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—Editorial—

**Passionate about wounds**

Last month we staged the first Wounds-UK Awards which celebrated the work of many experts in clinical practice. Important to these awards were the awards for the major contribution to wound care. These awards were given to Professor Keith Harding and Professor Christine Moffatt, two of the most influential and hard working people in wound and leg ulcer care today. The key to their continuous commitment and drive in this field is passion. Passion about patients with wounds, passion about improving the lives of the people they look after and passion about pushing the boundaries of wound management. Another passion which these two individuals share is that of education and the sharing of knowledge. There is an undeniable link between the development of wound management as a discipline and the education of those involved in delivering wound care. Some establishments see little or no link between actual clinical work and what is taught, however, having recently moved to a new post which will involve seeing patients with wounds, already I have witnessed many challenges which patients present and without this, I fail to see how education can survive in relative isolation from the clinical work being done.

The theory practice gap, a phrase which is often

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used to describe this state, is still present, however, with experts such as Keith, Christine and others like them continuing to run clinics as well as being involved in education, this gap is much less significant.

Our challenge for the future is to continue to access education which meets our needs and those of the patient, and to remain focussed on the high standards which we have set for ourselves, despite the adverse conditions which many of you will be working under.

**John Timmons**

**Editor**

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### ▸ **Third Line Therapies**

Over the past decade it has become more apparent that many patients with chronic or complex wounds will require treatment with products which are not viewed as 'traditional' wound care products. For a number of years the choice of wound care products available was, to an extent, limited, however, the opposite is true today. With so many products available, how do we categorise them and how do we make informed decisions. It may be useful to classify some of the products into 1st 2nd and 3rd line therapies. First line treatments could be viewed as those which we apply to wounds which are viewed as healing in a 'normal' fashion. These products include hydrogels, alginates, hydrocolloids, foams and hydrofibres.

Second line therapies are those which also may be used everyday but which may be considered when the wound requires more intense therapy to treat sloughy tissue, malodour, or signs of infection. Products such as antimicrobials in the form of silver, iodine or honey based products and larval therapy may also be included in this list of therapies.

Third line therapies are therefore often used when the more 'routine' treatments are not effective. Our knowledge of wounds has increased

greatly over the years and it would appear that many 'third line' therapies have been developed as a result of this new knowledge. Chronic wounds have been shown to exhibit a number of traits which are not present in acute wounds which will prolong the healing process (Sibbald 2000). Often the wound is merely a feature of the patients overall condition, and it has been shown that patients with concurrent illness have many issues which will adversely affect the wound healing environment. Clinically these wounds may appear to be indolent or non healing, or there may be discolouration of the wound bed and/or excessive devitalised tissue present.

Some of the features of a complex and/or chronic wound which may slow or stop healing are listed below:

Features of a chronic/complex wound:

Excessive proteases

Cell senescence

Early cell death or apoptosis

Excessive proteases and reduction of inhibitors.

Excessive exudate

Reduced production of cytokines

Alkaline pH

Presence of devitalised tissue

Excess bacteria

Prolonged inflammation

Poor vascular supply

Enoch, Grey, and Harding (2006)

Of course it is more important to realise that the patients overall condition will have a huge part to play in the healing of the wound and that dressings are a very small part of the overall equation. What is useful to note, however, that many products available have been developed with these issues in mind. Their mode of action is therefore designed to address some the problems which complex wounds may display. The nature of wound healing dictates that there is no quick fix and therefore the key to any course of treatment is in accurate assessment of the patient and the wound.

## Examples of third line products

Promogran (Johnson and Johnson) is a good example of a product which has been developed as a result of improved knowledge of chronic wound healing. Comprising an oxidized collagen matrix Promogran forms a gel in the wound which binds to proteases and acts as a temporary matrix for the cells within the wound. This protects the extracellular matrix materials. Key growth factors are bound to the matrix and released into the wound over time. Vin, Teot and Meume (2002) found an overall greater decrease in leg ulcer size using a combination of Promogran and compression bandaging.

Xelma (Molnlycke) is an extracellular matrix protein (amelogenin) which is combined with an alginate and comes in liquid form for application to chronic wounds. The aim of this product is to improve the cellular environment by forming a temporary matrix for adhesion of cells. In complex wounds the Extracellular Matrix (ECM) can be broken down by excessive proteases. Xelma acting as an ECM can help to support the key cell types in the wound allowing healing to take place. A study of 123 patients with leg ulcers revealed a reduction in overall ulcer size in the Xelma group compared with the control group (using only the alginate component) (Romanelli, Vowden and Ralf et al).

Cadesorb from Smith and Nephew is a pH modulating ointment for use on chronic wounds which may be indolent and/or not responding to treatment. Many chronic wounds have a pH of  $>7$  which indicates an alkaline wound. Wounds are less likely to heal at this pH, and this is a pH which supports excessive protease activation and reduced inhibition, which in turn leads to breakdown of the ECM (Greener et al 2005). Cadesorb reduces the pH of the wound to around 5.4, which reduces the amount of proteases in the wound, speeding up the healing process.

Vacuum assisted closure or VAC (KCI) has been a major development in the management of chronic or complex wounds. Pioneering work demonstrated that by applying negative pressure, faster tissue growth can be achieved. There are a number of benefits of topical negative pressure (TNP) which include rapid cell division, increase in local blood flow,

reduction in bacteria levels and removal of harmful proteases (Mendez-Eastman 2001).

## **Conclusion**

The above treatments are a small sample of the types of products which are available when faced with hard to heal wounds. Bioengineered skin equivalents are also now more available and have proven useful in treating diabetic foot wounds, however, may not be accessible to all practitioners at this point (Enoch et al 2006). For many of our patients, standard wound healing treatments may be more than adequate, however, there are a number of patients who will not respond to these treatments. It is essential that practitioners are aware of the potential causes of slow or non healing wounds, and as a result know when to utilize products which are designed to improve the status of such wounds. The number of elderly patients is again set to increase over the next 20 years and it is highly likely that this will be accompanied by an increase in chronic/complex wounds. It is also likely that the third line products of today may become the standard (first line) treatments of tomorrow.

## **John Timmons**

### **Editor**

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## ▾ **Wounds UK Summer conferences**

Wounds UK held a trio of conferences in Stoneleigh Park, Warwickshire last month. Addressing Paediatric, Dermatology and Generic wound care issues, the conferences were well received and attendance was high. Many companies were also represented in a large exhibition at the event which was extremely popular with the delegates. There were many excellent speakers in all of the conferences and the feedback from the delegates has been very positive.

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