

Meeting Report: 'Raising the Bar'- creating a better tomorrow



Author: Wounds International

This article is based on the proceedings of the one-day 'Raising the Bar' conference in Singapore held by Wounds International and supported by an educational grant from Urgo International on October 15, 2017. The day provided more than 100 clinicians from around Asia with an exceptional opportunity to gain insights and best practice recommendations from a faculty of local and regional wound care specialists, supported by visions from global practitioners.

The meeting was chaired by **Professor Keith Harding**, Dean of Clinical Innovation, CU & Medical Director, WWIC, Cardiff University & Welsh Wound Innovation Centre, UK. Speakers included: **Emilio Galea**, Urgo International, International Medical Director, United Arab Emirates; **Joon Pio Hong**, Professor, Plastic and Reconstructive Surgery; Asan Medical Centre, University of Ulsan College of Medicine, Seoul, Korea; **Ms Susie Goh**, Director of Nursing, St Luke's Hospital, Singapore; **Ms Png Gek Kheng**, APN/Assistant Director of Nursing, Changi General Hospital, Singapore; **Dr Serge Bohbot**, Medical Director, Urgo Medical, France; **Dr Sriram Narayanan**, Senior Consultant Vascular and Endovascular Surgeon, Harley Street Heart & Vascular Centre, Singapore

The burden of chronic wounds on society

The conference began with an overview of the societal impact of chronic wounds, paying particular attention to resources and healthcare costs. Opening the first session of the day, Professor Keith Harding gave examples of the financial burden incurred by wound care, pointing to areas of the world where research and evidence has been validated.

In the UK, a recent study has shown that wounds and their complications account for almost 4% of total healthcare costs, amounting to £5.1bn per annum (Guest et al, 2015). In addition, healthcare cost in the UK and worldwide will continue to rise as the prevalence and incidence of wounds is exacerbated by rising rates of diabetes and obesity.

Box 1 summarises key data on wound-related healthcare costs, collected from various research throughout Europe and the US.

These costs represent a need to allocate a higher level of attention and resources to wound care at a local level, with research showing that rapid access to multidisciplinary foot care can lead to fewer amputations, improved survival and reduced overall expenditure.

Keith went on to present evidence of the global impact of wounds, outlining research produced by himself and Douglas Queen. Overall, their research found that the global

Box 1. The global burden of chronic wounds.

- In the UK, treatment of diabetic foot complications accounts for 15–25% of all healthcare resources for diabetes (Boulton et al, 2005; WHO, 2005)
- The total NHS spend on ulceration and amputation in people with diabetes between 2010–11 was £639–£662 million. Across Europe, incidence of leg ulcers in the over 65s is 1.16% (980,000) (Posnett et al, 2009) with a cost per episode of €2,500–10,800 and an indicative annual cost €6.5bn (venous only) (Bennett et al, 2004)
- Surgical site infection is estimated to affect 30–40 patients per 1,000 operations, at a mean cost of €5,800 per episode (Drew et al, 2007)
- In the US, it is estimated that there are 6.5 million wounds treated annually, costing more than US\$25bn (Sen et al, 2009)

extent of wounds is rising, with more than 400 million acute, chronic and traumatic wounds being treated a year, and an estimated combined cost of treatment in excess of US\$70bn (Harding and Queen, 2012).

Against this backdrop of huge costs, Keith discussed the finite resources available to healthcare in all geographies, and the necessary requirement for all clinicians to focus on

Box 2. The three levels of significance.

- Statistical – Is it real?
- Clinical – Does it matter?
- Personal – Does it apply?

prevention strategies and evidence-based, cost-conscious approaches to wound care. He referred delegates to 2013 International consensus guidelines for cost effective wound management (Wounds International, 2013). The guidelines clearly define the concept of cost effective wound management and provide practical advice on how to interpret cost information and make a business case.

The advantages of high-level education

The second session presented by Keith focused on the educational needs within the speciality. It examined the essential role of on-going professional development and learning in tackling the growing problem of hard-to-heal wounds and the aforementioned financial and resource concerns.

Building knowledge and understanding in wound care beyond the specialist sphere is crucial, yet current curriculums are a barrier to advancement of this kind. The lack of teaching time devoted to wound care in most healthcare training was cited in this session as a specific challenge. For example, a 2007 American study of more than 50 medical schools found scant directed education in relevant wound topics; the mean hours in the physiology of wound healing were recorded as 2.1 hours and 1.9 hours in the first and second years respectively (Patel and Granick, 2007).

Keith exposed the inadequacy of current teaching curriculums. He highlighted the response to scrutiny from such bodies as the European Wound Management Association (EWMA) for doctors and nurses and the American Fellowship Programme (AFP), including a call from the EWMA for a general consensus on the minimal education programme needed to be considered an educated expert in handling wound patients.

However, wound healing as a clinical speciality is evolving. Keith commented on the positive moves that are being made to open up high-level education in wound care, noting a considerable growth in opportunities over the past 40 years. He discussed his own efforts in the area, having established the Wound Healing Research Unit at Cardiff University and the first ever masters course in wound healing. More recently, Keith helped to establish the Welsh Wound Innovation Centre, which provides a unique facility for clinicians, patients and industry to collaborate to improve education and understanding. Both institutions are making valuable contributions to research and are

helping to build an evidence base that will fuel knowledge and understanding and ultimately, bring about innovation in the field.

Methods for improving service delivery

Adding to the conversation on wound care education, Emilio Galea, International Medical Director of Urgo took to the stage to present a session entitled 'Wound care education — methods for improving service delivery'.

Building on some of the themes from Keith's presentation, he called into question the relatively low level of wound care knowledge among the general population, general clinical staff and physicians. He advocated the use of different teaching methods and emphasised how as specialist clinicians, delegates had a duty to impart their knowledge to their less experienced colleagues and the wider disciplinary team.

Emilio also talked about the important role the medical device industry plays in supporting clinicians to develop their knowledge and understanding of how to appropriately use different products in practice.

The role of informed decision-making in optimising care

Professor Keith Harding returned for a discussion around evidence-based medicine (EBM). He presented the wide variety of evidence types available to clinicians and his views on how they ought to be interpreted. (Figure 1 shows the hierarchy of evidence).

Delegates were challenged to think about the best way of treating their patients when high-level evidence in wound care is scarcely available, and were advised to keep in mind the three levels of significance as defined by Dr Kieran Sweeney (Sweeney, 2010) [Box 2]. To stress his point, Keith exhibited 18 Cochrane evidence reviews around different approaches to treatment of acute, venous

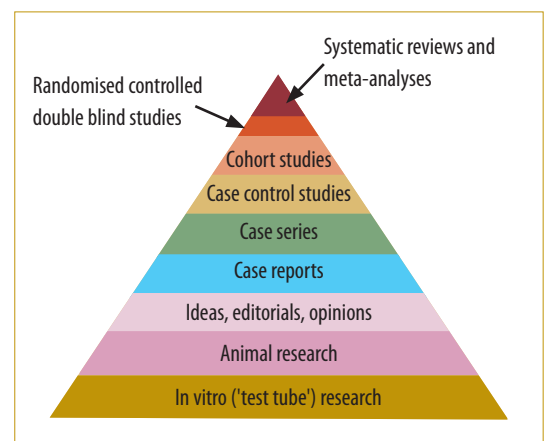


Figure 1. The hierarchy of evidence.

Box 3: Sucrose octasulfate dressing versus control dressing in patients with neuroischaemic diabetic foot ulcers (Edmonds et al, 2017).

EXPLORER was double-blind, randomised, controlled trial of 240 patients in 43 hospitals with specialised diabetic foot clinics in France, Spain, Italy, Germany, and the UK. Eligible participants were inpatients or outpatients aged 18 years or older with diabetes and a non-infected neuroischaemic diabetic foot ulcer greater than 1 cm² and of grade IC or IIC (Texas Classification).

Participants were randomised (1:1) via a computer-generated procedure and stratified by study centre and wound area (1–5 cm² and 5–30 cm²) to treatment with either a sucrose octasulfate wound dressing (n=126) or the same dressing without sucrose octasulfate (n=114). Standard of care was otherwise the same in the two groups. Patients were assessed 2 weeks after randomisation, then monthly for 20 weeks or until occurrence of wound closure.

After 20 weeks, wound closure occurred in 60 patients (48%) in the sucrose octasulfate dressing group and 34 patients (30%) in the control group (18 percentage points difference, 95% CI 5–30; adjusted odds ratio 2.60, 95% CI 1.43–4.73; P=0.002). The estimated mean time to closure was 60 days longer (95% CI 47–75) in the control dressing group than in the sucrose octasulfate dressing group (180 vs 120 days; P=0.029). In both groups, the most frequent adverse events were infections of the target wound (20% and 28%, respectively).

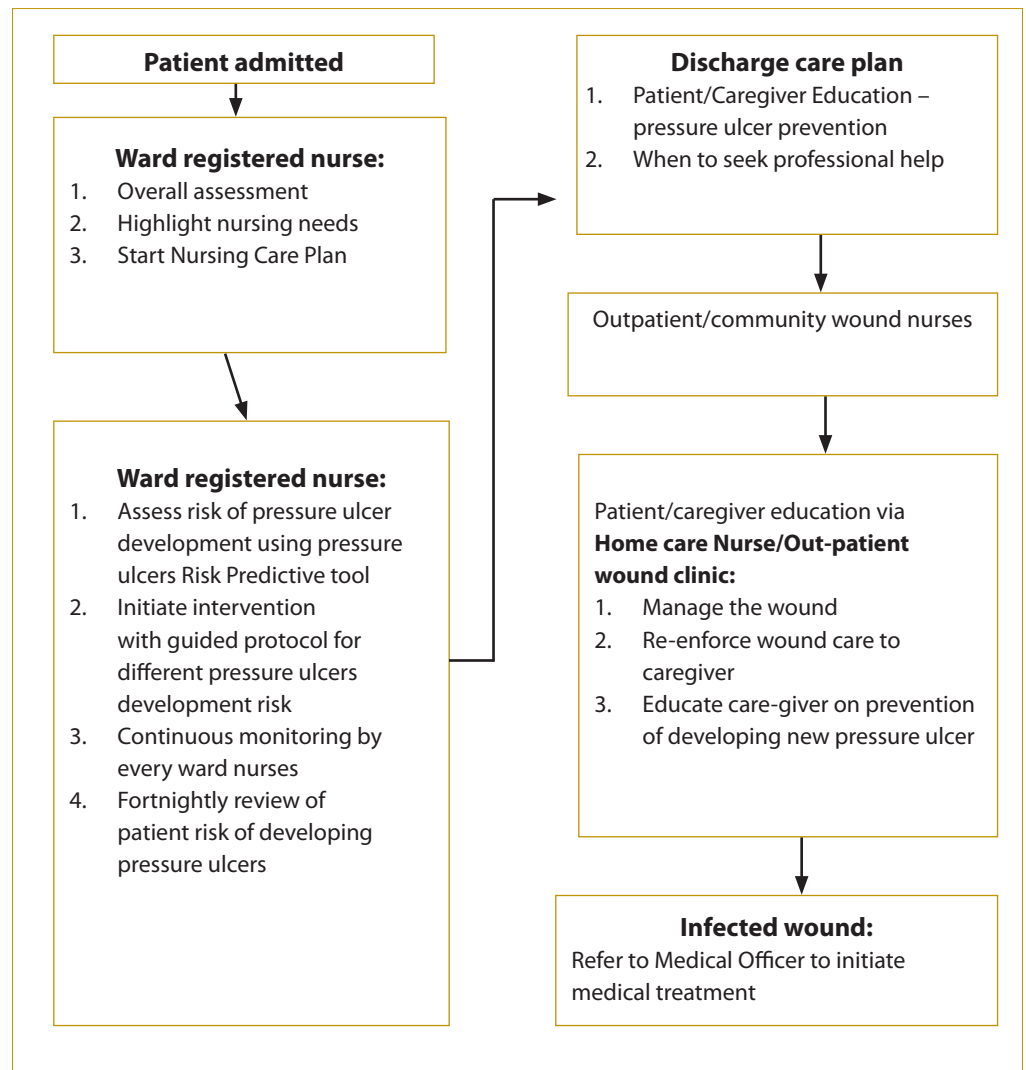


Figure 2. Protocol for the prediction and prevention of PUs at St Luke's Hospital, Singapore.

leg ulcer and diabetic foot ulcers, all of which gave conclusions of insufficient evidence to fully support a variety of common practice.

Keith advocated a common sense approach and the use of clinical judgement in the absence of evidence.

He suggested that it was incumbent on all clinicians, in an era of EBM, to collect data where possible in order to drive enhanced practice and improve patient outcomes.

Keith's final point was that where there is good, robust evidence available, like data from RCTs, then clinicians are duty-bound to ensure this evidence is incorporated into treatment protocols and used to make definitive changes in clinical practice.

Technical innovation in wound healing

In the next session, Professor Joon introduced delegates to the topics of innovation and technology in wound healing.

Joon Pio showcased work being undertaken by his department at the Asan Medical Centre in South Korea, where microsurgery techniques and donor site harvesting have helped to improve outcomes and healing rates for patients suffering from diabetic foot wounds.

His session included demonstrative videos of these techniques, which helped to corroborate the level of innovation he and his colleagues are undertaking to improve patients' lives and build an understanding of what can be achieved through surgical intervention.

Serge Bohbot, Medical Director of Urgo Medical, delivered the final session of the morning, sharing details of the RCT work Urgo has undertaken over the past few years to support the use of the company's Nano-Oligosaccharide Factor (NOSF= sucrose octasulfate) technology in wound healing. Serge was especially delighted to present the results of Urgo's most recent EXPLORER study

Box 4. Goals of compression therapy (Wounds International, 2013).

- Improve blood flow velocity
- Restore blood flow velocity to normal levels
- Reduce or prevent oedema
- Prevent the progression of venous or lymphatic disease

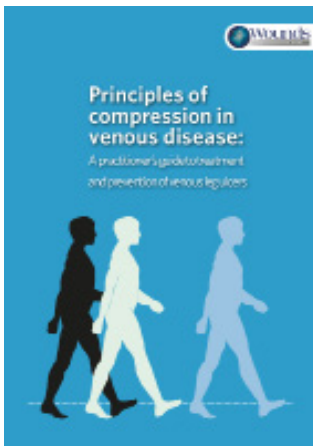


Figure 3. Principles of compression in venous disease (Wounds International, 2013).

(Edmonds et al, 2017), recently published in the Lancet [Box 3]. The study supports the use of sucrose octasulfate dressings in neuroischaemic diabetic foot ulcers, finding the compound can improve wound closure and reduce time to closure without affecting safety.

CASE STUDY: nurse-led management in pressure ulcer care

The afternoon began with a practical presentation from Ms Susie Goh and Ms Png Gek Kheng, who head up a nurse-led management programme for wound management at St Luke's Hospital and Changi General Hospital, Singapore, respectively. They described how the strategies they have implemented have prevented and reduced pressure ulcer (PU) incidence in their Singapore facilities. Figure 2 shows the protocol nurses follow to predict and prevent PU occurrence at St Luke's Hospital.

This session underpinned much of the discussion from the morning presentations, providing a real-life example of how to successfully implement education and evidence from a variety of sources to create a framework of care that actively improves outcomes.

The speakers demonstrated how they have been able to use their knowledge to improve understanding of PU prevention throughout the hospital and the wider multi-disciplinary teams. Innovative initiatives including the creation of basic, intermediate and advanced wound care courses, were fundamental in their achievements, as was the hosting of an annual wound care conference for all clinicians. Regular review of international best practice guidance enables the implementation of timely and appropriate evidence-based strategies within the hospital.

The positive effects of compression on healing

Dr Sriram Narayanan led the next session, which looked at the use of compression therapy in venous and mixed arteriovenous ulcers.

Sriram took delegates through the history of our developing understanding of the science behind the use of compression and the positive effect it has on healing. However, he was clear that a prerequisite to successful treatment is the precise calibration of the pressure of medical stockings based on a patient's individual disease profile. In light of this, Sriram stressed the importance of having a qualified health professional write a prescription indicating the purpose of the therapy and the recommended class of compression.

Box 5. Take-home messages.

- Assess haemodynamics to plan intervention – degree of outflow obstruction decided therapy for source control
- Peri-wound oedema, dermatitis and itching require controlled compression to prevent skin deterioration
- The contact layer is key – early decision to control MMP dysregulation saves time, money and suffering

He guided delegates to the Wounds International 'Principles of Compression in Venous Disease' [Box 4 and Figure 3] and recommended the document as an excellent guide to the use of compression as a management option. (Available to download at www.woundsinternational.com).

Metalloproteinases (MMPs)

Dr Sriram Narayanan moved his discussion on to examine the role of elevated levels of Matrix Metalloproteinases (MMPs) in the delayed healing of chronic wounds.

MMPs are enzymes present during the wound healing process. Chronic wounds present with higher MMPs levels than normal healing acute wounds and are therefore understood to impede the healing process. In light of this and referring to published research, Sriram informed delegates that all chronic wounds 'should be treated for their protease imbalance and can benefit from a protease modulating treatment right from the beginning' (Lazaro et al, 2016).

He pointed out that alongside judicious use of compression therapy, identifying elevated MMP activity and utilising the appropriate dressing to combat the effect of these elevations can radically improve the healing trajectory of chronic wounds. However, in his closing remarks Sriram noted that venous leg ulcer treatment should be considered as a sequence, rather than simply as a dressing or a bandage. (Other take-home messages are summarised in Box 5).

TLC-NOSF technology

UrgoStart (Urigo International) contains Nano-Oligosaccharide Factor (NOSF=sucrose octasulfate), which is proven to rebalance MMP activity in the wound bed (Raffetto, 2014). To support this, Dr Sriram referred to a number of recent RCTs conducted by Urigo.

The WHAT study (Schmutz et al, 2008) identified UrgoStart as having superior

relative and absolute surface reduction in wound healing compared to the control MMP inhibitor wound dressing, and found the product is active on recent (<6 months) and old (>6 months) ulcers. By contrast, the comparator product in the trial was found to be only effective on recent ulcers.

The REALITY study (Munter et al, 2017) pooled data from eight observational studies including more than 10,000 patients being treated with UrgoStart. The study found time to full closure in leg ulcers was reduced by 100 days on average when using UrgoStart, compared with a general database of wounds (average=210 days) from the French health care authorities. In the CHALLENGE double-blind RCT, patients using UrgoStart also reported less pain and discomfort and reduced levels of anxiety and depression (Meaume et al, 2012). Overall, the study demonstrated significantly superior efficacy with UrgoStart versus the neutral dressing (comparator) in terms of relative wound area reduction and healing speed.

Closing remarks and thanks

The last session of the day, chaired by Professor Keith Harding, gave delegates the opportunity to directly interact with the speaker panel. Questions were plentiful and wide-ranging, provoking lively debate and discussion among the panel and the audience.

Wounds International would like to thank our sponsors, Urgo International, without whom we would not have been able to run the conference. Their support and commitment to wound care education is highly welcomed and you can receive more information about their educational activities and innovative wound healing products at www.urgomedical.com.

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Positive feedback from delegates and speakers from the conference has been overwhelming and has encouraged us to further pursue educational opportunities in Asia. Therefore, we are proud to announce that we will soon be launching a website and journal for the region at www.woundsasia.com.

WOUNDS ASIA

A dedicated online journal for raising awareness, sharing best practice and setting new standards for wound care management in Asia

Launching soon