was from 3 to 12 weeks.

We determined the groups depending on severity of the damage (Fig. 1-3):
1. Superficial damage:
   – Skin irritation
   – Maceration
2. Deep damage
   – Acute (pressure ulcer)
   – Chronic (persistent pressure ulcer)

Correlation of the incidence of complications with the age of the child, severity of the initial deformity, and details of the treatment protocol were assessed.

RESULTS

Soft tissue lesions were observed in 49 feet (19.7%). In cases of bilateral clubfoot, the incidence of bilateral soft tissue lesions was 72%. Superficial lesions occurred in 37 cases (75%), deep lesions were observed in 12 cases (25%). We could not find the incidence of soft-tissue damage to be correlated to the age of the child (Table 1). Deep lesions were more common in children older than six months of age. The incidence and severity of soft-tissue damage during early treatment of children with congenital clubfoot showed a positive correlation with severity of the initial deformity (Table 2).

The severity of the initial deformity was assessed with the Pirani scale, widely used for assessment of clubfoot. This scale is based on clinical evaluation and has a good reproducibility and reliability. As shown in Table 2, the incidence of soft tissue lesions was significantly higher in children with severe clubfoot. Deep lesions were also more often observed in children with severe clubfoot.

We divided the main causes of soft tissue lesions in children treated for clubfoot in three groups:

1. Caused by specific features of the method: lesions are in the areas of definitive pressure during the casting (lateral aspect of the talus head, posterior aspect of lateral malleolus). These lesions may be caused also by forced casting. They occurred in n=15 cases.

| Table 1: Soft tissue damage occurrence and the age of the child |
|-------------------|----------------|----------------|----------------|
| Age               | Superficial lesions | Deep lesions | Total          |
| 0-3 months        | 14 (17%)           | 3 (4%)        | 17 (21%)       |
| 3-6 months        | 10 (13.5%)         | 4 (5.5%)      | 14 (19%)       |
| 6-9 months        | 8 (18.5%)          | 2 (4.5%)      | 10 (23%)       |
| 9-12 months       | 5 (16.5%)          | 3 (10%)       | 8 (26.5%)      |

| Table 2: Incidence and severity of soft-tissue damage in children with different severity of the initial deformity |
|---------------------------------------------------------------|----------------|----------------|----------------|
| Initial Pirani score  | Superficial lesions | Deep lesions | Total          |
| > 4 points           | 19 (51%)          | 8 (66.5%)     | 27 (55%)       |
| 2-4 points           | 12 (32.5%)        | 4 (33.5%)     | 16 (32.5%)     |
| <2 points            | 6 (16.5%) *       | 0             | 6 (12.5%) *    |

* - P<0.05
2. Caused by improper casting: lesions are not in the areas of definitive pressure during casting (dorsal part of the foot, calcaneal area, medial malleolus). This type of lesions occurred in n=14 cases.

3. Caused by defects of daily care. Damage to the cast, softening, contamination of the cast can lead to skin problems. Improper positioning of the baby (with the legs in cast hanging down) can increase pressure, maceration and swelling. Lesions are not on the foot, mostly in the areas of the margins of the cast (groin, posterior aspect of the thigh, toes). These lesions occurred in n=20 cases.

In order to evaluate whether it is an effective way to diminish the incidence of the soft tissue lesions during the course of clubfoot casting, we assessed the annual incidence of the lesions during the 3-years study period (Fig. 4). This “learning curve” demonstrated a marked decrease of the incidence of soft tissue lesions from year to year, mostly expressed by the lower rate of the second group – caused by improper casting.

We also hypothesized that acquired soft tissue lesions can alter the protocol of treatment and influence the results. We evaluated course and final results of treatment by weekly Pirani score assessment in our studied group compared with the control group consisting of the rest of patients without soft tissue lesions. The data presented in Fig. 5 demonstrated a delayed rate of correction in the group of children with skin damage compared to the control group. The treatment result was better in the control group. It is difficult to associate this difference with the direct influence of skin problems on the rate and results of clubfoot correction.

It is necessary to take into account, that soft tissue damage is also associated with severity of initial deformity as was shown earlier. These data demonstrated that soft tissue damage during Ponseti casting is associated with a poor clinical treatment result and may have a predictive value for poor outcome.

Limitations of the study include limited number of patients and descriptive clinical assessment. Further study with a more systematic and quantitative approach to measurement of soft tissue damage will give more precise data.

Clinical efficiency of the Ponseti method compared to “traditional” casting was demonstrated in numerous studies. We also compared results of the Ponseti method and “traditional” casting in terms of skin complications. Total incidence of soft tissue lesions was markedly higher in the “traditional” group, but deep complications had relatively similar occurrence.

CONCLUSION
Soft-tissue damage during early treatment of children with congenital clubfoot is a common complication. Young age at the beginning of treatment does not enhance the risk of tissue damage occurrence. Severity of the initial deformity is estimated as the most important prerequisite for the occurrence of soft-tissue lesions. In children treated with the Ignacio Ponseti method we observed fewer complications in terms of soft-tissue lesions. Soft tissue damage during Ponseti casting is associated with poor treatment result and may have a predictive value for poor outcome. Effective casting in accordance with the Ponseti principles and the use of quality casting materials helps to prevent severe complications.
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Improving patient care and controlling costs are universal goals of healthcare clinicians and administrators around the world. Significant time, resources and energy are devoted to preventing adverse events, reducing infection rates and selecting products based on clinical evidence. A plethora of medical devices have been introduced to improve patient care and its related costs, however a relatively simple and commonly used medical device is often overlooked: the use of more patient-friendly and less expensive skin adhesive for medical tapes.

**NATURAL RUBBER LATEX TAPES: THE FIRST MEDICAL ADHESIVES**

The earliest medical skin adhesives were made of natural rubber latex, a substance derived from a milky, viscous sap harvested from rubber trees and then refined into a soft adhesive polymer. Natural rubber latex delivers high adhesion in both wet and dry conditions; it forms a very tight bond by seeping into crevices of the skin and anchoring itself in the epidermal layer. In addition to its use on patients, the same natural rubber latex tapes are used in many healthcare facilities to label laboratory bottles, seal boxes etc.

Natural rubber latex adhesives are sold in multiple forms and referred to by many names, including rubber adhesive tapes (RAT tapes), cloth tapes, or cloth adhesive tapes (CAT tapes). They may also be known as zinc oxide tapes if they contain that additive. For purposes of this discussion, all medical tapes containing natural rubber adhesives or natural rubber latex are referred to as natural rubber latex tapes.

Although natural rubber latex tapes met the needs of the medical community for many years and even today remain the standard medical adhesive tape in many countries, they are now considered far from ideal. They are well known to cause skin injuries and allergic reactions\(^1\)\(^-\)\(^3\) that can affect both patients and healthcare workers; in fact, these irritations and sensitizations can be so common that many of them go unrecorded.

**TRAUMATIC SKIN INJURIES DUE TO MEDICAL TAPES**

Skin reactions to tapes can be classified into two groups: traumatic skin injuries and allergic reactions\(^1\)\(^-\)\(^3\). Traumatic skin injuries can occur in response to mechanical factors, such as friction, skin stripping, maceration, chemical irritation or tension of the skin. The resulting dermatitis usually causes a burning sensation of relatively short duration and is localized at the site of tape contact.\(^2\) These conditions can be extremely painful for patients, especially those with fragile and at-risk skin, such as infants, children and the elderly – the most vulnerable patient populations.

**Skin stripping**

This partial thickness injury occurs when the bond between the tape and the skin is stronger than the bond between the skin’s epidermal and dermal layers. Consequently, when the tape is removed, the epidermis remains attached to the tape, resulting in epidermal damage or a painful area of exposed dermis (see Figure 1). This is a special concern when a highly aggressive adhesive such as natural rubber latex tape is removed from fragile skin.

![Figure 1. Skin stripping injury](image-url)
Tension injuries
When tapes are stretched before placement on the skin, the skin below the tape can become distended. As the tape resists stretching or regains its original shape, the skin’s epidermis begins to lift. This causes tension blisters (typically at the ends of the tape) or skin tears on joints, as shown in Figure 2. This is a particular concern for tapes that have a sturdy, unyielding cloth backing and aggressive adhesive.

Polatsch et al.\textsuperscript{14} retrospectively reviewed a series of hundred and three patients with hip fractures to determine the incidence of tape blister. The authors reported that 21.4\% of the patients had developed blisters due to medical tapes however, they found no statistical significances of patient age, sex, number of medical co morbidities, nutritional status and type of surgery associated with risk for developing tape blisters.

Chemical Irritation
Irritation or non-allergic contact dermatitis can result when chemical irritants, such as skin preps are trapped between the tape and the skin. Skin preps are products applied to the skin, to increase adhesion of the tape to the skin.

As in Figure 3, the injured area may look reddened, swollen, blistered or weeping. The greater a tape’s occlusion factor, the more likely a patient will experience dermatitis. Many rubber tapes are highly occlusive and present a significant risk of skin irritation.

Maceration
When a layer of film or plastic is applied to skin, it disrupts the skin’s natural function, blocking pores and preventing the release of moisture. After a prolonged period of time, maceration can occur, leaving the skin looking white or gray as well as softened and wrinkled. Maceration can leave skin more permeable and susceptible to damage from friction and irritants. The risk of maceration is directly linked to the breathability of the medical tape; most natural rubber tapes have low breathability and present a high risk for maceration.

Skin reactions to excessive adhesive residue
Along with skin sensitization and irritation, a common complaint associated with the use of natural rubber latex tapes is excessive adhesive residue. Removal of this residue may require strong adhesive cleansers or vigorous scrubbing, which can further irritate or sensitize injured skin and make subsequent procedures, such as further taping or catheter insertion, more difficult and painful for the patient.

ALLERGIC REACTIONS TO NATURAL RUBBER LATEX
Allergic reactions to adhesive tapes are generally due to rubber that has been incorporated with the adhesive.\textsuperscript{2,3} Accelerators used in the manufacture of finished rubber products and antioxidants for rubber preservation have been identified as likely sensitizers.\textsuperscript{2} Figure 4 shows an example of allergic contact dermatitis. Unlike the burning sensation of a traumatic skin injury, allergic reactions can cause severe itching. These reactions, which can become even worse after the tape is removed, often spread beyond the area of tape contact.\textsuperscript{2} Severe reactions may even include sudden onset of anaphylactic shock, which can be life-threatening.\textsuperscript{4}
Allergic sensitivity to rubber (latex) is an increasing problem, particularly among patients who have been hospitalized multiple times, as well as among healthcare providers. The U.S. Centers for Disease Control and Prevention (CDC) estimates that one in ten people are sensitive to latex, while the U.S. Occupational Safety and Health Administration (OSHA) estimates that eight to twelve percent of healthcare workers have latex sensitivity. Once a person becomes sensitized to latex, he or she is unable to safely use products containing latex.

HUMAN SKIN IS NOT LIKE RED WINE
(IT DOESN’T GET BETTER WHEN MATURED…)

For more than half a century patients have been treated with a plethora of medical tapes. Yet, as a surface on which to use medical adhesives, the skin poses many challenges (e.g. desquamation, oily substances, hair etc...).

The physiological functions of the skin include protection against mechanical and chemical irritation. However, application of medical adhesive tapes used in hospitals occasionally causes skin injuries because of the adhesive agent and the mechanical stimulation that occurs during removal of the tape. In particular, as the skin of older individuals shows physiological deterioration because of aging, older people are more susceptible to skin injuries caused by tape application. (Konya, 2010)

Aging skin undergoes progressive degenerative change. Structural and physiologic changes that occur as a natural consequence of intrinsic aging combined with the effects of a lifetime of ongoing cumulative extrinsic damage and environment insult (e.g. overexposure to solar radiation) can produce a marked susceptibility to dermatologic disorders in the elderly. As skin ages, the vasculature progressively atrophies. The supporting dermis also deteriorates, with collagen and elastin fibers becoming sparse and increasingly disordered. These changes leave the elderly increasingly susceptible to both vascular disorders such as stasis dermatitis and skin injuries such as pressure ulcers and skin tears, with a steadily decreasing ability to effect skin repair (Farage, 2009).

Interestingly another study of Konya et al (Konya, 2010) investigated the status of skin injuries in older people (mean age 82 - 83 years) and reported a cumulative incidence rate of 15.5%. However the authors acknowledge that while skin functions are considered to decline in association with aging, diabetes mellitus and renal diseases, no significant differences were observed in the relationship between the presence or absence of skin injuries and these diseases in older patients aged 65 or older. This is probably attributable to the large individual differences in physical factors among older people, which are influenced by lifelong personal habits.

With an increasing elderly population it is inevitable that preserving skin integrity becomes a challenge of health care professionals and the economic consequences that go together with it.

SWITCHING TO SAFER MEDICAL TAPES

Healthcare facilities have the opportunity to address these concerns by switching from natural rubber latex tapes, which are known to cause skin injuries, to a newer class of medical tapes, called acrylate adhesive tapes.

Medical tapes using acrylate adhesives were developed specifically to address the concerns of skin injury and pain caused by natural rubber latex tapes. Acrylate medical adhesive tapes were first introduced in the 1960s by 3M Company (St. Paul, MN, U.S.). While natural rubber latex is a harvested substance, acrylates are manufactured. This allows for greater control in material selection and processing. Materials used to produce acrylate adhesives are designed for use on humans and are selected to provide an optimized mix of performance characteristics. Acrylates can be manufactured with a better balance between hard and soft polymers, which results in strong bonding to the skin but does not reach the deep layers of skin cells. Equally important, acrylate types do not incorporate the sensitizing accelerators or antioxidants that have proven so problematic for many patients – thus reducing the risk of allergic dermatitis.

CLINICAL ADVANTAGES OF ACRYLATE TAPES

An extensive portfolio of acrylate medical tapes has been developed and introduced globally, thanks to advancements in both adhesive and backing material technologies. These products address a wide range of clinical needs, from treating the most sensitive skin to offering the highest degree of securement. In use for over 50 years, the acrylate class of adhesives has demonstrated reliable adhesion and performance, and has been adopted for use as the standard securement solution for the healthcare industry.

Acrylate adhesive tapes offer higher breathability and greater stretch, and are less irritating to the skin than natural rubber latex tapes. As a result, patients experience less itching and discomfort and find acrylate tapes to be more comfortable during wear. The highest quality acrylate tapes are hypoallergenic. In addition, latex-free acrylate tapes are safer for both patients and healthcare workers.
Since its introduction, this class of adhesives has undergone multiple innovations, resulting in a wide range of tape offerings including paper, silk and soft cloth backings. These provide clinicians with an extensive range of options to best meet the specific needs of their patient populations.

**NEWER TECHNOLOGY AT LOWER COST**

With all the advantages acrylate tapes offer compared to natural rubber latex tapes, one might expect acrylate tapes to cost more. However, a survey of tape prices revealed that natural rubber latex tapes are some of the highest priced tapes on the market. Table 1 shows a comparison of minimum prices for cloth (rubber) tape and paper (acrylate) tape in four countries. No rubber tape was priced lower than the most frequently used paper tape.

<table>
<thead>
<tr>
<th>Country</th>
<th>Rubber Tape Price</th>
<th>Acrylate Tape Price</th>
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<tbody>
<tr>
<td>Country 1</td>
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<td>Country 2</td>
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No rubber tape was priced lower than the most frequently used paper tape in multiple instances, acrylate tapes cost significantly less. Price increases for natural rubber tapes have largely been driven by the global shortage of natural rubber and by volatility in rubber commodity markets. Prices for natural rubber have increased 300% since 2004. Demand shows no sign of lessening, and these shortages and price increases are expected to continue which will undoubtedly affect countless rubber-based products, including natural rubber latex tapes.

Acrylate adhesives offer financial advantages that go beyond procurement costs. By replacing natural rubber latex tapes with acrylate tapes, facilities may see reductions in the usage of materials such as adhesive removers and skin barriers. In addition, decreasing the incidence of skin injuries can save costs associated with treatment, such as antibiotics and nursing time.

**An opportunity to improve skin safety while reducing costs**

Healthcare facilities and providers worldwide constantly seek to improve patient safety and care; this is, after all, the fundamental charge of the healthcare profession. Although economic realities dictate that costs of providing care be carefully managed, there is at least one measure that can be taken to increase the quality of care while lowering costs: specifically, switching from rubber medical tapes to acrylate medical tapes. By doing so, healthcare facilities can decrease the incidence of traumatic skin injuries, as well as reduce the risk of allergic reactions in patients and healthcare workers. Adapting proven, newer adhesive technologies is a simple and cost-effective means to advance patient safety goals while improving the patient experience.

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Table 1. A comparison of minimum prices for rubber and acrylate tapes in nine countries. No rubber tape was priced lower than the most common paper tape.

References

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Bacteria and fungus binding mesh in negative pressure wound therapy

A review of the biological effects in the wound bed

ABSTRACT
In recent years, intensive research has been conducted to investigate the biological effects of negative-pressure wound therapy (NPWT) on the wound bed and to find ways to optimize the use of this technology. The mechanisms by which NPWT may lead to accelerated wound healing include the creation of a moist environment, drainage of exudate, reduction of tissue oedema, contraction of the wound edges, mechanical stimulation of the wound bed, blood flow changes in the wound edges, stimulation of angiogenesis and formation of granulation tissue. The choice of wound filler partly determines the effects of NPWT on the wound bed. Foam and gauze are the most frequently used wound fillers for NPWT. Bacteria and fungus binding mesh (Sorbact®) constitutes an interesting new alternative wound filler. In light of the lack of a randomized, controlled trial, this review provides some insight on some of the latest preclinical findings regarding the choice of wound filler to optimize NPWT for the individual wound.

INTRODUCTION
Negative pressure wound therapy (NPWT) is increasingly used to treat hard-to-heal wounds and has been shown to improve healing outcomes in many wound types, including orthopedic trauma, soft tissue trauma, skin grafts, flaps, pressure ulcers, venous leg ulcers, vascular surgery wounds, diabetic foot ulcers, burns, wound dehiscence, in abdominal and thoracic surgery and surgical infections.

Initially, the wound is filled with a wound filler (commonly foam or gauze) to allow pressure to be transmitted and evenly distributed to the bottom of the wound. The wound is then sealed with an adhesive drape and a drain is connected to a vacuum pump that applies the negative pressure. Wound fluid is withdrawn by the negative pressure and collected in a canister. NPWT accelerates wound healing by initiating a cascade of interrelated biological reactions that ultimately lead to wound healing. NPWT has been found to create a moist wound healing environment, drain exudate, reduce tissue edema, contract wound edges, mechanically stimulate the wound bed, alter blood flow in the wound edges, and stimulate angiogenesis and the formation of granulation tissue. The biological effects of NPWT are represented in Figure 1.

THE NEGATIVE PRESSURE LEVEL
The most commonly used negative pressure level is -125 mm Hg. However, more recent studies have shown that the maximum biological effects on the wound edges, in terms of wound contraction, regional blood flow and the formation of granulation tissue, are obtained at -80 mmHg. A recent case report show that negative pressure levels lower than -125 mm Hg indeed result in excellent wound healing. When using NPWT to treat poorly perfused tissue (e.g., diabetic foot ulcers and thin skin transplants), ischemia may develop in the wound tissue and the patient can
experience pain during treatment. Thus, it may be advantageous to use a lower level of negative pressure in the treatment of sensitive, poorly perfused tissue. Negative 40 mmHg is the pressure level at which about half the maximum blood flow effect is achieved, and may be a suitable negative pressure level to try in these types of wounds. The use of negative pressures higher than -80 mmHg does not provide any additional effects on wound edge pressures higher than -80 mmHg does not improve at -125 mmHg, and this level of negative pressure could be used for the first few days to treat high-output wounds, after which the negative pressure may be lowered once the amount of exudate lessens.

THE WOUND FILLER

Foam and gauze are the most frequently used wound fillers in NPWT (Figure 2 and 3). Nearly all foam used for NPWT is made of polyurethane and has an open cell structure with a pore size of 400-600 μm. The gauze is a type of cotton gauze (AMD gauze). It is believed that the wound filler may determine the effects on wound healing. Bacteria and fungus binding mesh (Sorbact) may constitute an interesting alternative (Figure 2 and 3). The pathogen binding mesh is a woven acetate material that is coated with dialkyl carbamoyl chloride (DACC). Such mesh makes use of the hydrophobic interaction to remove pathogens. Bacteria and fungus binding mesh is known to adsorb and inactivate a wide range of bacteria, e.g., Staphylococcus aureus and Pseudomonas aeruginosa, as well as fungi, and has been shown to reduce the microbial load without the development of resistance among microorganisms.

The biological effects on the wound edge by NPWT, using bacteria and fungus binding mesh as compared to conventional wound fillers (foam and gauze), is being reviewed and summarized in this article.

PRESSURE TRANSDUCTION AND WOUND FLUID DRAINAGE

The function of the wound filler is to transmit the negative pressure from the vacuum pump and tubing to the wound bed. It has been shown that the negative pressure is equally well transmitted through bacteria and fungus binding mesh (Sorbact), foam and gauze.

The negative pressure affects only the tissue in direct contact with the wound filler and does not extend to deeper structures. It is therefore important to place the wound filler in all areas of the wound where the effect of the negative pressure is desired. When draining fluid from a deep wound pocket the entire pocket needs to be filled with the dressing. In these circumstances, it may be easier to use pathogen binding mesh or gauze, than foam, because of the moldability and ease of application to irregular wounds. Another advantage with using bacteria and fungus binding mesh or gauze is that granulation tissue does not grow into these materials and there is less risk of the wound filler getting stuck in the wound.

References

The suction force generated by the negative pressure leads to active drainage of exudate from the wound. Wound fluid is known to be efficiently removed by foam and pathogen binding mesh while more fluid is retained in gauze. The reason for this may be that both foam and the pathogen binding mesh are hydrophobic allowing the fluid to pass through the material. The wound fluid removal is advantageous as it reduces cytokines and other compounds that are inhibitory to wound healing, such as proteolytic enzymes and metalloproteinases.

NPWT instillation technique is now beginning to be used more frequently. By automatically delivering topical solutions to the wound site, the NPWT instillation technique combines the proven benefits of NPWT with the advantages of instillation therapy.

MECHANICAL EFFECTS
One of the fundamental effects of NPWT is believed to be the deformation of the wound edge tissue as the wound contracts (macrodeformation). It has been shown that the wound contraction is similar for pathogen binding mesh (Sorbact®) and gauze, while slightly greater for foam, as a result of its slightly more open and spongy texture.

The wound bed and wound filler also interact on a microscopic level (microdeformation). The wound bed is drawn into the pores of the foam or in-between the threads of the gauze and pathogen binding mesh. Histological examination of cross sections of the wound bed after NPWT using bacteria and fungus binding mesh, foam and gauze has shown that these materials all result in microdeformation of the wound bed.

These mechanical effects are thought to result in shearing forces at the wound–dressing interface, which affect the cytoskeleton, and initiate a signalling cascade that ultimately leads to granulation tissue formation and wound healing. The pulling together of the wound edges by negative pressure may be important for the entire wound-healing process, as early reduction in the size of the wound has been shown to be correlated with improved final wound healing.
BLOOD FLOW EFFECTS
The effects on blood flow resulting from NPWT are local and vary depending on the distance from the wound edge (see Figure 1) 20. Blood flow decreases close to the edge of the wound (within about 5 mm) and increases farther away from the wound edge (about 25 mm) 20, 21, 26. The increase in blood flow has been shown to be similar for bacteria and fungus binding mesh (Sorbact) 28, and foam and gauze, while the decrease in blood flow is more pronounced with foam than with the other materials 32.

This combination of increased and decreased blood flow is believed to be advantageous in the wound healing process. Increased blood flow may lead to improved oxygen and nutrient supply to the tissue, as well as improved penetration of antibiotics and removal of waste products. Blood flow reduction in the superficial tissue occurs in response to the negative pressure compressing the tissue surface 43, 44. The mechanism behind the increase in blood flow has not yet been identified, but it has been speculated that the negative pressure causes a force in the tissue that opens up the vascular bed, increasing flow.

There are both advantages and disadvantages of the hypoperfusion caused by NPWT. It is well-known that reduced blood flow stimulates angiogenesis and granulation tissue formation, which in turn facilitate the process of wound healing 12, 45. However, several clinical problems are associated with hypoperfusion. In tissues with already impaired circulation, the further decrease in blood flow may result in ischemia, and it has been suggested that NPWT should be applied with caution to tissues with compromised vascularity 19. Some advocate that NPWT is contraindicated if there is any doubt about the vascularity of the tissue 46, 47. The way in which NPWT is administered should therefore be based on the type of wound and its vascularity.

Two different strategies can be used to tailor NPWT to alter the degree of hypoperfusion generated in the wound edge: changing the negative pressure level, or the type of wound filler. Pathogen binding mesh and gauze caused less pronounced hypoperfusion than foam, which may be the result of the smaller degree of wound contraction than with foam. The use of foam may be beneficial in maximizing hypoperfusion thus stimulating angiogenesis, while bacteria and fungus binding mesh or gauze may be preferable when the vascularization of the tissue is in doubt, and there is a risk of ischaemia.

GRANULATION TISSUE FORMATION
Granulation tissue is the combination of small vessels and connective tissue that forms in the wound bed. It provides a matrix that allows epidermal cells to migrate over the bed of the wound. NPWT is known to accelerate the formation of granulation tissue compared to conventional therapy 13. The amount and character of the granulation tissue differ depending on the type of wound filler 17, 27, 41, 48. The granulation tissue formed under foam is thick but fragile, while that under gauze is thinner but denser 27, 48. The granulation tissue formed under bacteria and fungus binding mesh has properties between that of foam and gauze 41.

The wound filler for NPWT may thus be chosen to suit particular wounds 19. Thick granulation tissue is beneficial for fast wound healing, but may lead to problems such as fibrosis, scarring and contractures as the wound heals 48. Foam is thus suitable for wounds that benefit from thick granulation tissue and where scarring does not pose a problem, for example, in sternotomy wounds 50, or fasciotomy wounds in upper or lower limb compartment syndrome where contraction is beneficial 51, and in acute wounds with large tissue loss providing a bridging therapy 2. Gauze has become especially popular among plastic surgeons for wound-bed preparation before grafting 52, and is the filler of choice when the cosmetic result is more important than the speed of wound healing, or in cases where scar tissue may restrict movement, for example,
No such ingrowth can be seen in the foam is indicated by arrows. The ingrowth of tissue into the foam is indicated by arrows. No such ingrowth can be seen in the pathogen binding mesh or gauze.

Figure 4: Representative hematoxylin-eosin stained sections of biopsies from wound beds after 72 hours of NPWT using bacteria and fungus binding mesh (Sorbact®), foam or gauze. The ingrowth of tissue into the foam is indicated by arrows. No such ingrowth can be seen in the pathogen binding mesh or gauze.

INGROWTH
A number of complications are associated with tissue ingrowth into foam. Firstly, the patient may experience pain during dressing changes as the ingrown tissue is torn away from the wound, requiring the administration of strong analgesics. Secondly, wound-bed disruption and mechanical tissue damage may arise as the foam is removed from the wound bed during dressing changes. Thirdly, pieces of foam may become stuck in the wound bed and, if not removed, will act as foreign bodies that may impede wound healing. It is therefore common that a non-adherent wound contact layer is placed between the wound bed and the wound filler, when the clinician anticipates such complications. It is now known that the degree of ingrowth differs depending on the type of wound filler used for NPWT. Wound bed tissue grows into the foam, but not into pathogen binding mesh (Sorbact®) or gauze (Figure 4). This is probably due to differences in the physical properties of the dressings and the interaction between tissue and dressing at a microscopic level.

INDIVIDUAL OPTIMIZATION OF TREATMENT
Today, the negative pressure level, the wound filler material (foam or gauze) and the mode (continuous, intermittent, or variable) by which the pressure is applied can be tailored to the individual wound. Results of in vivo research carried out during the past few years on the mechanisms involved have shown how the healing process can be influenced by varying these parameters. Much of this research has been carried out on pigs, but interestingly, experienced clinicians have come to the same conclusions when it comes to treating patients. Knowledge of how to tailor the differ parameters of the NPWT to the individual wound is now beginning to be employed in patient care to minimize complications (such as ischemia and pain) and to optimize outcome.

CONCLUSIONS
Bacteria and fungus binding mesh (Sorbact®) is an interesting alternative wound filler in NPWT. It produces a significant amount of granulation tissue in the wound bed, more than with gauze, without the problems of ingrowth, as is the case with foam. Furthermore, bacteria and fungus binding mesh has the advantage of being easy to apply, like gauze, to irregular and deep pocket wounds. Efficient wound fluid removal in combination with its pathogen binding properties makes hydrophobic mesh an interesting alternative wound filler in NPWT.
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Conservative Sharp Wound Debridement
– State of play in Australia

ABSTRACT
Background: As part of a Masters in Wound Care I undertook a survey of nurses examining where they obtained their skills in debridement and schools of nursing to determine whether they were conducting formal theoretical and/or practical training in this subject.
Method: A convenience sample was drawn from registered nurses in Australia.
– Group 1 were those nurses considered advanced practice nurses, working towards Nurse Practitioner status or currently have the portfolio of Nurse Practitioner-Wound care
– Group 2 were those nurses employed within a community nursing service currently employed under the title of CNS or CNC wound care
A second questionnaire was sent to all Heads of School or Faculty of Nursing within Australia.
Results:
Community Nurse response rate - 70% (n=14). Nurse Practitioner response - 100% (n=12).
Heads of Schools of Nursing response rate - 66% (n=8).
The nurse clinicians surveyed do debride wounds and see this skill as being necessary. The Schools of Nursing results indicated that while most universities teach the theory of wound debridement, few teach the skill.
Conclusions: There is however a need to develop a specific module that can be taken as a stand alone subject for those wishing to learn and utilise debridement skills in their portfolios as NPs in wound care or CNC in wound management.

INTRODUCTION
The cleansing of wounds in order to remove non viable tissue and contaminants is considered an integral part of wound management. Wound care continues to be a major part of community nurses work. Some wound types are known to be associated with necrotic or senescent tissue - these wound types may include foot wounds in those suffering diabetes, pressure injuries and ulcers on lower legs.
Advances in the sciences have seen the development of many new wound care products and devices designed to promote wound healing. Despite these advances Flanagan believes there is a clinical practice knowledge deficit in optimising wound healing concepts.
Debridement is a process, described by a number of authors, necessary to aid the healing process of chronic wounds. Whilst the majority of authors agree that debridement is a necessary intervention they often neglect to provide a clear indication of the personnel that should carry out the activity, the level of education required and the context specific interventions required when performing this task.
The titles used to describe the clinician who should attend wound debridement include- skilled clinician, advanced practice nurse (APN), clinical nurse specialist (CNS), clinical nurse consultant (CNC) or Nurse Practitioner (NP).

AIMS & OBJECTIVES
The purpose of this research was twofold:
1. to identify if within Australia, Universities were training nurses in the theory and skill practice of conservative sharp wound debridement in either the undergraduate and/or postgraduate curriculum
2. to survey nurses who would be considered at the level required to perform conservative sharp wound debridement within their daily practice in order to ascertain their current practices.
LITERATURE REVIEW
A literature search was performed using the key words: skilled clinician, nurse specialist, tissue viability nurse, advanced nurse and Nurse Practitioner with wound debridement, wound cleansing, wound bed preparation and wound infection.

Relevance of debridement to wound healing
Although the field of wound management as a speciality is relatively young, there is considerable literature about wound debridement as a necessary intervention in order to expedite wound healing. Kirshen, Woo, Ayello, and Sibbald state the basis of good wound care is founded upon maintaining the wound free of necrotic tissue.

Sibbald et al have provided 13 recommendations for practice in preparing the wound bed. The recommendations included the need to debride healable wounds, remove necrotic and non viable tissue, as well as to assess the wound for bacterial balance and infection.

Bergstrom, Bennett and Carlson define Conservative Sharp Wound Debridement (CSWD) as the removal of necrotic tissue from a wound using sharp instruments. Carville states that CSWD is a term used by nurses to describe the removal of small pieces of necrotic tissue using sterile, sharp instruments during the dressing procedure so that over time, the wound bed becomes free of this potential source of bioburden.

TITLES AND SCOPE OF PRACTICE
Flanagan highlighted that new posts were emerging in the wound care field but there was discourse about roles and responsibilities. Understanding the title and role is important when assigning extra responsibilities, such as sharp wound debridement.

A CNS is an advanced practice nurse, with graduate preparation from a program that prepares CNSs; this may be formal or informal within a hospital setting. An NP is a registered nurse who has completed specific advanced nursing education (generally a master’s degree) and training in the diagnosis and management of common as well as complex medical conditions. The NP is expected to work autonomously and collaboratively in the extended clinical role.

WHO SHOULD DEBRIDE?
The literature concerning just who should perform wound debridement is not clear.

Ayello refers to the clinician debriding wounds but makes no mention of the designation. Sibbald states that “before clinicians embark on debridement of chronic wounds they must ensure that they have the necessary skills to perform the task, the skill is within their scope of practice and there is agency or institutional policy in place to support them”.

Dowsett refers to nurses having the skills to move the wound bed along a continuum to healing using a variety of methods including debridement. Preece continues the theme stating that this procedure can result in complications and should only be performed by nurses who have appropriate training and have had their competencies assessed.

Gottrup states that doctors, nurses and podiatrists can perform sharp debridement however each must practice within the rules and regulations of their countries. Mulder believes that “sharp debridement should only be done by an experienced professional whose licensure and credentials permit him or her to perform this type of debridement”.

Leaper highlights that using scalpels and or scissors, to debride a wound, is a very selective process with rapid results and only skilled practitioners should undertake the procedure however again there is no explanation of what constitutes this skill set—what training and knowledge is required to be called a skilled practitioner.

Shannon was able to demonstrate nurses’ ability to both perform sharp wound debridement, and achieve a reduction in the number of clinical visits, when using this technique to clean a wound.

Assessing tissue is a skill in itself and Inlow supports the notion that debridement requires knowledge and skills by highlighting that not all necrotic tissue should be debrided. This is a very important point when considering the signing off of sharp wound debridement competency. It is not just the skill of cutting off non viable tissue but knowing just what to cut and what to leave.

Rusche, Besuner, Parsch and Berning state that competency is a process whereby nurses apply their knowledge as they demonstrate the skills and abilities necessary to care for patients. Debridement competencies clearly define the skills and knowledge required to safely care for patients with wounds in order to assist the healing process.

PROTOCOLS, GUIDELINES, DOCUMENTS
Guyatt and Rennie state that best evidence is the randomised controlled trial (RCT). No RCT was found in this literature search, however, in an attempt to meet the gap between scientifically supported approaches to care and day-to-day practice, leading experts in the wound care have developed ‘Best Practice Guidelines’ or ‘Consensus Documents’.

In Australia Templeton has produced an article “Promoting Evidence-Based Nursing Practice – Wound Bed Preparation” for the South Australian District Nurses’ newsletter. In December 2008 as part of an initiative within Victoria, clinicians within rural Victoria have written a statement on performing conservative sharp wound debridement. The Wound Care Association of NSW Incor-
porated has published a number of standards of practice in which Standard Five deals with wound debridement.

**METHOD**

**Data collection**

Ethics approval was granted by all participating groups.

**Survey Methodology**

A convenience sample was drawn from registered nurses in Australia. The nurses were divided into two groups and sent a questionnaire of 19 questions:

- **Group 1** – nurses considered advanced practice nurses, working towards Nurse Practitioner status or currently have the portfolio of NP-Wound care. Australia has only very recently accepted the protected title of NP so when undertaking this study the numbers were quite small.

- **Group 2** – nurses employed within a community nursing service currently employed under the title of CNS or CNC wound care. Within the healthcare systems- public or private - the title of CNS or CNC wound care has also only recently been adopted. Wound management is still striving to be recognised as a specific speciality requiring dedicated personnel. The community nursing service surveyed employs over 1000 nurses, however there were only 20 CNS or CNCs within this group.

A second questionnaire of five questions was sent to all Schools or Faculties of Nursing within Australia.

To maintain privacy and ensure no coercion of those completing the survey, the surveys were sent or delivered in sealed envelopes to the two participating agencies and directly to the Heads of Nursing for distribution to those invited to participate. The sealed envelopes contained an explanatory note, the questionnaire and a return self-addressed stamped envelope.

**RESULTS**

**Results of Advance Practice Nurses Survey**

Response rate CNS/CNC-70% (n=14). Response rate NP - 100% (n=12).

**Sample demographics**

**Q. 1: What year did you complete your training?**

As expected the NP cohort had graduated some time ago with the most recent graduate being in the year 2000 and the earliest graduating in 1976. The year of graduation amongst the NP group was evenly distributed (see Figure 1). The community nursing cohort had a higher frequency of recent graduates than the NP group, and the distribution identified two distinct groupings (see Figure 1).

**Q.2: What sector do you work in?**

The options were acute care, aged care, community, rehabilitation or across a number of sectors. As anticipated the majority of respondents were working in community settings. The majority of wound care in Australia occurs in community settings.

**Q.3: What wound management training have you had?**

Answer options included formal structured courses through Universities, seminars, training through Technical and Further Education (TAFE) colleges or in-services.

Both groups sought knowledge from a variety of sources. The NP group being mentored by a surgeon had the ability also to be trained in conservative sharp wound debridement by him and this was clearly the case in the survey responses. Community nurses sought their knowledge in this procedure from seminars, state conferences, and peer respected clinicians who conduct education into wound management within their own state.
Debridement practices
Q.4: Do you debride wounds using CSWD principles?
The majority of respondents (88.5%, n=23) indicated that they practice the skill of conservative sharp wound debridement. This practice was equally represented within the two groups (see Figure 2).

Q.5: What sharp instruments do you use?
Debridement can be performed using a variety of instruments and it was particularly interesting to note that the majority of NPs use at least three instruments to debride (72.7% n=8) whereas the community nurses tended to use one or two instruments only (see Table 1). The NPs used scalpels, scissors and curettes. The community nurses used scalpel and scissors only.

Q.6: On a weekly basis what percentage of wounds in your care would require CSWD?
Whilst equal numbers (n=4) in each group indicated that they were required to debride at least 50% of the wounds they consulted upon (see Table 2), a higher percentage of wounds managed by the NP group require debridement as compared to the community nurses (see Table 3).

Q.7: On a scale of 1-10 (10 being very skilled) where do you rate your current skill level?
The NP group rated themselves highly as one would expect given that they are required to perform this skill frequently within their normal daily workloads (see Table 4). The community nurses on the other hand also rated themselves relatively high despite a lack of requirement to perform debridement regularly.

Q.8: If you do not debride, why not?
The options for responses were lack of confidence, lack of training, organisation does not permit nurses to attend this, do not have patients requiring debridement. Whilst both groups performed CSWD some respondents did suggest that they may perform this procedure more frequently if they had more training.

Training of conservative sharp wound debridement
Q.9: What level of nurse should have this skill?
When respondents were asked who should be trained there was a clear preference for it to be restricted to the Division One Registered Nurse with greater than four years’ experience (see Table 5). Both groups also had one respondent confirming that a Division Two Registered Nurse with greater than five years’ experience could be trained to perform this procedure (refer to Table 4).

The question stimulated respondents to add more in the comments section, with the NPs stating that anyone with appropriate training could perform conservative
sharp wound debridement as they felt years of experience does not always equate to skill.

Q.10: How often do you think the skill is required for nurses working in community settings?

The groups were similar in their comments about debridement skills being required for community nurses. Of the NPs who responded 41% (n=5) felt that this skill is required by community nurses and this was verified by the community nurses as 57% (n=8) stated that it is a skill required all of the time.

Q. 11: Where did you learn CSWD skill?

Both groups sought knowledge from a variety of sources (see Figure 3). The NP group were trained in conservative sharp wound debridement by their mentor who was a surgeon. Community nurses sought their knowledge in this procedure from seminars, state conferences, and peer respected clinicians.

Q.12: Are you aware of any undergraduate/postgraduate nursing programs that include conservative sharp wound debridement (theory and skills practice) as part of the curriculum?

None of the respondents were aware of any formal training programs available as either undergraduate or postgraduate level.

Q.13: Who do you think should teach this skill?

There was an equal distribution of thoughts on just who should teach this skill. Participants agreed that a surgeon would be the most appropriate (65.3% n=17) although NPs and RN Division One with experience were also identified as suitable (76.9% n=20).

Q.14: Is there a need for a nationally accredited training program?

There was a one hundred percent consensus (n=26) that there is a need for a nationally recognised training program to instruct future nurses in CSWD.

Q.15: If you answered yes to question 14, how urgent is this need?

Community nurses demonstrated an urgency for this training, with over 75% (n=9) of them requesting that this be developed within six months.

Q.16: Should this training program be included in the current general nurse training curriculum?

This question saw a mixed response. The NPs were quite clear that the skill was more a post graduate skill with 83% (n=10) answering no to the question. The community nurses were split on this question with 42%(n=6) wanting it included in the general training, 50%(n=7) stating that is should not be included and one was undecided.

Q.17 Should this training be offered only as a postgraduate program within tertiary institutions?

There was no significant difference between the groups. The NPs generally felt those who required this skill would seek out the training as a stand alone module. There was a general agreement that some form of accreditation would be of benefit.

Q.18 What topics should be included in a CSWD training program, you may select any number of topics or all.

The answers included – anatomy, pain management, local anaesthetics, tissue identification, handling sharp instruments, and other methods of achieving wound debridement.

The responses here were as anticipated 100% stated all topics should be included – there were also some suggestions of legality and professional indemnity insurance as other topics to be included in a training program.

Results of Heads of School of Nursing survey

Twelve surveys were sent to the Heads of Schools of Nursing at Universities listed on the web within Australia. Eight surveys were returned. The response rate of 66% is considered excellent although it must be remembered that the numbers of questionnaires sent out was small and so it would not be difficult to obtain a good rating.

The findings that some universities do teach the theory of wound debridement in both undergraduate and post graduate training was of note, however of the three universities responding affirmatively to teaching the theory, only one teaches the skills of this practice. The respondents state that large classroom numbers allows for the theory to be taught but understanding the importance of clinical judgement in effective decision making establishing competence in large groups is almost impossible.
Heads of Schools of Nursing were asked whether they saw a need for a nationally recognised training program in conservative sharp wound debridement. There was a compelling positive response to this question with only one answering in the negative. Two of the respondents did state that the training should be focused at postgraduate level. One respondent felt that this skill is absolutely necessary for remote area nurses. Another positive respondent wanted there to be one-on-one expert guidance at the clinical level in undergraduate training to ensure safety. There was an overall impression that the skill of conservative sharp wound debridement should only be undertaken by advance practice nurses who have considerable clinical experience.

SUMMARY
Wound debridement is a skill required by advance practice nurses engaged in community wound care. There is currently no formally recognised nationally endorsed training program in Australia to equip the newer graduate nurses advancing their practice. There are several workshops conducted by key clinicians around Australia but even those who have attended this type of training are requesting a more recognised type of training. The current curriculum within the general nurse training package does not include such training and neither is there scope or reason to include it. There is however need to develop a specific module that can be taken as a stand alone subject for those wishing to learn and utilise the skill in their portfolios as NPs in wound care or CNC in wound management.

The generability and reliability of this project can be questioned due to low numbers. However the author travels throughout Australia lecturing and can confidently say that debridement by nurses is lacking. The Australian Wound Management National Conference (March 2012) held a workshop meeting to discuss this problem and the consensus of over 150 attendees was that more needs to be done in the area of training and skills acquisition.

Of note, also, is that since this project was commenced the number of NPs specialising in wound care has more than doubled.

Implications for clinical practice
A specific training module in CSWD is required for nurses working in community settings.

Further research
What is required within the CSWD module should be based on a consensus needs and competencies developed to assess the skills of the clinicians practising CSWD.
When it comes to NPWT, the foam makes all the difference.

The question of whether all NPWT products promote wound healing in the same way led to animated discussions during the HARTMANN symposium at the EWMA. The basis of the discussion was a comparative study\textsuperscript{1,2} by HARTMANN, which showed that not all foams are created equal. Significant differences in inflammatory reactions indicate that different foams can accelerate wound healing at varying rates. This is important information that will help us to make NPWT even more economic. \textit{Vivano. Safety. And Simplicity.}

\textsuperscript{1}Croizat et al., Journal of Investigative Dermatology (2011) 131: S134. \textsuperscript{2}Walch et al., Wound Repair and Regeneration (2011) 19: A91.

More information is available at vivanosystem.info
Scalpel versus electrosurgery for abdominal incisions
Kittipat Charoenkwan, Narain Chotirosniramit, Kittipan Rerkasem

Citation example: Charoenkwan K, Chotirosniramit N, Rerkasem K. Scalpel versus electrosurgery for abdominal incisions. Cochrane Database of Systematic Reviews 2006, Issue 2. Art. No.: CD005987. DOI: 10.1002/14651858.CD005987

ABSTRACT
Background: Scalpels or electrosurgery can be used to make abdominal incisions. The potential benefits of electrosurgery include reduced blood loss, dry and rapid separation of tissue, and reduced risk of cutting injury to surgeons, though there are concerns about poor wound healing, excessive scarring, and adhesion formation.

Objectives: To compare the effects on wound complications of scalpel and electrosurgery for making abdominal incisions.

Search methods: We searched the Cochrane Wounds Group Specialised Register (searched 24 February 2012); The Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2012, Issue 2); Ovid MEDLINE (1950 to February Week 3 2012); Ovid MEDLINE (In-Process & Other Non-Indexed Citations 23 February 2012); Ovid EMBASE (1980 to 2012 Week 07); and EBSCO CINAHL (1982 to 17 February 2012). We did not apply date or language restrictions.

Selection criteria: Randomised controlled trials (RCTs) comparing the effects on wound complications of electrosurgery with scalpel use for the creation of abdominal incisions. The study participants were patients undergoing major open abdominal surgery, regardless of the orientation of the incision (vertical, oblique, or transverse) and surgical setting (elective or emergency). Electrosurgical incisions included those in which the major layers of abdominal wall, including subcutaneous tissue and musculoaponeurosis (a strong sheet of fibrous connective tissue that serves as a tendon to attach muscles), were made by electrosurgery, regardless of the techniques used to incise the abdominal skin and peritoneum. Scalpel incisions included those in which all major layers of abdominal wall including skin, subcutaneous tissue, and musculoaponeurosis, were incised by a scalpel, regardless of the techniques used on the abdominal peritoneum.

Data collection and analysis: We independently assessed studies for inclusion and risk of bias. One review author extracted data which were checked by a second review author. We calculated risk ratio (RR) and 95% confidence intervals (CI) for dichotomous data, and difference in means (MD) and 95% CI for continuous data. We examined heterogeneity between studies.

Main results: We included nine RCTs (1901 participants) which were mainly at unclear risk of bias due to poor reporting. There was no statistically significant difference in overall wound complication rates (RR 0.90, 95% CI 0.68 to 1.18), nor in rates of wound dehiscence (RR 1.04, 95% CI 0.36 to 2.98), however both these comparisons are underpowered and a treatment effect cannot be excluded. There is insufficient reliable evidence regarding the effects of electrosurgery compared with scalpel incisions on blood loss, pain, and incision time.

Authors’ conclusions: Current evidence suggests that making an abdominal incision with electrosurgery may be as safe as using a scalpel. However, these conclusions are based on relatively few events and more research is needed. The relative effects of scalpels and electrosurgery are unclear for the outcomes of blood loss, pain, and incision time.

Plain language summary: Using a scalpel compared with electrosurgery for making surgical incisions in the abdomen
During abdominal operations, surgeons may need to make cuts (incisions) in the body. This can either be done by using scalps or electrosurgery. A scalpel is an extremely sharp bladed instrument used to cut the skin and underlying tissue. Electrosurgery is a method of separating tissues using electricity. An electrical current is passed from the tip of the instrument which causes the tissue to rapidly heat up. As they heat up, the cells burst and vaporise. The surgeon will move the instrument along the tissue, causing more cells to be destroyed and a cut, or incision, to be created. The
potential benefits of using electrosurgery include reducing the amount of blood lost, dry and rapid separation of tissues, and a reduced risk of surgeons accidentally cutting themselves. The disadvantages of this technique include the possibility of poor wound healing, there are concerns that large or excessive scars may form, and it is thought that there is the potential for an increase in the risk of adhesions forming. Adhesions are potentially painful links of tissue that develop between the site of the incision and organs or other surfaces in the abdomen.

This review found that making an abdominal incision using electrosurgery appeared to be as safe as using a scalpel although more research is needed to draw a firm conclusion. There was not enough evidence to draw conclusions on a decrease in blood loss, pain, or the time taken to make the cut.

**Publication in The Cochrane Library Issue 8, 2012**

**Compression for preventing recurrence of venous ulcers**

E Andrea Nelson, Sally EM Bell-Syer


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**ABSTRACT**

**Background:** Up to 1% of adults will have a leg ulcer at some time. The majority of leg ulcers are venous in origin and are caused by high pressure in the veins due to blockage or weakness of the valves in the veins of the leg. Prevention and treatment of venous ulcers is aimed at reducing the pressure either by removing/repairing the veins, or by applying compression bandages/stockings to reduce the pressure in the veins.

The majority of venous ulcers heal with compression bandages, however ulcers frequently recur. Clinical guidelines therefore recommend that people continue to wear compression, usually in the form of hosiery (tights, stockings, socks) after their ulcer heals, to prevent recurrence.

**Objectives:** To assess the effects of compression (socks, stockings, tights, bandages) in preventing the recurrence of venous ulcers. If compression does prevent ulceration compared with no compression, then to identify whether there is evidence to recommend particular levels of compression (high, medium or low, for example), types of compression, or brands of compression to prevent ulcer recurrence after healing.

**Search methods:** For this update we searched The Cochrane Wounds Group Specialised Register (searched 1 March 2012); The Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2012, Issue 2); Ovid MEDLINE (1950 to February Week 4 2012); Ovid MEDLINE (In-Process & Other Non-Indexed Citations, February 29, 2012); Ovid EMBASE (1980 to 2012 Week 08); and EBSCO CINAHL (1982 to 1 March 2012).

**Selection criteria:** Randomised controlled trials evaluating compression bandages or hosiery for preventing the recurrence of venous ulcers.

**Data collection and analysis:** Two review authors undertook data extraction and risk of bias assessment independently.

**Main results:** Four trials (979 participants) were eligible for inclusion in this review. One trial in patients with recently healed venous ulcers (n = 153) compared recurrence rates with and without compression and found that compression significantly reduced ulcer recurrence at six months (Risk ratio (RR) 0.46, 95% CI 0.27 to 0.76).

Two trials compared high-compression hosiery (equivalent to UK class 3) with moderate-compression hosiery (equivalent to UK class 2). The first study (n=300) found no significant reduction in recurrence at five years follow up with high-compression hosiery compared with moderate-compression (RR 0.82, 95% CI 0.61 to 1.12). The second study (n = 338) assessed ulcer recurrence at three years follow up and found that high-compression hosiery reduced recurrence compared with moderate-compression (RR 0.57, 95% CI 0.39 to 0.81). Statistically significant heterogeneity precluded meta-analysis of the results from these studies. Patient-reported compliance rates were reported in both trials; there was significantly higher compliance with medium-compression than with high-compression hosiery in one and no significant difference in the second.

A fourth trial (166 patients) found no statistically significant difference in recurrence between two types of medium (UK class 2) compression hosiery (Medi versus Scholl: RR 0.74, 95% CI 0.45 to 1.2).

No trials of compression bandages for preventing ulcer recurrence were identified.

**Authors’ conclusions:** There is evidence from one trial that compression hosiery reduces rates of reulceration of venous ulcers compared with no compression. Results from one trial suggest that recurrence is lower in high-compression hosiery than in medium-compression hosiery at three years whilst another trial found no difference at 5 years. Rates of patient intolerance of compression hosiery were high. There is insufficient evidence to aid selection of different types, brands, or lengths of compression hosiery.

**Plain language summary:** Compression hosiery (stockings) for preventing venous leg ulcers returning

Venous leg ulcers (open wounds on the lower leg) can be caused by a blockage or breakdown in the veins of the legs. Compression, using bandages or hosiery (stockings), can help heal most of these ulcers and is also widely used after healing to prevent ulcers returning. One small trial confirms that compression reduces ulcer recurrence compared with no compression. There is some evidence that people wearing high rather than moderate-compression hosiery are less likely to get a new ulcer. It is not clear whether moderate strength hosiery is better tolerated than high compression. There is, therefore, some evidence that compression hosiery might prevent ulcers, but the evidence is not strong.
Volume 12, no 2, May 2012

A structured approach to surgical treatment in deep injury in diabetic foot
Cederm S Vucetic, et.al.

Endothelial progenitor cells, a unipotent stem cell, involved in neovascularization of wound healing in diabetic foot ulcer
Jacqueline Chor Tama, et al.

Bacteriophages for the treatment of severe infections: a ‘new’ option for the future?
Daniel De Vos, et al.

Developing evidence-based ways of working: Employing interdisciplinary team working to improve patient outcomes in diabetic foot ulceration – our experience
Kristen Van Acker

Exploring the characteristics of a venous leg ulcer that contribute to the emotional distress experienced by patients
Jessica Walburn, et al.

Development of a wound healing index for chronic wounds
Juan Carlos Restrepo-Medrano, et al.

Volume 12, no 1, January 2012

How to rate the wound debridement trauma?
Jan Strya

Ensuring equitable wound management education within the Australian context
Jain Rice

Low wound prevalence and cost burden: The impact of a multidisciplinary wound specialist team
Alison Hopkins, Fran Worboys, John Pourett

The results of a comprehensive wound audit in a UK primary care trust
Alison Hopkins, Fran Worboys

Pressure ulcer programme of research – PURPOSE

The skin’s own bacteria may aggravate inflammatory and exudative changes in athereosarotic arteries of lower limbs
Waldenmar L. Olzewsio, Piotr Andziak, M. Moscicka-Wesolowska, Bozena Interewicz, Ewa Swoboda, Ewa Stelmach

Problem with the post burn wound pain: Chronic profiles
Lama Juzaazapaviciye, Ryts Rimdeleka, Aunika Karbonskene

Volume 11, no 3, October 2011

Challenges facing district nurses in the prevention of pressure ulcers
Lynne Waret

Clinical application of stem cells in wound healing: A near future?
Benont Hendrickx

Understanding the Patient Experience: Does empowerment link to clinical practice?
Patricia Price

The Influence of Egyptian Propolis on Induced Burn Wound Healing in Diabetic Rats – Antibacterial Mechanism
Emad T. Ahmed, Osama M. Abo-Salem, Ali Osman

PURSUN UK: The Pressure Ulcer Research Service User Network for the UK
Della Muir

Perspective of the European Patients’ Forum Developing Collaboration
Nicola Bedlington

Volume 11, no 2, May 2011

The fight against biofilm infections: Do we have the knowledge and means?
Klaus Kuketer-Maier, Thomas Bjørnshol, Trine R. Thomsen

Biofilms in wounds: An unsolved problem?
Antonio Pedro Fonseca

Diabetic foot ulcer pain: The hidden burden
Sarah E Bradbury, Patricia E Price

Topical negative pressure in the treatment of deep sternal infection following cardiac surgery: Five year results of first-line application protocol
Martin Simet

Wounds Research for Patient Benefit: A five year programme of research in wound care
Karen Lamb, Nikki Stubbs, Jo Dunville, Nicky Callum

The EWMA Journals can be downloaded free of charge from www.ewma.org

EWMA wishes to facilitate the exchange of information on wound healing in a broad perspective with this section on International Journals.

**English**

Advances in Skin & Wound Care, vol. 25, no 9, 2012
www.aswcjournal.com

Evaluation of the Antisepic Efficacy and Local Tolerability of a Polihexanide-Based Antisepic on Resident Skin Flora
Dhavre Egh-Gary, Florian H.H. Brill, Matthias Hintpeter, Simone Arndt, Viktorija Andressen

Prospective Cohort Study on Surgical Wounds Comparing a Polihexanide-Containing Biocl Supporters Dressing with a Dialyl-Carbamoyl-Chloride-Containing Hydrophobic Dressing
Anna-Marie Nielsen, Anneke Andressen

A Retrospective Study Evaluating Silver-Impregnated Dressings on Cesarean Wound Healing
Sheila A. Conrey, Kathryn L. Downes, Caroline Young

Sickle Cell Disease and Leg Ulcers
Barry Ladzinski, Andrea Bazakas, Nisha Mistry, Afzaneh Alavi, R. Gary Sibbald Richard Salcido

**Spanish**

Helcos, vol. 23, no 2, 2012

Classification of diabetic foot lesions, an unsolved problem
González de la Torre H., Mosquera Fernández A., Quintana Lorena M. L., Pedrera Pérez E., Quintana Montesdeoca M. del P.

Ankle-arm index as a predictor of vascular mortality
Arévalo Manso J. J., Juárez Martín B., Gala Chacón E., Rodríguez Martínez C.

**Other Journals**

www.wiley.com

National approaches to wound treatment and prevention
D Queen, K Harding

MicroRNA signature in diabetic wound healing: Promotive role of miR-21 in fibroblast migration
R Madhavathy, et al.

Oxidant and antioxidant events during epidermal growth factor therapy to cutaneous wound healing in rats
Z Kaly, SC Cerher

An update review on risk factors and scales for prediction of deep sternal wound infections
A Buja, et al.

Multidrug-resistant organisms, wounds and topical antimicrobial protection
PG Bowler, et al.

Role of silicon derivative plus onion extract gel in preterminal hypertrophic scar protection: A prospective randomized, double blinded, controlled trial
K Jenneithouse, et al.

Prevalence of immune disease in patients with wounds presenting to a tertiary wound healing centre
VK Shannagum, et al.

A randomised comparative trial on the use of a hydrogel with tepesicoult extract in the treatment of venous leg ulcers
L Lammoglia-Ordiales, et al.
EWMA 2012 was held from 23-25 May in the Austrian capital of Vienna and was the culmination of many months of fruitful collaboration between EWMA and the Austrian Wound Association (AWA).

With more than 2900 participants from 67 countries, 772 scientific presentations including satellite symposia and a large number of committee and projects meetings, the EWMA 2012 conference was the largest conference in the history of EWMA. This was possible because we were building on the success of EWMA’s many previous conferences.

A special session was this year’s Honorary Lecture, with honorary speakers Christine Moffatt, United Kingdom, and Hugo Partsch, Austria. Both were honoured for their work within the field of compression. Christine Moffatt presented “The impact of compression on patients and health care organisations” and Hugo Partsch presented “What about compression pressure?”.

Two types of prizes were awarded during EWMA 2012: The First Time International Presenter Prize awarded for an oral free paper presentation by a presenter who has never presented internationally before:

- No: 70 Felizitas Novotny, Germany: Anticoagulant in autologous platelet concentrates
- No 163: Anne Ankerstjerne Rasmussen, Denmark: Organizational and pedagogical considerations when implementing the Danish clinical guideline

Among the many high quality posters the following four were selected for the Poster Prizes: Paper posters

- No. 144: Ljubiša Paden et.al., Slovenia
- No. 88: Kyle Turton, et.al., UK

Electronic posters (E-posters)

- No. 334: Hanne Vogensen et.al., Denmark
- No. 346: Michael Backhouse et.al., UK

All abstracts are available on: www.ewma.org

The theme of EWMA 2012 was Wound Healing – Different Perspectives, One Goal, which emphasized the importance of different perspectives on wound healing, the point of view of the patients as well as the health care professionals. The theme was reflected in the opening plenary session as well as a number of workshops and key sessions throughout the conference.

Building on EWMA’s project supporting Russian speaking countries, a 1-day Russian Symposium with a record high number of participants and presentations from Ukraine, Belarus and Russia was held. EWMA will continue its efforts to strengthen development in the region and, in addition to other activities, will have another Russian spoken symposium at EWMA 2013 in Copenhagen, Denmark.

Another 1-day symposium, the Austrian Diabetic Foot Symposium (24th May 2012), set a new milestone for EWMA in being able to facilitate an important collaboration between Austria and the International Working Group on the Diabetic
Foot (IWGDF). The participants enjoyed presentations on a number of European examples of implementing the IWGDF guidelines for the treatment of diabetic foot ulcers.

The 2012 programme also offered a large number of guest sessions from several other wound care organisations including The European Tissue Repair Society (ETRS), the Dystrophic Epidermolysis Bullosa Research Association (DEBRA), the European Burns Association (EBA) and a joint session between EWMA and the European Pressure Ulcer Advisory Panel (EPUAP) on “One Goal – One Guidelines: Implementing the International EPUAP/NPUAP Guidelines Across the World”.

The conference dinner was held at the Hofburg Palace. The historical Hofburg Palace was the imperial residence for centuries and dates back to the 13th century.

Now we take the opportunity to thank all the participants, speakers, sponsors and exhibitors who made this year’s conference so special!

After the Austrian experience we are encouraged to invite everybody to join EWMA’s 23rd conference in Copenhagen, Denmark 15-17 May 2013. EWMA Conferences are as strong as the participants are. It is you with your experience who can help develop future patient care.

Stay informed and visit the conference web site www.ewma2013.org for further information or keep updated on EWMA’s social media. We look forward to seeing you all again at the EWMA 2013 Conference!
VISIT EWMA 2013 in Copenhagen, Denmark

PRELIMINARY PROGRAMME

The programme will be a mixture of plenary sessions, key sessions, workshops, guest sessions and satellite symposia.

KEY SESSIONS

The key sessions will deal with advancement of education and research in relation to epidemiology, pathology, diagnosis, prevention and management of wounds.

- Opening session: Multidisciplinarity and organisation of care
- Antimicrobial in wound care
- Home Care – Wound Care
- E-health in wound care
- Regenerative medicine
- Health economy: Evidence and standards in wound care
- Diabetic foot
- Leg ulcers
- Patient safety – pressure ulcer

ABSTRACT SUBMISSION

In 2012 EWMA received the highest number of abstracts in its conference history. Abstracts for free paper and poster presentations play a very important role in the conference programme. We hope that many of you will wish to share your work at the 2013 conference and will submit your abstracts before 1 January 2013.

In order to submit an abstract for EWMA 2013, please visit www.ewma.org/ewma2013. Guidelines on how to submit the abstract will be provided when you enter the abstract submission system. Only electronic submissions are accepted.

Abstracts for oral presentation, poster and electronic poster presentation can be submitted for any topic in Wound Healing and Wound Management.

Primary categories are:
- Acute Wounds
- Basic Science
- Devices & Intervention
- Diabetic Foot
- Dressings
- Education
- Health Economics & Outcome
- Infection
- Leg Ulcer
- Nutrition
- Pain
- Pressure Ulcer
- Prevention
- Quality of life
- Wound Assessment
- Case Studies (posters only)
- Professional Communication (posters only)

Before you submit your abstract, please read the conditions for abstract submission carefully. The conditions can be found on www.ewma.org/ewma2013 or directly by scanning the code:

Abstract submission deadline: 1 January 2013.
Notification on acceptance/rejection: March 2013

REGISTRATION FEES

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1. Members of EWMA or one of EWMA’s cooperating organisations see (http://ewma.org/english/cooperating-organisations/cooperating-organisations.html)
2. For members of DSFS only.
3. Tickets for the conference dinner Thursday 16 May are not included in the registration fee and are non-refundable. Please note: Limited number of seats.
The Danish Wound Healing Society (DSFS) is one of the oldest wound societies in the world – however the society is not characterised by old men and governesses. Renewed strength keeps the association on track and contributes to its most central aspect: to strengthen correct and effective wound treatment in the country. The society remains the only central provider of new knowledge and practical skills within the wound area.

Through its history DSFS has focused on developing the model which is now the widely accepted model for effective wound healing in the world: a multidisciplinary and intersectoral wound department including specialised wound nurses, dermatologists, vascular surgeons, plastic surgeons, podiatrists and orthotists which organizes wound management and shares knowledge across the country. So far the model is used in the largest cities of the country, so there is still a lot of work to be done with regards to securing that good wound care is available throughout the country. When the new president took over the board in 2012 he made it clear that the efforts to achieve this should be continued. This is completely in line with the recommendations of the former president. Likewise, the multidisciplinary approach to wound management is completely reflected in the association’s board, consisting of nurses, doctors and clinicians with other specialties.

INSTRUCTIONS, GUIDELINES AND COMMUNICATION TOOLS

In relation to the association’s efforts to disseminate knowledge about the prevention and treatment of wounds, the DSFS has produced a series of booklets which, in a concentrated and accessible form, provides best practice guidance for nurses and doctors with regards to diagnosis and treatment of wounds.

In collaboration with the industry the society has published a wound pain algorithm that provides an easy tool for improved patient dialogue. The objective is to understand the causes of wound pain and thereby achieve quality in wound as well as pain management. The algorithm involves the patient in the healing process and may thereby shorten the treatment time as pain potentially prolongs the healing period.

The association has also developed a wound algorithm with brief advice and guidance on wound diagnosis and treatment. The wound algorithm is intended as a guidance document and provides a simplified description of complex wound conditions.

A Doppler guide explains how to measure an ankle/arm index with the objective to assess whether the patient has signs of arterial insufficiency or whether the leg can endure compression therapy. With regards to these aspects of wound management, uniform guidelines for measurement are essential for the daily clinical practice.

These guidelines and algorithms are designed in handy, foiled formats, ready for daily use, and can be downloaded from the association’s website: www.saar.dk. This also applies, for example, to the presentation of EPUAP’s guidelines for the prevention and treatment of pressure ulcers.

NATIONAL EFFORTS AGAINST PRESSURE ULCERS

The most recent initiative has been to fight pressure ulcers throughout the country. Investigations show a significant spread in the prevalence data for pressure ulcers. According to these data 13 to 43% of the hospitalised patients in Denmark...
develop a pressure ulcer to a mild or more severe degree and sources indicate that up to 50% of these wounds develop after hospitalisation. That is why there is a need for joint efforts.

The effectiveness of this initiative is shown in preliminary data from selected hospitals which, based on the dedicated efforts of the staff, have succeeded in completely preventing the development of pressure ulcers. The latest report reveals that 70 days have passed since the last pressure ulcer developed in the hospital. This result is obtained by following a methodology used in a hospital in Wales. The focus is on screening of all patients at admission. During the screening you must clarify the patient’s mobility, possible incontinence, nutrition etc. and examine whether the patient has pressure ulcers or pressure marks in all relevant places on the body. Based on this the staff evaluates the patient’s general risk of developing pressure ulcers. By these efforts a set of common rules and scales for the assessment and description of pressure ulcers are established which then result in common efforts to fight pressure ulcers.

As part of the initiative all regions were required to report on the development of pressure ulcers. As expressed by the head of the national campaign “We can reduce the number and we will reduce the number of pressure ulcers”.

MUNICIPALITIES AND REGIONS UPGRADE – ALSO WITH REGARDS TO USE OF IT AND TELEMEDICINE
Activities are initiated all over Denmark with very good results. For example, the municipalities of Viborg and Køge have, for several years, worked hard to eliminate pressure ulcers. In Køge they have succeeded in reducing the incidence to 0.26 per 1000 inhabitants, compared to the national average of 0.7 pressure ulcers per 1000 inhabitants. In the municipality of Viborg the incidence of pressure ulcers has decreased by 23.7% from 2010 to 2011.

The efforts of the municipalities will focus on new workflows, bedside training, education of wound care nurses, networking and e-learning. Both in the hospital and in a home care setting there is a need to develop new procedures, educate staff members to pay attention to new methods of prevention and treatment, reflect on their own practice and involve patients by giving them shared responsibility for the wound healing process.

A part of this endeavor is the development of measurement tools with web-based e-learning portals that allow the staff to measure development in the wound area: how many wounds are there, which types, how long is the healing period, etc.? This type of tool enables comparisons, identifies areas that require attention and supports e-learning activities related to wound management. There are great opportunities in that direction once the general level of IT skills amongst groups of staff are raised.

The Danish Health Care system
Health care systems in Scandinavia, including the Danish system, are primarily public (private treatment only covers approximately 5% of inpatient beds). In the secondary sector, all health-care investigations, drugs and devices are offered free of charge to the patients. In the primary sector different reimbursement policies regarding drugs and devices exist. This means that only a very small part of the health care budget is covered by private insurance or consumer payment.

For further information: www.euro.who.int/__data/assets/pdf_file/0004/160519/e96442.pdf
Within one area, however, the association has so far been stranded. This concerns the involvement of general practitioners in the prevention and treatment of wounds. In practice wounds are most often only seen and evaluated by consultation nurses and only in a few municipalities has the cooperation between home care and general practitioners been running smoothly so far. The board of DSFS is paying close attention to the development within this area.

**KNOWLEDGE AND VISIONS**

DSFS supports important research within wounds, encouraging theses and PhD dissertations to be written on key issues within wound management, such as bacterial biofilms, treatment with maggots, the influence of tobacco smoking on wound healing, cancer wounds and honey and about growth factors in wound healing. The latest research results are presented regularly at DSFS meetings.

As the latest acquisition DSFS has initiated a study on the communication between wound practitioners in the primary and secondary sectors and an assessment of the communication flow between practitioners and wound patients. The study takes the form of a poll and is expected to be presented at next year’s EWMA conference in Copenhagen.

A vital part of the dissemination of knowledge is the magazine “SÅR”. This is published four times a year. New initiatives, new ways to organize care and learning, scientific papers and minutes of meetings and conferences in Denmark and abroad are permanent features in the magazine. In this magazine municipal wound nurses and doctors, primarily from the major university hospitals, present their point of view on the different aspects. The Norwegian Wound Healing Society, NIFS, is a co-producer of the magazine and provides similar information from the Norwegian wound management society. This information is an essential part of the continued development of a strong interdisciplinary and intersectoral approach to wound management. A magazine is expensive, and the continued successful publication of the magazine has a background in the benevolent support from the wound care companies in relation to the DSFS conferences and advertising in the magazine.

Improving wound management is not necessary cost demanding. By gathering resources and adding quality in order to avoid development, improvements in non-healing ulcers can be achieved and expenses to the public health care budget reduced. Diabetic foot ulcers will especially, in the years to come, require significant attention as the number of diabetics is expected to grow explosively. DSFS has plenty of things to take care of...

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**Danish Wound Survey estimating prevalence and cost of wounds**

In 2010 DSFS was involved in a wound survey initiated by EWMA. The survey takes the form of a point prevalence study carried out in two hospitals in Viborg and Hilleroed and two municipalities located within the catching populations of the two hospitals respectively.

The survey identifies the total number and type of wounds treated in each setting at the time of the survey and provides an estimate of the amount of clinician time and inpatient bed-days directly attributable to wound care at an organisational level.

This type of information highlights the importance of specialist wound care expertise, by illustrating the prevalence of wounds among hospital and community patients and the significant proportion of available resources which are devoted to wound complications, many of which could be avoided.

The article presenting the results of the survey is expected to be ready for publication by the end of 2012.
After 30 years in wound care, we at Coloplast believe that absorption is the key to better healing.

Our Biatain® portfolio brings superior absorption to daily wound care needs, making Biatain the simple choice for faster healing.
The annual meeting of the EWMA Cooperating Organisations Board, during the EWMA Conference in Vienna, was a successful meeting with interesting presentations and good debates.

The meeting was attended by 33 Cooperating Organisation Board Members, or appointed substitutes, as well as EWMA Council members, invited speakers and visitors.

THE NEW ELECTED MEMBER FOR EWMA COUNCIL

The members of the Cooperating Organisation’s Board elected Ann-Mari Fagerdahl, SSIS, Sweden to the EWMA Council for the next three years.

Ann-Mari Fagerdahl replaces Eskild W. Henneberg whose work for the EWMA Council is acknowledged in a separate entry in this issue of the EWMA Journal.

PRESENTATIONS AND DEBATE SESSIONS

The following presentations took place during the Board meeting:

- Experiences and ideas on collaboration with patients, presented by Salla Seppänen, chair of the EWMA Patient Panel.
- Objectives and activities of a patient organisation, presented by Dr. Rainer Riedl, President of DEBRA International.
- Presentation and the development of the EPUAP guidelines, presented by Dimitri Beeckman, member of the EPUAP Board of Trustees.
- Impressions from membership of the EWMA Council by Eskild Henneberg, Chairman of the Danish Wound Healing Society.
- Presentation of the STOP Pressure Ulcers initiative by Jose Verdu Soriano, GNEAUPP.

The debate in groups focused on A) The issues of the Patient Panel established by EWMA and B) The presentation on the EPUAP guidelines.

The presentation by Salla Seppänen emphasized the challenge of working with patients in wound care where patients’ organisations are rarely seen. The picture is very different for a rare disease like Epidermolysis Bullosa (EB) where patient organisation is well developed, originally initiated by a group of parents of children born with EB.

While EWMA will investigate, through a survey, the experience of the Cooperating Organisations in working with patients, the Cooperating Organisations agreed to follow-up on the establishment of the EWMA Patient Panel by informing their national constituencies about this initiative. Patient conferences could also be considered in connection with national wound conferences.

The presentation by Dimitri Beeckman focused on how the Cooperating Organisation can contribute to the national implementation of the EPUAP guidelines. The discussion in groups emphasized, amongst other things, the need for a patient version of the guidelines and the importance of using social media in the dissemination of the guidelines.

In connection with the debate about the EPUAP pressure ulcer guidelines Jose Verdu Soriano, during his presentation, encouraged the Cooperating Organisation representatives to plan activities for the international STOP Pressure Ulcers Day taking place on the 16 November 2012.
A workshop focusing on activities of the Cooperating Organisations took place for the first time during the 2012 conference. This new initiative was aimed at providing all EWMA Cooperating Organisations with an opportunity to present their activities and working experiences to all interested conference participants.

A call for abstracts for this specific activity was made before the conference to the Cooperating Organisations and responded to by seven associations. Through a process of voting by the Cooperating Organisations Board representatives from the following four Cooperating Organisations were asked to make presentation in the workshop:

TVS (UK): Involving the members of the organisation in the making of a consensus document on pressure ulcers.

WMAI (Ireland): A national survey of the efficacy of a wound care organisation in dissemination of clinical practice guidelines.

PWTA (Poland): Quality of life in patients with lower limb ulceration – Skindex-29 questionnaire study.


The workshop is planned as an annual activity during the conference. Responding to a request made by the Cooperating Organisations, in 2013 the call for abstracts will be circulated in January in order to give all Cooperating Organisations a better opportunity for elaborating abstracts for the session.

Finally, Eskild W. Henneberg, in his presentation, highlighted the importance of taking an active part in the work and projects of the EWMA Council and standing committees.

**REVISION OF RULES REGARDING ELECTION TO COUNCIL**
These clarifications of the rules were presented and approved by the Board:
- A Cooperating Organisation can not nominate a new candidate for the Council election taking place at the Cooperating Organisations Board meeting if it is already represented at the EWMA Council by a member elected by the Cooperating Organisations Board.
- After the end of the 3-year term of a Cooperating Organisations Board elected member of Council, the same organisation must respect a 1-year break before again nominating a candidate for the Cooperating Organisations Board election for Council.

**EVALUATION OF THE BOARD MEETING**
The Cooperating Organisations Board meeting was evaluated by the Board members through an on-line survey. The questionnaire was answered by almost 50% of the Board members present at the Board meeting.

In general the responses indicate great satisfaction with the meeting (85% answered good/very good, 76% think that the duration of the meeting was appropriate and 100% indicate that the information given prior to the meeting was good/very good).

In accordance with evaluations of former meetings, a large majority of the respondents highlighted “networking” as a main objective for participating in the Board meeting, while about half of the respondents attended the meeting to improve their European cooperation and to develop new projects.

Suggestions for themes and debate topics for future meetings include:
- Set aside more time for presentations by associations who are new to the Cooperating Organisations community
- Development of a wound researcher’s network
- How to build a business case for clinicians

**Acknowledgements**
I would like to thank all meeting participants for contributing to further developing the collaboration between the EWMA Cooperating Organisations and for their constructive and progressive inputs.

Debate session during the meeting
AIM OF THE SYMPOSIUM

As a special event on the recent EWMA Conference in Vienna, EWMA organized “The Austrian Diabetic foot symposium” in collaboration with the Austrian Wound Management Association (AWA). The overall aim of the “Austrian Diabetic Foot Symposium” was to support the AWA and existing centres of excellence in Austria in their mission to achieve better organisation of diabetic foot treatment in Austria.

The focus of the symposium was to highlight potential gains from the implementation of multidisciplinary treatment models and to illustrate possible solutions to the organisational challenges related to implementation of these treatment structures in different health care settings. With a starting point in experiences and lessons learned so far throughout Europe the goal was to agree on a set of recommendations regarding an improvement of the current treatment situation in Austria.

A full day was reserved for the topic and the program was planned in collaboration between the AWA (the Austrian Wound Management Association), the IWGDF (the International Working Group of the Diabetic Foot) and EWMA. The group of speakers and panellists comprised experts from the international diabetic foot community. As a special gesture to the Austrian participants they were offered a complementary copy of the guidelines DVD.

CONTENT OF THE PROGRAM

The day started with a session hosted by the IWGDF and included presentations about the overall concept of the multidisciplinary treatment approach. Also included was a presentation on the idea behind the “International consensus guidelines on the management and prevention of the diabetic foot”.

To provide practical examples of the implementation of a multidisciplinary approach into different organisational contexts, the program moved on to a session presenting various approaches to implementation as seen in Belgium, Germany, Britain and Italy.

The final session included a presentation of the successful management of the organisational challenges related to treatment of the diabetic foot patients in a region of Austria (Styria/Graz). To round up the presentations held during the symposium the results achieved in Europe so far were summed up.

To end the day a panel debate was arranged to give experts from around Europe the opportunity to pass on their advice on Austria’s progression towards nationwide implementation of the interdisciplinary approach to diabetic foot treatment.

CONCLUSIONS FROM THE PANEL DEBATE

The advice presented during the panel debate covered a broad spectrum of pre-conditions that need to be in place if large scale implementation of the multidisciplinary foot clinics is to be successful. The advice included:

Guidelines
- Implementation of guidelines emphasising annual screening of the feet for early risk detection of diabetes patients in primary care.
- Keeping screening simple and easy to implement in daily practice.
- Implementation of guidelines emphasising referral patterns.

Education
- Wide spread diabetic foot education of nurses and podiatrists.
- Formal certifications
  - Securing that training courses are officially approved.
  - Securing certification of the diabetic foot clinics as this gives more legitimacy to practice and power to influence treatment structures. In addition this may inspire other centres to aim for a similar certification.

Quality control
- Formalising quality control in order to report results of the treatment provided.
Multidisciplinary and cross sectorial collaboration

- Establishing close collaboration with home care settings as more and more patients are treated in their homes. This is essential for achieving optimal treatment results.
- Establishing a network of specialists who share your interests.
- Making sure you have staff members who are genuinely interested in the diabetic foot.
- Partner up with policy makers and politicians
  - “Money talk”: Convince politicians that prevention is cheaper than amputation.
  - Partner up with policy makers and politicians in early phases to make sure they understand and recognise the problem. They represent the key to securing reimbursement of services related to diabetic foot care.

Between the panelists there was an overall agreement that implementation of multidisciplinary treatment structures can benefit from experiences made in those regions or countries in Europe where this has already taken place successfully. There is no doubt that it is a challenging task to implement new treatment structures in countries where the diabetic foot treatment is not yet part of the established health care system. To make progress with this agenda, Kristien Van Acker, the vice president of IWGDF, encouraged fellow colleagues around Europe to be patient when fighting for the cause: “Be persistent and keep repeating your messages”. In line with this the president of EWMA, Jan Apelqvist, provided a closing remark with the following advice: “Keep in mind there are no silver bullets. Think big, but start small”.

THE SITUATION IN AUSTRIA TODAY

In Austria 70% of the diabetic patients are currently treated by general practitioners (GPs). In order to prevent serious diabetic foot problems adequate and systematic screening for diabetic foot problems in the primary care as well as well established referral mechanisms is required. However, today the screening and treatment for diabetic neuropathy as well as patient education about the risk of complication is not adequately reimbursed by the health care system. Consequently neither GPs, nor patients pay adequate attention to prevention of diabetic foot complications. However this is not the only problem related
to diabetic foot care; When general practitioners with a diabetic foot patient wish to refer the patient to a multidisciplinary center, they do not know to which clinic the patient should be referred as there are currently very few centers in Austria.

The regional government of Styria covers Austria’s five diabetic foot centers. These centers are based on the international accepted standards for interdisciplinary treatment. All diabetic foot ulcers that have not healed within three weeks can be referred to these centers. This model was chosen regardless of the actual reimbursement situation of the Austrian health care system.

Specialists within the diabetic foot treatment services in Austria agree that the goals should be to improve the education of patients and health care professionals, ensure the reimbursement of screening and treatment of the diabetic foot in primary care, and establish diabetic foot centers all over Austria.

WHAT HAPPENED AFTER THE SYMPOSIUM?
The symposium held during the EWMA 2012 Conference gained national attention when Radio Österreich, in the radio program “Wissen Aktuel”, broadcasted interviews with the local Diabetic Foot Expert Prof. Thomas Pieber from Graz and international experts representing the IWGDF, Dr. Karel Bakker and Dr. Kristien Van Acker.

Since the conference, the Austrian organisation has worked hard to continue to advocate for better diabetic foot care. A direct dialogue between the Austrian project group and the Austrian Ministry of Health (MoH) has been established. A first meeting took place in August and a follow up meeting is planned in the near future.

At the first meeting with the MoH the overall concept for the establishment of structured diabetic foot care was presented and discussed. Before it can take further actions the MoH is waiting for an evaluation of the current situation of diabetic patients. This evaluation is under development. The Austrian organisation hopes that concrete plans for further steps towards implementation of better diabetic foot care will be agreed at the next meeting.

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1st International Course on The Neuropathic Osteoarthropathic Foot (Charcot)
Advanced Postgraduate Course, Rheine, Germany
15-17 November, 2012

The international course will be based on the expertise gathered from 10 consecutive years of providing national courses on the Diabetic Foot. The main focus are practical sessions in small groups to train the diagnostic and treatment skills necessary for the interdisciplinary treatment of Charcot patients.

The course will be held at the Mathias-Spital in Rheine.

The courses are open to anyone involved in the treatment or management of Neuropathic Osteoarthropathic Foot patients.

Number of participants: 25-50
Language: English

www.charcotfootcourses.org
EFFECTIVE WOUND DEBRIDEMENT

EFFECTIVE REMOVAL OF BIOFILM

NON TRAUMATIC CLEANSING

IMMEDIATE RESULTS

HIGHER PATIENT COMPLIANCE
During the EWMA 2012 conference one of the auditoria was dedicated to an all day scientific program presented in Russian. The Symposium for Russian Speakers attracted more than 180 Russian-speaking participants from different countries.

The recurrence of a symposium for Russian speaking clinicians is currently being planned for the EWMA 2013 Copenhagen Conference. The 2013 symposium programme will again be planned in cooperation with the wound associations in Russia, Belarus and Ukraine. It will include sessions with a scientific focus as well as sessions focusing on the organisation of wound care in countries where Russian is widely spoken.

The establishment of meetings in the Russian language started as an initiative of the Lithuanian Wound Management Association (LWMA) in 2006. This EWMA based activity was planned to improve the exchange of knowledge and experience in wound management between medical specialists in the countries of the EU and Eastern Europe who, due to a number of circumstances, do not use English as a tool for professional communication. The LWMA initiative was supported by the Finnish Wound Care Society (FWCS) at EWMA 2009 in Helsinki, where a similar symposium was promoted to help the establishment of wound associations in Belarus, Russia and Ukraine.

The period of 2009-2011 was very successful – associations were established in all the mentioned countries, they started to grow and organize their national meetings, and joined EWMA as Cooperating Organisations.

Last year the initiative was taken by the Austrian Wound Association (AWA) for the organisation of a symposium for Russian speakers at the EWMA 2012 conference in Vienna. The scientific program was organised by the associations from Belarus, Russia and Ukraine together with the LWMA and AWA. The symposium for Russian speakers was followed by activities in Russian across the conference. These included translations by several companies of their satellite sessions and workshops as well as a simultaneous translation into Russian of the European Burns Association guest session.

The scientific program included sessions on paediatric wounds, burns, chronic ulcers, pressure ulcers, wound infection, diabetic foot and advanced technologies. Presentations were given by renowned specialists in wound care; Professors A. Alekseev (Russia), A. Baindurashvili (Russia), B. Paramonov (Russia), G. Kozynets (Ukraine), T. Tamm (Ukraine), and Dr. L. Rubanov (Belarus). The Invited Lecture was given by Professor F. Gottrup (Denmark).

The concluding session of the symposium was dedicated to a summary of the achievements and the further presentations were given by the presidents of the associations, Professors A. Baindurashvili, A. Alekseev, G. Kozynets and Dr. L. Rubanov. In addition a discussion was held by the chairs of the sessions, together with Dr. Z. Moore (EWMA immediate past president), members of EWMA Council: Dr. R. Strohal (AWA) and Professor R. Rimdeika (LWMA).
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Silver Sulfadiazine and Light Kaolin, unique and innovative device in the local treatment of small ulcers

Critical Contamination + Exudate Management

Local treatment of skin reddening and acute and chronic ulcers

Sofargen Spray is a Unique and Innovative product
More Evidence than any Other Moisture Barrier or Barrier Film

You can trust 3M™ Cavilon™ No Sting Barrier Film to help reduce the costs of skin damage prevention. In fact, 3M has over 60 pieces of clinical evidence supporting the efficacy and cost-effectiveness of Cavilon™ No Sting Barrier Film—more evidence than any other moisture barrier or barrier film. To learn more, visit:

www.3M.com/Cavilon/Evidence
We are two Danish nurses studying a postgraduate skin integrity course at the University of Hertfordshire, who attended the EWMA University Conference Model (UCM) in Vienna, and we want to share our experiences because we think this year has been an experience of a lifetime. The University Conference Model (UCM) is an innovative approach that combines attendance at a major conference with an accredited academic study. The content and outcomes of the course are matched against sessions and activities on the EWMA conference programme and additional educational activities are planned around the conference programme (Flanagan 2011, Flanagan and Law 2012).

This year the UCM programme at EWMA focused on increasing the networking opportunities between the students from various UCM groups all over Europe participating in the Conference. The group from University of Hertfordshire included 10 clinicians from six different countries. It was a great experience for all of us to get to know and network with different nationalities within the group as well as with other international groups.

The EWMA conference theme this year was: “Wound Healing – Different perspectives, one goal” and approximately 2800 delegates attended. We have both attended a EWMA conference before, but this time we felt more focused and eager to learn and network with the students in the group as well as with other delegates and international students at the conference.

When attending an international conference it is difficult to work out which sessions to go to, but this year we got help from the course leader and principal lecturers from the University. We felt that the use of an international conference programme to deliver knowledge in a structured way was a well thought out idea and the EWMA conference was a good choice to deliver the modules “Enhancing Skin Integrity Skills & Treatment” and “Consolidating Specialist Practice”. EWMA’s International Conference Board members are all experienced practitioners, researchers and authors in the field of wound management and therefore guarantee the quality of learning (EWMA Abstracts Book 2011, 2012).

The conference was intense with a lot of opportunities to attend different oral presentations and free papers, including learning from the poster exhibition and activities in the exhibition hall. There were more than 600 scientific presentations; most were of high quality, and the speakers were experienced and knowledgeable about wound management. Some participants, both speakers and conference delegates, were also experts in wound management and research. It was very interesting to have the opportunity to meet them and discuss best wound practice in their country of origin.

Eight universities had brought UCM students to the conference this year which, for the first time, allowed our tutors to get involved with all of the UCM students who came together to participate in joint activities. Belonging to both the University of Hertfordshire group and the bigger UCM student group during the conference was motivating. When we discussed and reflected critically on the scientific programme and our own clinical practice, we learned so much of value from the tutors, who facilitated teaching and learning activities, and from other international students studying using the UCM approach. In many sessions our assumptions about clinical practice issues were confirmed and if not we gained a new perspective, because belonging to an international group seemed to facilitate learning at a higher level.
As UCM students, we were provided with an individualised study programme full of international practice development activities such as evaluating the effectiveness of exhibitor’s stands at the exhibition and critiquing the posters on display which we did with other UCM students from different European Universities.

The quality of posters varied, but our overall impression was good. Some posters were very clear and those were the ones we preferred. The electronic posters, giving the authors the opportunity to communicate their message in five slides, were introduced this year. These e-posters were of different quality and the one which ultimately won the poster prize was especially good and to the point.

Students also got a choice of free papers to attend as well as satellite symposiums sponsored by the healthcare industry. As novice students in a dynamic learning situation such as the EWMA conference, we found that we were inspired by the skilled professionals around us, who became important role models to us as we listened, watched, learned and reflected. One of the big advantages of the UCM approach at the EWMA conference is that UCM students are recognised as expert practitioners in their own right and have the opportunity to network with key opinion leaders attending the conference.

In the exhibition hall we interviewed a senior marketing manager of a global wound care business about the value of a commercial company attending the conference and explored how being there helped promote business.

During the exhibition activity, planned by our tutors, we were asked to collect and review educational materials given out at the exhibition stands. Some stands used interactive learning and videos whereas others used simple printed information. Our impression was that the health care industry at the conference certainly used its knowledge of how to promote its products and how to catch practitioners’ interest in many different ways.

One of the interesting activities planned by our tutors involved interviewing another conference delegate to find out about the health care system in their country. It was really interesting to learn about the health care systems in other European countries and was an eye-opener, because wound care in Europe is managed and organized in many different ways and to different standards! This exercise gave us a fantastic opportunity to become familiar with another health care system and to put our own country’s healthcare system into perspective as well as providing a really good networking opportunity.

**Conclusion**

One of the key things we learned from this year’s conference from our supervising tutors was to identify and ask for the evidence used to support exhibitor’s products and new approaches to treatment. Our experience from studying at the conference is that industry colleagues are very
interested in providing evidence to support their products. We learned that it is challenging to plan effective RCT-studies and can be difficult to provide quality evidence in wound healing.

We see the UCM approach as a way to educate wound care practitioners studying at a university in a real world setting. UCM students can also facilitate bridge building between industry, clinical practice, research and practitioners in different countries in Europe. It became obvious to us during the conference that practitioners should tell industry colleagues what is needed to help patients with chronic wounds so that they can help find a workable solution and that we should all work together and have common goals for our patients. As UCM students we learned to be more critical of research results, and our tutors taught us to ask for the evidence and to critically appraise studies by reading about the methodology used rather than jumping straight to the study conclusions.

The UCM model is an excellent opportunity for networking nationally and internationally. The schedule of activities was busy resulting in sore feet and the need for early nights. Our advice is to remember to bring a backpack to carry your things and to wear comfortable shoes - a hard learned lesson as being a UCM student at EWMA means being on your feet from early morning to the evening!

Finally, we want to thank the teaching team from the University of Hertfordshire for providing a great, positive teaching and supervision experience as we participated in the University Conference Model; and a big thank you to them for acting on the evaluation of last year’s UCM study program to make it even better this year. Next year we won’t need to be studying the UCM but would like to come along to see if we can help out and meet old friends. We look forward to meeting a lot of EWMA UCM students in Bella Center, Copenhagen, Denmark in 2013.

Last but not at least, we want to thank Coloplast A/S Denmark for sponsoring our participation as UCM students at the EWMA conferences in 2011 and 2012. Without their support this fantastic opportunity would not have been possible.

References:
Flanagan, M. (2012), University conference model Portfolio, EWMA Conference, Vienna, University of Hertfordshire, UK.

For further information about the EWMA UCM, please visit the Education section of the EWMA website www.ewma.org or contact the EWMA Secretariat at ewma@ewma.org
THE UCM (University Conference Model) IN SWITZERLAND: DEVELOPMENT AND PROSPECTS

THE UCM MODULE OFFERED BY THE UNIVERSITY OF APPLIED SCIENCES – GENEVA: FEATURES AND RESULTS

Background and objectives
The first Swiss module was offered in 2010. It was designed as part of the post-graduate course: “Interdisciplinary treatment of wounds and tissue viability”. This course has been conducted since 2005 at a certificate level. From 2013 it will be integrated in the diploma level programme.

Ever since the Swiss French certificate level course was introduced, the regional wound conference4 day (or the Swiss day held during the EWMA 2010 Conference) has been incorporated in the training. This allows post graduate students to develop critical approaches and positions in the field as well as stimulate their interest in research activities. It also meets the demands for increasing requirements with regards to expected student outcomes and stimulates individual motivation and networking at national and international levels.

Motivated individuals who are not receiving ongoing wound care and tissue viability education, but have relevant professional experience within the chosen topic may also participate.

The first Swiss module attracted 11 students with the following backgrounds:

- One physician (GP) from a Swiss French rehabilitation center.
- Eight nurses specializing in wound care (seven holders of a Certificate of Advanced Studies, one holding a University Degree in wounds and healing) from various Swiss French cantons and various health care facilities (independent, home care, medical-social facilities, private clinics, regional hospitals, university hospitals, specialized professional associations). One clinical nurse.
- One nurse in charge of managing wounds within an institution.

The following year, only one nursing student with a University Degree in wound care and tissue viability enrolled. Language difficulties, difficulties obtaining free time for training from employers and lack of financial support largely explain this.

Structure and content of the Swiss module
The Swiss UCM module offers students the opportunity to plan their individual programme, based on a selected topic covered at the annual EWMA conferences. If students have similar topics, a shared course is suggested to them.

The aim of this approach is to stimulate individual investment in the conference sessions (such as plenary sessions, open paper sessions,

ABOUT THE EWMA UCM
Since piloting the EWMA University Conference Model (UCM) in Glasgow in 2007, this education activity has consistently been evaluated as very successful by the participating students and their coordinators. This unique model combines attendance at the annual EWMA Conference with academic study at a university of the student’s own choice 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 students get the opportunity to discuss the value of conference contributions with their teacher, update and supplement their skills and knowledge, expand their professional network and discover pragmatic means that could enhance their field of practice and improve the quality of care. As the UCM courses are offered via a university, students can obtain ECTS3 credits.

Consequently, the UCM provides an original and unique opportunity to validate the attendance at a specialized international conference as a short specialized postgraduate training course. EWMA will continue to develop the specific programme for UCM students offered during the conference to maximize the student outcome of the conference and secure exchange of knowledge as well as networking between students. These objectives are supported by common workshops, exercises and social events involving all UCM student groups.

Read more about the EWMA UCM and previous student evaluations at www.ewma.org/english/education/ewma-ucm.html
symposia, workshops, posters, exhibition stands) based on the selected topic. This chosen “conference pathway” is validated by the university coordinator who provides support to students throughout the conference.

A portfolio serves as support for the students to record the attended sessions, take notes and collect information about the requirements and conditions for module validations.

A formal meeting with the university coordinator is organized for Swiss students. This meeting is held to receive feedback from students with regards to the progress of their planned programmes, answer possible questions and make adjustments in the programme if needed. This meeting is also open for French speaking UCM students enrolled via other universities.

After the conference the students are given three months to complete a written report, based on their conference participation and experience, including:

- Motivations for choosing the specific topic and its relationship to practice.
- Prior knowledge of the student about the chosen topic.
- Added learning outcomes of the conference (with critical analysis of the collected content) and additional research to identify updated materials available about the topic.
- Concrete proposals for practical methods and applications that may be implemented in a daily clinical context.

For the first modules offered, this report had to be presented either in written or oral form to a supervisor from the student’s workplace. This way a double review was conducted allowing both the university and the workplace supervisor to bring in added value via their feedback. In the case of failure to pass the module, a new attempt was allowed.

If the report was not handed in, the students did not obtain the associated ECTS credits.

In conclusion, the UCM module offered by the University of Applied Sciences – Geneva, allows students to:

- Select a topic of interest and focus their attendance and follow-up on the conference on this issue.
- Study the topic chosen by detailed research;
- Highlight the assumptions of and concrete actions needed to improve their professional qualifications;
- Form the basis of positioning themselves as an expert within wound care and tissue viability;
- Meet and share knowledge with other professionals and students;
- Strengthen their professional network by access to online forums for communication between former UCM students and coordinators.

- Develop skills for a reflective approach to existing work and the ability to produce additional work and research of relevance within their field of interest.

CONTINUATION AND DEVELOPMENT OF THE SWISS UCM MODULE

Since the first UCM module offered in Switzerland efforts have been made to improve the structure which has already proven its relevance and quality.

For our new course starting in 2013 we have incorporated the UCM module in the Diploma of Advanced Studies (DAS) education module “Expertise in wound care and tissue viability” which will allow more students to enroll. Moreover it is now possible to complete the course independently and be credited for subsequent cumulatively accredited university education.

This revised concept was presented in a free session during the EWMA 2012 conference in Vienna. We have also presented the previous Swiss concept and experience during the World Conference of Stomal Therapists in Phoenix, USA, in 2010, and at the Wound Healing Conference (CPC) in Paris in 2011.

Based on our experience, we are convinced that this type of concept can be transferred to other conferences.

For the new course, the requirements related to the completion of the report were revised to be consistent with the complete course offered. Thus, the presentation of the report before a supervisor from the workplace of the student has been cancelled as this type of evaluation was already covered in another module.

With regards to costs related to participation in the Swiss UCM module, it should be mentioned that the course registration fee include the conference registration fee. The search for financial support to fund travelling and accommodation of students remains to be done with our partners: industry sponsors, local associations etc.

An alternative module offered within the framework of the wound conference to be held in France targeting non-English speaking students will also be initiated in 2013.

Both UCM modules remain open to other students from other French-speaking countries. In collaboration with our Swiss German colleagues we hope to welcome these students to the Swiss UCM module in the years to come.

In the meantime we will continue our evaluation of the module to secure continued development of the programme offered.

1 www.ewma.org/english/education/ewma-ucm.html
2 www.heds-ge-ch/portal/welcome.nsf/pages/fc_plaies_cicatrisationsF
3 www.optra.net/fr/formations/ects.html
4 http://safe-romande.ch
5 www.wcetn.org
EWMA NEWS

MENTOR PROGRAMME

EWMA is able to offer writing support for novice researchers or non native English speakers who would like help reaching the standard of English required for publication or help with writing an academic paper.

The mentors are experienced writers who agree to collaborate with the author with the aim of producing an article in line with standard quality criteria with regards to structure, content and language.

If you choose to enter the mentor programme, the conditions are as follows:
- The mentor will work with the author to finalise a draft article based on the available scientific reviews and general guidance on how to write a good article;
- The mentor will enter into a formalised collaboration with the mentee in relation to the article and must therefore be included as co-author of the article;
- It will be highlighted in the article that the author has received support from a mentor via the EWMA Journal Mentor Programme.

Whether EWMA can provide a mentor for a specific article will depend on the availability of a qualified mentor at the relevant time.

For further information about the EWMA membership programme, please contact the EWMA Secretariat.

Sue Bale, EWMA Journal Editor

EWMA is pleased to announce the result of the EWMA 2012 Elections for individual members and the Cooperating Organisation’s Board.

This year there were five vacancies in Council available to individual members of EWMA. The results were Rytis Rimdeika (Lithuania), Gerrolt Jukema (Netherlands), and Martin Koschnick (Germany) were re-elected to Council while Magdalena Annersten Gershater (Sweden) and Georgina Gethin (Ireland) were elected to Council for the first time.

In the election to the Cooperating Organisation’s Board there was one vacancy, to which Ann-Mari Fagerdahl (Sweden) was elected.

In addition, Salla Seppänen (Finland) was elected as President Elect and will step up as President in 2013. Dubravko Huljev (Croatia) became the new Secretary after Patricia Price (United Kingdom) who stepped down.

The EWMA Council welcomes its new members and looks forward to working with them.
Luc Gryson became a member of EWMA Council in 2006 and held the honorary post of EWMA Treasurer between 2007-2010. Luc has a great amount of expertise within the area of wound care with focus on leg ulcers, nutrition and SkinTears, among others.

He has shown a great commitment to EWMA by actively participating in the Education Committee, the Patient Outcome Group, the Scientific Committee and the Scientific Review Panel. As the Co-president of the Belgian Federation of Wound Care (BEFEWO) and through his involvement in other wound associations he has achieved great success and experience from which the EWMA Council has gained much. In particular in relation to the EWMA 2011 conference held in Brussels in collaboration with the Belgian wound organisations BEFEWO, Afiscep and CNC, where Luc played a significant role. Luc has also contributed to a deeper understanding and contribution to the financial infrastructure and stability of EWMA.

His presence in EWMA Council has been of great value and I thank him for his strong commitment. I am sure that Luc will continue being a part of EWMA in the years to come.

Eskild W. Henneberg joined EWMA Council in 2009 as a representative elected by the Cooperating Organisations of EWMA. In addition to having represented The Danish Wound Healing Society (DSFS) in the Cooperating Organisations Board, Eskild has also been – and still is – a member of the EWMA Scientific Committee and the Scientific Review Panel. With his expertise in vascular surgery and wound healing in general, Eskild has shown great commitment and interest in bringing his innovative ideas and creativity to different EWMA projects and most recently to the EWMA Wound Survey, which was piloted in Denmark. His skilled eye for the ethics and rules of EWMA has been of great value during the years.

His contribution to the EWMA Council has been much appreciated and I look forward to his continuing input in the Scientific Committee and to the collaboration with the Danish Wound Healing Society focusing with regards to EWMA 2013 in Copenhagen.

Patricia Price joined EWMA Council in 2005 and was, among many other posts, EWMA’s Honorary Secretary from 2009-2012. During her time in EWMA Council she has been very active and a highly valued member of the Executive Committee, Scientific Committee, Education Committee and the Patient Outcome group (2011-2014), which she is currently chairing and into which she has put a lot of effort.

Patricia’s skills in coordinating and leading working groups have been very much appreciated during her years in EWMA. The success of these and the Council meetings are much dedicated to her professionalism and her focused way to achieve results and consensus. Through her work, she has contributed to the continued development of the scientific profile of EWMA.

Patricia is one of the central driving forces for the publication of the POG Evidence document. Her skills in advocating a clear message for outsiders and getting to the point are renowned and evident.

I would like to thank you for your contribution and your commitment, which are noticeable throughout EWMA. Your commitment is much appreciated and we sincerely hope that you will continue to contribute to the goals of EWMA and participate in future projects.

Jan Apelqvist, EWMA President
The EWMA Teacher Network

Report from the first meeting held in May 2012

The first meeting of the EWMA Teacher Network was held during the EWMA 2012 Conference. Prior to the meeting an invitation was sent to all contacts from European educational institutions. In total 37 wound management teachers asked to be included in the network and 26 of these were able to attend the first meeting.

The primary objectives of the meeting were to share expectations and ideas for the network, to define current challenges and acknowledge the need for knowledge sharing within the European educational institutions offering wound management education.

Based on this; two activities for the first year (2012-2013) were defined and agreed on:

- The network will examine the existing pre-qualification (undergraduate) programmes and standard competence levels on wound management for nurses throughout Europe. This will be done by a survey forwarded to all relevant institutions in Europe. Based on the survey results members of the Teacher Network will agree on standard learning outcomes for undergraduate nurse students on the topic of wound management.

- The network will initiate a dissemination of the relevant wound management guidelines with the recommendation that they be followed to all relevant educational institutions. The objective is to ensure that wound management education is based on the best practice as defined by the primary wound management organisations in Europe and that nurse students throughout Europe are familiar with existing guidance.

EWMA looks forward to initiating these activities during autumn 2012.

I would like to thank all the participants at the first meeting of the EWMA Teacher Network for their great contribution to the discussions and planning at the meeting.

The EWMA Teacher Network is open to all active wound management teachers interested in sharing their experience and supporting the continuous development of wound management education within Europe.

The next meeting of the network will be held during the EWMA 2013 Conference 15-17 May in Copenhagen, Denmark.

Please contact the EWMA Secretariat at ewma@ewma.org for further information about the network or how to join.
Wounds Respond to PolyMem®

PolyMem’s unique formulation has the ability to reduce patients’ total wound pain experience while actively encouraging healing¹,²,³

References:
The establishment of the EWMA Patient Panel was decided by the EWMA Council in March 2012 and presented at the Cooperating Organisations Board meeting during the Vienna conference. The aim of this panel is, amongst others, to formally recognise the role of the patient as an important resource in the work of the interdisciplinary wound care team. Further, it will allow EWMA to maintain a continuous and active dialogue with patient representatives.

The Panel will be set down over the next six months and is scheduled for inauguration at EWMA 2013 in Copenhagen. The Patient Panel will consist of members of the EWMA Council as well as representatives of European associations working with patient involvement. A group of patients representing different countries and wound aetiologies may be created and support the Patient Panel as an expert advisory body.

The Panel will actively involve the EWMA Cooperating Organisations in reaching patients in different settings across Europe. The Cooperating Organisations will be asked to assist the EWMA Council and Secretariat in setting-up contact to patient groups as well as to overcome language barriers. Therefore, the first activity of the panel is to ask all EWMA Cooperating Organisations to fill in a brief questionnaire to uncover any existing organisations of wound patients in their countries. By means of the questionnaire EWMA wishes to strengthen its understanding about which tools are available for European wound patients and if there are local or national organisations or associations who currently supports their cause. In the longer term the goals to be reached by the EWMA Patient Panel are to strengthen the role of the patient in wound management and facilitate a dialogue to uncover ineffective treatment due to lack of patient involvement and empowerment.

I would like to encourage all EWMA Cooperating Organisations and individual EWMA members to contact the EWMA Secretariat if you have knowledge of patient activities in your country, which you consider relevant to the work of the Patient Panel.
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- Demonstrated non-inferiority in wound healing outcomes for patients completing at least 4 weeks of therapy¹
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EWMA will publish three new documents in 2012 and 2013:

**EWMA document on Debridement**
This document will provide an updated overview of the various debridement options. It will offer a clarification of the principal role of debridement and define the possibilities and limitations for standard and new debridement options. The document is expected ready for publication in November 2012.

**EWMA Document on Antimicrobials**
This document will meet the on-going discussion across Europe concerning the issues and controversies of the use of antimicrobials in wound treatment. The document will be launched at the EWMA 2013 Conference.

**Clinical study guidelines on non healing wounds**
The guidelines will include a checklist with relevant research questions, frequent mistakes and links to other relevant sources of information. With these guidelines the POG group aims to support the recommendations included in the 2010 POG document on evidence and outcomes:

**Outcomes in controlled and comparative studies on non healing wounds**
– Recommendations to improve quality of evidence in wound management

**Planned Projects:**
EWMA is planning two projects in 2013:
Home Care – Wound Care and Multidisciplinary Treatment

All EWMA Documents can be downloaded from www.ewma.org

For further details contact:
EWMA Secretariat, Nordre Fasanvej 113, 2000 Frederiksberg, Denmark · Tel: +45 7020 0305 · Fax: +45 7020 0315 · ewma@ewma.org
Advocacy for better wound management in Europe

With the objective of advocating for the implementation of better wound management practices across Europe, EWMA is involved in the European Innovation Partnership on Active and Healthy Ageing (AHAIP) set down by the European Commission.

The overall objective of the Partnership is to increase the healthy lifespan of EU citizens by two years by 2020, by improving the health and quality of life of older people, improving the sustainability and efficiency of care systems and creating growth and market opportunities for businesses.

This engagement is one of the activities originating from the EWMA collaboration with the Eucomed Advanced Wound Care Sector Group.

ABOUT AHAIP
AHAIP is a new initiative by the European Commission which brings together a wide array of stakeholders from the public and private sectors, to work in a collaborative and voluntary way on shared interests, activities and projects.

The partnership focuses on three overall areas of activity, of which EWMA has committed itself to becoming actively involved in the area “Care & Cure”. Specifically, EWMA has entered the Action Group established to explore the theme “Capacity building and replicability of successful integrated care systems”.

For further reading about AHAIP please visit http://ec.europa.eu/research/innovation-union/index_en.cfm?section=active-healthy-ageing

THE ACTION GROUP ON INTEGRATED CARE AND THE EXPECTED ROLE OF EWMA
The aim of the Action Group in which EWMA is involved is to “Reduce avoidable/unnecessary hospitalisation of older people with chronic conditions through the effective implementation of integrated care programmes and chronic disease management models”. The Action Group is formed around European regions and institutions which are already engaged in the implementation of integrated care activities, and have committed themselves to contributing to AHAIP.

The role of EWMA in the Action Group is to contribute experience, contacts and network to the implementation activities taking place. While the specific content of the Action Plan is still being developed, the expectation is that EWMA may contribute to the work of the Action Group on, as a minimum:

- Organisational coordination to achieve integrated care pathways of chronic conditions
  - Care pathway redesign (Process optimisation by the identification of standardised protocols, procedures and activity workflows);
- Workforce Development, Education and Training of Formal & Informal Carers
  - Re-design of workforce roles
  - Effective functioning of multidisciplinary team by introduction of integrated ICT innovative tools and solutions
  - Participatory environment of multidisciplinary team functioning
  - Reinforcement of the role of nurse, social workers and volunteers (community professionals) in the provision of integrated care

EWMA considers AHAIP a significant window of opportunity for establishing wound management on the agenda at the European policy level as well as for promoting our messages regarding focus on multidisciplinary treatment and the cost of wounds.

1 A) Prevention, screening & early diagnosis; B) Care & Cure and C) Active ageing & independent living
2 Examples include: The Scottish Centre for Telehealth and Telecare (Coordinated by NHS24), which is the appointed coordinator of the “Care & Cure” Action Group, “The Department of Health and Consumer Affairs of the Basque Government” and “The European Platform for Patients’ Organisations, Science and Industry”, which are both coordinators of sub-working groups.
Eucomed Advanced Wound Care Sector Group (AWCS) perspectives

The Eucomed AWCS group (www.eucomed.org) was founded back in June 2007, and since then we have had twenty-two regular meetings. At present there are eight companies in the group: B. Braun, Covidien, ConvaTec, KCI, Mölnlycke Health Care, Paul Hartmann, Smith & Nephew, and Sorbion. In addition we work in active partnership with EWMA and Policy Action.

The purpose of this paper is to give an update of the health care winds that are blowing in the UK and USA, with a focus on advanced wound care.

APRIL 2012, VISIT TO ABHI
(Association of British Healthcare Industries, www.abhi.org.uk)
ABHI is a very active and well-recognized trade-organization, which has recently started a sector group for Advanced Wound Management (AWM). Current members of this group are 3M, Convatec, Covidien, Smith & Nephew and Systagenix.

ABHI 2012 priorities:
- **UK Market**
  Create industry position on procurement and gain NHS (National Health Service) agreement. Adopt industry leadership role on implementation of IHAW (Innovation Health and Wealth).
- **International**
  Develop industry position on trade support mechanisms and influence government. Minimise barriers to trade with China, Brazil and India.

- **Regulatory & Standards**
  Ensure industry positions on MDD (Medical Device Directive) Revision are reflected in the UK input to “Formal Proposal”. Establish clear and structured relationship with MHRA (Medicines and Healthcare Products Regulatory Agency) Devices Division.
- **Ethics & Compliance**
  Establish ABHI Code of Business Practice as standard for NHS interactions with suppliers. Develop member employee accreditation system for interaction with NHS. All representatives from medical device companies need to have an accreditation (£5000 per representative).

The next step for the Eucomed AWCS group will be to deliberate on a partnership with ABHI.

APRIL 2012, SAWC
(Symposium on Advanced Wound Care)
The SAWC Spring 2012 was arranged in Atlanta, Georgia, USA. There was a broad range of sessions and posters presented, but I will restrict my report to meetings with external stakeholders and policy makers.

- **CWCM (Coalition of Wound Care Manufacturers)**
The mission of the “Coalition” is to serve as an advocacy organization for a regulatory, economic and legal climate that promotes patient access to wound care products and their corresponding services. In addition, it will focus on regulatory, government and public affairs issues that affect wound care manufacturers.

In practice, the Coalition presents industry information for:
- Congress
Regulatory agencies e.g. Centers for Medicare and Medicaid Services (CMS) and its contractors: Durable Medical Equipment Medicare Administrative Contractor (DME MAC), A/B MAC Medical Directors and Pricing Data Analysis Contractor (PDAC)

Food and Drug Administration (FDA), State Medicaid Agencies, Agency for Healthcare Research and Quality (AHRQ) and Medicare Payment Advisory Commission (MedPAC).

These federal agencies control the coding, coverage and payment rules under Medicare and Medicaid for wound care products.

The current landscape includes challenges to the Health Reform, and deficit reduction within/without an economic recovery. There is much uncertainty in the time to come including:

- The Presidential election (Nov 2012) and its potential effect on the next Congress, the next CMS and the next FDA
- The Medicare programs of 2013 and beyond
- Physician Payment Sunshine Act
  The Sunshine Act will influence the wound care business directly
  - Requires each “applicable manufacturer” to report each “payment or other transaction of value” made to a “covered recipient” i.e. “physician” or “teaching hospital”
  - Research-related payments i.e. made in connection with research on or clinical investigation of a new product or new application of an existing product
  - CMS has proposed a complex reporting structure for research-related payments
- The FDA of 2013 and beyond
- What Can Make a Difference for All Health Care Costs?
  - Changes in the way health services are delivered
  - Payment methods that bundle payments; pay for efficiencies or savings; aggregate payments
  - Changes in consumer engagement and consumer preferences
  - Health care workforce
  - Political/fiscal discipline
  - Is your product part of the solution or part of the problem?
  - Who are the innovators and are they your best friend?
- Accountable Care Organisations (ACO)
  - ACOs are health care teams working together
  - Wound care is a team work
  - Pioneer ACO Model Participants (currently there are 32 organizations selected to participate)
  - Innovation Advisors Program (IAP)
  - Currently there are 73 individuals selected to participate

AWCS (Alliance of Wound Care Stakeholders, www.woundcarestakeholders.org).

The “Alliance” was founded 10 years ago, and became a 501 (c)(6) trade association in 2011. The case for transforming into a non-profit trade association are mainly: higher visibility working with regulatory agencies, (submission of POWER (Panel On Wound care Evidence-based Research) manuscript to payer and clinical journals, and) lobbying activities make the Alliance better suited for (c)(6) status.

There are three different membership categories:

- Clinical associations (16 different American associations, of which AAWC, Association for the Advancement of Wound Care, is one)
- Non-clinical associations (currently two members: American Association of Wound Care Management, and Coalition of Wound Care Manufacturers)
- Non-clinical business entities (currently 12 different companies).

The Agency for Healthcare Research and Quality (AHRQ) is dedicated to improving the quality, safety, efficiency, and effectiveness of health care for all Americans. It is one of 12 agencies within the U.S. Department of Health and Human Services. Working with the public and private sectors, AHRQ builds the knowledge base for what works, and what does not work, in health and health care and translates this knowledge into every day practice and policymaking.

Focus areas:

- Evidence-based Practice Centers – review and synthesize scientific evidence for conditions or technologies that are costly, common or important to the Medicare and Medicaid programs.
- Three technology assessments focusing on wound care under review:
  - Pressure ulcers
  - Venous stasis ulcers
  - Skin Substitutes

Summary:

As you can see, the US network of wound care stakeholders is complex but also very fragmented. There are many challenges in the US healthcare system, leading to a considerable uncertainty in the near- and intermediate-term future.
## Conference Calendar

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<th>Conferences</th>
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<th>Days</th>
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<th>Country</th>
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<td>4th Scientific Congress of the Polish Wound Management Association (PWMA)</td>
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<td>1st EB-CLINET Conference</td>
<td>Linking clinical expertise in EB</td>
<td>Oct</td>
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<td>1st National Multidisciplinary Congress for Wound Professionals</td>
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<td>Pisa International Diabetic Foot Courses</td>
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<td>8-11</td>
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<td>National Congress of the Belgian Federation of Wound Care (BEFEWO)</td>
<td></td>
<td>Oct</td>
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<td>XV Congress of Hungarian Wound Care Society (MSKT)</td>
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<td>HUR Symposium</td>
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<td>Symposium of Portuguese Association for the Treatment of Wounds (APTFeridas)</td>
<td>2012</td>
<td>Oct</td>
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<td>Porto</td>
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<td>Annual Meeting of the Icelandic Wound Healing Society (SumS)</td>
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<tr>
<td>Wounds UK Harrogate 2012</td>
<td>Sharing Best Practice</td>
<td>Nov</td>
<td>12-14</td>
<td>Harrogate</td>
<td>United Kingdom</td>
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<tr>
<td>Bi-annual Meeting of GNEAUPP</td>
<td>Ulceras por Presión y Heridas Crónicas</td>
<td>Nov</td>
<td>14-16</td>
<td>Sevilla</td>
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<tr>
<td>4th Inter-regional Conference</td>
<td>Wound: Current issues of pathogenesis and treatment</td>
<td>Nov</td>
<td>15-16</td>
<td>Novgorod</td>
<td>Russia</td>
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<tr>
<td>The Neuropathic Osteoarthropathic Foot (Charcot Foot Course)</td>
<td></td>
<td>Nov</td>
<td>15-17</td>
<td>Rheine</td>
<td>Germany</td>
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<tr>
<td>Biennial Meeting of the Danish Wound Healing Society (DSFS)</td>
<td>Pressure Ulcers with a focus on prevention</td>
<td>Nov</td>
<td>22-23</td>
<td>Kolding</td>
<td>Denmark</td>
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<tr>
<td>Annual meeting of Ukrainian Wound Treatment Organisation (UWTO)</td>
<td></td>
<td>Nov</td>
<td>29-30</td>
<td>Kiev</td>
<td>Ukraine</td>
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<td>2013</td>
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<tr>
<td>Annual Conference of The French and Francophone Society of Wounds and Wound Healing (SFFPC)</td>
<td></td>
<td>Jan</td>
<td>20-22</td>
<td>Paris</td>
<td>France</td>
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<tr>
<td>X National Conference of the Czech Wound Management Society (CSLR)</td>
<td></td>
<td>Jan</td>
<td>24-25</td>
<td>Pardubice</td>
<td>Czech Republic</td>
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<tr>
<td>XVI National Wound Management Conference of the Finnish Wound Care Society (FWCS)</td>
<td></td>
<td>Jan- Feb</td>
<td>31-1</td>
<td>Helsinki</td>
<td>Finland</td>
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<tr>
<td>Annual Meeting of the Norwegian Wound Healing Society (NiFS)</td>
<td>Traumatic and Surgical Wounds</td>
<td>Feb</td>
<td>7-8</td>
<td>Oslo</td>
<td>Norway</td>
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<td>Wound Congress of Clinical Nursing Consulting (CNC) – Wondzorg</td>
<td></td>
<td>Feb</td>
<td>7-8</td>
<td></td>
<td></td>
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<tr>
<td>Swedish Wound Care Nurses Association (SSIS) Annual Conference</td>
<td></td>
<td>Apr</td>
<td>15-16</td>
<td>Stockholm</td>
<td>Sweden</td>
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<tr>
<td>Annual Conference of Tissue Viability Society (TVS)</td>
<td></td>
<td>Apr</td>
<td>17-18</td>
<td>Kettering</td>
<td>United Kingdom</td>
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<tr>
<td>Spring Symposium on Advanced Wound Care and Wound Healing Society (SAWC)</td>
<td></td>
<td>May</td>
<td>5</td>
<td>Denver</td>
<td>USA</td>
</tr>
<tr>
<td>23rd Conference of the European Wound Management Association (EWMA)</td>
<td>Organisation and Cooperation in Copenhagen</td>
<td>May</td>
<td>15-17</td>
<td>Copenhagen</td>
<td>Denmark</td>
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<tr>
<td>Diabetic Foot Study Group (DFSG) 2013</td>
<td>Management of the Diabetic Foot</td>
<td>Sep</td>
<td>20-22</td>
<td>Barcelona</td>
<td>Spain</td>
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<td>Pisa International Diabetic Foot Courses 2013</td>
<td></td>
<td>Oct</td>
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For web addresses please visit www.ewma.org

Submit your paper to [EWMA Journal](http://www.ewma.org)
It is my pleasure to provide an update to the readers of the EWMA Journal on the recent affairs of the Association for the Advancement of Wound Care (AAWC).

As the first podiatrist President of the AAWC and with support from the AAWC Board of Directors, it was agreed that creating a platform to address the escalating epidemic of diabetic foot complications and promoting amputation prevention are worthwhile endeavours for the AAWC to pursue.

By promoting a multidisciplinary approach and working in tandem with organisations such as Save a Leg, Save a Life (SALSAL) and the American Diabetes Association, among others, we can initiate a meaningful network, strengthen our efforts, and create a pathway to help diminish the suffering of individuals with this disease.

As a secondary benefit, this initiative could open the door to increased corporate support and grants to help our organisation grow, while also furthering our AAWC Global Volunteers program. I am also pleased to report that an evidenced based guideline concerning foot ulcers in patients with diabetes is planned.

The AAWC Global Volunteers program remains ongoing and represents our organisation’s dedication to foster good works by providing training to clinicians in resource poor areas worldwide. This program is open to all members of the AAWC.

When the program was established, we developed a partnership with Health Volunteers Overseas (HVO) that initially focused on areas of the world relying on little to no medical infrastructure. This required the development of wound care training modules suitable to each country that could be translated to the meaningful care of patients. To augment this initiative, AAWC will now expand this successful model to the United States. An aging population within our country, coupled with a dramatic increase in diabetes and related conditions, creates an environment where our expertise and resources are critical.

Lastly but by no means least, we will be organising a “One Voice” initiative to develop dialogue and cohesiveness between many of the professional organisations and societies involved in the wound care field. We are already working with EWMA on a project paper regarding the importance and necessity of the multidisciplinary approach to wound care. Discussions regarding shared concerns and goals among many organisations could lead to consensus on various wound care related topics worldwide. Here in the US, we expect this initiative to ultimately allow our professionals to speak to patients, payers, and US governmental agencies with “one voice”. With potential changes and uncertainty as to how medical care will be rendered and reimbursed in our country in the future, these accords remain critical in ensuring our survival.

We look forward to our collaboration with EWMA as we move into the next phase of the AAWC’s plans. Our mission is to be a leader in interdisciplinary wound healing and tissue preservation.

If you are not a member, please consider joining at a discounted rate for clinicians through December 31, 2012. There are also low rates for students and retired clinicians, and industry memberships are also available.

Please view the many financial and other benefits offered and join at www.aawconline.org.
Schwellungsempfinden, klinische Schwellungszeichen und manifestes Lymphödem

Microscopic analysis of lymphatic vessels in primary lymphedematous skin

Einfluss visueller Kontrollsysteme auf den Druck von Kompressionsverbänden

Schillers Krankheiten und seine Bestattungen (Teil 1)

Agenesie der V. c. inferior bei der Beinvenenthrombose und der Phlebitis der V. s. magna

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Sociedad Española de Heridas

SEHER is a non-profit scientific organization founded in 2008. The aim of SEHER is to bring all professionals involved in wound care together in a partnership with the following objectives:

- Promote excellence in research, education, prevention, care and treatment of all kinds of wounds.
- Promote the concept of a multidisciplinary approach in the management of wounds, while safeguarding the areas of competence of each professional group.
- Encourage a constant promotion of the knowledge of the health professionals involved.
- Cooperate with other associations or groups whose goals are to improve the quality of the management of wounds.
- Spread among the population procedures and behaviours which help to improve the treatment and care of wounds.

In order to achieve and promote these objectives, SEHER organizes and sponsors a number of scientific activities. An annual Congress on Wounds and Healing (Congreso de Heridas y Cicatrización) will take place every year. The first was in 2011 and the second in 2012; more than 1500 professionals attended each one.

In the Congresses an effort is made to invite pre-eminent experts in the different fields of wound healing, both international and national. Plenary sessions give the delegates the opportunity to learn the most up to date approaches to the hot topics in wound management and research. Round tables are designed to discuss different aspects on five main topics: diabetic foot, pressure ulcers, burns, vascular wounds and surgical wounds. A program of workshops gives the delegates the chance to have real hands-on sessions on basic and advanced techniques in wound management. The average figures of the past two Congresses was 80 speakers, 95 free communications and 112 posters.

Our next Congress will take place in autumn 2013 in Madrid.

In addition to the Congress, SEHER organizes and sponsors a number of instructional scientific meetings such as annual courses on Scientific Methodology, Plastic Surgery and Diabetic Foot. For next spring it has scheduled a Symposium in Barcelona on Negative Pressure Therapy.

SEHER leads the Academia SEHER de Cuidado de Heridas (SEHER Academy on Wound Management). The Academy is the means by which SEHER teaches and improves the knowledge and skills level of professionals dealing with wounds. It has five areas: Burns, pressure ulcers, vascular wounds and surgical wounds and uses a mixed methodology including virtual and on site learning. The program is modular based so ultimately the professional can add modules to his curriculum to end in a university masters degree.

Heridas & Cicatrización (H&C) is the journal of SEHER. Issue number 1 was published in 2010 and to date ten issues have been released. Each issue features between nine and ten papers. Each issue has at least one review paper presenting the state of the art opinion on different topics on wound healing. In addition, there are three to four original articles from both national and international authors, and there is also a paper which focuses on the role of a multidisciplinary team approach to wound management. Every issue also presents some clinical cases and a press review with comments on relevant papers which have appeared in other journals. Every paper has an English abstract.

SEHER supports different research projects in the field of wound management such as proteases in chronic wounds, infection in diabetic foot, dermal substitutes in burns, physiopathology of scars.

In Spain wounds have traditionally been managed by nurses, mainly because of the disinterest of doctors. SEHER is trying to involve more medical specialties in wound management as we believe that wounds must be approached and treated by a multidisciplinary team. In the last years some Wounds Units have been developed in hospitals and are achieving excellent results in terms of lowering morbidity, hospitalization, and economic costs. All the activities of SEHER are focused on encouraging more and more professionals to participate in this multidisciplinary approach to wound management.

Spain is currently living in a deep economic crisis and health care cannot escape its repercussions. Economic cuts in the budgets dramatically affect health providers in wound care; more and more health products are being removed from the catalogue of financed materials by the national health system.

SEHER, as a scientific organization, is willing to become a valid interlocutor with the health authorities to provide information and advice, and to work with the decision makers to develop a health policy supported by scientific foundations.
SAVE THE DATE

Clinical Symposium on Advances in SKIN & WOUND CARE
The Conference for Prevention and Healing

OCTOBER 20-23, 2012

CAESARS PALACE, LAS VEGAS, NV

SEE THE COMPLETE DETAILS ONLINE INCLUDING CONTINUING EDUCATION STATEMENTS, LEARNING OBJECTIVES, SESSION DESCRIPTIONS, FACULTY CREDENTIALS, INFORMATION FOR SUBMITTING ORAL AND POSTER ABSTRACTS, AND REGISTRATION INFORMATION.
The Ukrainian Wound Treatment Organisation (UWTO)

The Ukrainian Wound Treatment organisation was founded in 2009. Nowadays UWTO has over 110 active members. Among them are medical professionals and doctors from a range of specialties such as surgeons, burn specialists, podiatrists, vascular surgeons, plastic surgeons, hospital nurses and caseworkers.

Currently, the population of Ukraine is 45.660 mio. people. The administrative division is 24 regions, plus the Autonomous Republic of Crimea. Ukraine has four towns – Kiev, Kharkov, Odessa, and Dnipropetrovsk; the population of each of these is more than one mio. people. The UWTO has local subdivisions in 16 regions of the 24.

Conferences
The UWTO has its own annual Conference. To date it has held 12 conferences which makes it apparent that the conferences were held before the creation of UWTO. This in turn means that the problem of wound care has been around and recognised for a long time; in the present and in the past. The next Annual Conference of UWTO will be held in the P.L. Schupik National Academy of Postgraduate Education in Kiev, November, 29-30, 2012.

The conferences are very popular as illustrated by the fact that they are attended by a large number of specialists involved in wound treatment and its challenges – burn specialists, surgeons, vascular surgeons, micro vascular surgeons, plastic surgeons and other healthcare professionals.

During the conferences there are discussions covering the problems of rendering assistance to patients with wounds of different etiologies, discussions investigating the wound development process under the different conditions of surgical treatment, and the influence of wounds on the development of systemic inflammatory response. In addition, other discussion topics include:

- Factor analysis of the systemic inflammatory response development and multiple organ failure;
- Mechanisms of the development of inflammatory complications and staging of sepsis development;
- Decision making and recommendations for the practitioners on the treatment of wounds of varying etiologies wounds;
- Treatment of different etiology wounds during a war period.

Research programs and projects
The research programs on wounds treatment foresee different schools taking part in inflammatory reactions development pathogenesis studies and researching conditions of blood circulation for reparative regeneration with usage of different medical preparations: antiseptics, biologic and synthetic coverings, different methods of surgical treatment with usage of complex grafts with axial or perforant types of blood circulation. In addition educational programs on the treatment of wounds of different etiologies were developed. These programs are taught within departments of burns and plastic surgery in higher education institutions of postgraduate education.

Presentations of the research results on the conditions of wounds healing or their surgical renewal studies are made within the framework of the annual UWTO Conference.

Annual conferences of regional surgeons are also held, to which leading specialists are invited as guest speakers.

Wound management system in Ukraine
Currently there exists a staged system of wounds treatment to ensure the correct rendering of qualified medical aid to suit the level of wound. This is done in stages through regional hospitals and healthcare, where anti-shock activities and first surgical treatments are carried out. The wounds which are not large are treated locally, but those patients with complicated wounds who need special methods of surgical treatment are moved for specialist treatment into clinics. In these institutions patients receive highly specific treatment including usage of modern complex methods of surgical reconstruction of soft tissues defects.

Nowadays wounds treatment in Ukraine utilises modern antiseptics, medical preparations of osmotic action with antibacterial effect, biological coatings developed in Ukraine and foreign synthetic coatings for dermal wounds healing.

Opportunities and challenges
In Ukraine there is a lack of modern coatings for the development of reparative regeneration of deep dermal and subfascial injuries. We also lack cellular technologies for the activation of reparative regeneration of deep wounds; thus definition and usage of cellular factors of reparative regeneration are being actively developed. The investigations on cultivating allogenic keratinocytes for the renewal of cutaneous covering integrity are currently being carried out. We are developing and implementing methods of deep wounds treatment utilising tissue compound complexes during dermotension, grafts with axial type of blood circulation and perforant vessels for different injured body regions.

We have also developed methods of conservative and surgical rehabilitation of patients with cicatricial deformation and contractures, and conducted research studies observing the influence of autologous adipocytes (stem cells) and platelet-derived growth factors on the processes of reversed development of cicatricial tissue.
Journal of Tissue Viability

*Journal of Tissue Viability* is a quarterly journal concerned with all aspects of the occurrence and treatment of wounds, ulcers and pressure sores including patient care, pain, nutrition, wound healing, research, prevention, mobility, social problems and management.

The Journal particularly encourages papers covering skin and skin wounds but will consider articles that discuss injury in any tissue. Articles that stress the multi-professional nature of tissue viability are especially welcome. We seek to encourage new authors as well as well-established contributors to the field - one aim of the journal is to enable all participants in tissue viability to share information with colleagues.

We are excited to invite you to publish in *Journal of Tissue Viability*, an international, peer reviewed journal.

For more information visit: [www.journaloftissueviability.com](http://www.journaloftissueviability.com)

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- Case Report
- Review Articles
- Letters to the Editor

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- Medline
- PubMed
- Science Direct
- Scopus

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The Iberolatinoamericana Ulcers and Wounds Society (SILAUHE) was created in Tarragona (Spain) in November 2008, with the object of furthering and defending within the scope of the area regarding treatment of ulcers and other injuries and those responsible for their care, treatment, ethics, and ethical aspects, as well as the dignity and cultural technical prestige of these healthcare professionals, and the scientific and research development on these processes in all the member countries.

The purpose of this society is proposed within a regime of freedom, autonomy, representativeness and participation of its partners.

Membership of SILAUHE is made up of representatives from the different registered associations and legally constituted scientific groups or commissions of health organizations in the countries of the network area dedicated to or interested in tasks related to ulcers and wounds.

The last General Assembly was held in September; where members of this association with full rights, the countries of Argentina, Brazil, Chile, Spain, Italy, Mexico, Portugal and Uruguay met. Furthermore we were pleased to confirm cooperation with two new associations and possibly many other interested contacts from numerous countries.

From May 2012 EWMA has accepted SILAUHE’s inclusion as an International Partner Organization.

This wide geographical area of America and Latin Europe maintains historical, cultural, socio-economic and linguistic ties with deep roots, incorporating nearly seven hundred million people. The heterogeneity in the care of the different health care systems of these countries has developed into noticeable differences in the care of patients with wounds. No doubt the close relationship that SILAUHE is going to establish between member countries will serve to improve the quality of care.
as well as research related to these health problems, through large epidemiological projects in the area.

From its website (www.silauhe.org) SILAUHE is trying to harmonize a tool for liaison between the various associations that make up SILAUHE and future work for training activities, etc. SILAUHE is currently working on the development of procedures for accreditation for scientific activities and technical documents in this network.

This will help move forward the request from the OPS/WHO, for the creation within SILAUHE of an Ulcers and Wounds Network. A formal network of professionals dedicated to the theme of wounds and wound care, which will develop, create and share information, experience, and successful practices and thereby enrich wound care services in all the member countries.

It is a strategy of cooperation, solidarity and synergy among scientific societies, institutions, organisations and programs concerned with the development of knowledge, care, management and research in the prevention and treatment of ulcers and other wounds.

The General Assembly of the SILAUHE, held in Rio de Janeiro in October 2011, agreed on the text of the Declaration of Rio de Janeiro, Preventing Ulcers Pressure is a Universal Right, and translated it into several languages. In addition, as well as calling for the 1st World Day for the Pressure Ulcers Prevention to be held on November 16, 2012, SILAUHE is inviting members to organize celebrations in different countries in our region. Similarly the invitation was extended to European organisations, such as EWMA and EPUAP, who agreed to join this world day. There will be numerous and diverse activities scheduled for that day in the different consenting countries.

**SILAUHE ASSOCIATIONS**

- APTFeridas (Associação Portuguesa de Tratamento de Feridas)
- Conferenza Italiana per lo Studio e la Ricerca sulle Ulceri, Piaghe, Fonte e la Riparazione Tessutale
- ELCOS (Società Italiana di Cura delle Ferite e del tessuto)
- GAIF (Gruppo Associativo di Investigazione em Feridas)
- GEHUPP (Grupo de Estudio de Heridas y Úlceras por Presión – Tucumán – Argentina)
- GNEAUUPP (Grupo Nacional para el Estudio y Asesoramiento en Ulceras por Presión y Heridas Crónicas)
- Comisión permanente de enfermería (Secretaria de Salud) (Mexico)
- SCUH (Sociedad Uruguaya de Enfermería)
- SOBENFeE (Sociedade Brasileira de Enfermagem em Feridas e Estética)
- Sociedad Chilena de Heridas y Cirugía Tissue Repair

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- Yearly membership fee € 25
- Yearly membership fee for members of cooperating organisations € 10

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www.ewma.org

Please register as a EWMA member at WWW.EWMA.ORG
Cooperating Organisations

AFIScep.be
French Nurses’ Association in Stoma Therapy, Wound Healing and Wounds
www.afiscep.be

AISLeC
Italian Nurses’ Cutaneous Wounds Association
www.aislec.it

AIUC
Italian Association for the study of Cutaneous Ulcers
www.aiuc.it

APTFeridas
Portuguese Association for the Treatment of Wounds
www.aptf eradas.com

AWA
Austrian Wound Association
www.a-w-a.at

BEFEWO
Belgian Federation of Woundcare
www.befewo.org

BWA
Bulgarian Wound Association
www.woundbulgaria.org

CNC
Clinical Nursing Consulting – Wondzorg
www.wondzorg.be

CRLF
Czech Wound Management Society
www.csf.cz

CWA
Croatian Wound Association
www.huzr.hr

DGFW
German Wound Healing Society
www.dgfw.de

DSFS
Danish Wound Healing Society
www.saar.dk

FWCS
Finnish Wound Care Society
www.suomenhaavanhoityyhdistys.fi

GAIF
Associated Group of Research in Wounds
www.gaif.net

GNEAUpp
National Advisory Group for the Study of Pressure Ulcers and Chronic Wounds
www.gneaupp.org

ICW
Chronic Wounds Initiative
www.ic-wunden.de

LBAA
Latvian Wound Treating Organisation

LUF
The Leg Ulcer Forum
www.legulcerforum.org

LWMA
Lithuanian Wound Management Association
www.lzga.lt

MASC
Maltese Association of Skin and Wound Care
www.mwcf.madv.org.mt/

MSKT
Hungarian Wound Care Society
www.euuzlet.hu/mskt/

MWMA
Macedonian Wound Management Association

Associated Organisations

Leg Club
Lindsay Leg Club Foundation
www.legclub.org

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

ILF
International Lymphoedema Framework
www.lympho.org

NZWCS
New Zealand Wound Care Society
www.nzwcs.org.nz

SILAUHE
Iberolatinoamerican Society of Ulcers and Wounds
www.silauhe.org

SOBENFe
Brazilian Wound Management Association
www.sobenfee.org.br

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

International Partner Organisations

AWMA
Australian Wound Management Association
www.awma.com.au

AAWC
Association for the Advancement of Wound Care
www.aawco.org

Debra International Dystrophic Epidermolysis Bullosa Research Association
www.debra.org.uk

EFORT
European Federation of National Associations of Orthopaedics and Traumatology
www.efort.org

ILF
International Lymphoedema Framework
www.lympho.org

NZWCS
New Zealand Wound Care Society
www.nzwcs.org.nz

SILAUHE
Iberolatinoamerican Society of Ulcers and Wounds
www.silauhe.org

SOBENFe
Brazilian Wound Management Association
www.sobenfee.org.br
NATVNS
National Association of Tissue Viability Nurses, Scotland

NIFS
Norwegian Wound Healing Association
www.nifs-saar.no

NOW
Dutch Organisation of Wound Care Nurses
www.now.org

PWMA
Polish Wound Management Association
www.pwma.pl

SAFW
Swiss Association for Wound Care (German section)
www.safw.ch

SAFW
Swiss Association for Wound Care (French section)
www.safw-romande.ch

SAWMA
Serbian Advanced Wound Management Association
www.lecenjerana.com

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

SEHER
The Spanish Society of Wounds
www.sociedadespanolaheridas.es

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

SSiS
Swedish Wound Care Nurses Association
www.sansjukskotenskor.se

SSOOR
Slovak Wound Care Association
www.ssoor.sk

STW Belarus
Society for the Treatment of Wounds (Gomel, Belarus)
www.burnplast.gomel.by

SUMS
Icelandic Wound Healing Society
www.sums.is.org

SWHS
Swedish Wound Healing Society
www.lecenjerana.com

WMAI
Wound Management Association of Ireland
www.wmai.ie

WMAS
Wound Management Association Slovenia
www.dors.si

WMAT
Wound Management Association Turkey
www.yaradernegi.net

DFSG
Diabetic Foot Study Group
www.dfsg.org

EADV
European Academy of Dermatology and Venereology
www.eadv.org

EBA
European Burns Association
www.euroburn.org

EPUAP
European Pressure Ulcer Advisory Panel
www.epuap.org

ETRS
European Tissue Repair Society
www.etr.org

Eucomed
Eucomed Advanced Wound Care Sector Group
www.eucomed.org

ICC
International Compression Club
www.icc-compressionclub.com

MSF
Médecins Sans Frontières
www.msf.org

WAWLC
World Alliance for Wound and Lymphedema Care
www.wawlc.org

WUWHS
The World Union of Wound Healing Societies
www.wuwhs.org
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