WOUNDS-UK 2003 – A MEETING REPORT

Each November the elegant Victorian spa town of Harrogate hosts the premier UK wound healing conference at the International Conference Centre. On 11th and 12th November 2003, over 800 delegates attended Wounds-UK 2003, with some travelling from Canada, Cyprus, the Czech Republic, Denmark, Germany, Iceland, Italy, the Netherlands, the USA and Sweden.

The conference was supported by the Leg Ulcer Forum, the Tissue Viability Nurses Association (TVNA), the Tissue Viability Society (TVS) and the Wound Care Society. Members of each organization presented free papers and posters describing their research and professional practice. Additionally, four plenary sessions were organized with invited speakers to discuss the topical issues of wound dressing evaluation, wound infection, wound bed preparation and management of difficult wounds. There was a full social programme for relaxation and meeting colleagues at the gala dinner and party afterwards and a comprehensive trade exhibition running for the duration of the conference.

PLENARY SESSION 1 — EVALUATING WOUND DRESSING PERFORMANCE

The conference was opened by Professor Keith Harding, Head of the University Department of Surgery (Cardiff), who introduced the first session dealing with the complex issues of selecting dressings from the plethora now available for different wound types.

Cath Vowden, Nurse Consultant (Bradford), considered dressing choice from a clinician's viewpoint. Dressings have been designed by manufacturers for multiple applications with a choice from those that rehydrate eschar for debridement, use capillary action to remove excess exudate, that gel, control infection and more recently introduced 'advanced' products that interact with the wound to stimulate healing. Product support is often based on laboratory studies and clinical trials that may not address dressing use in complex clinical situations. Additionally, there is a shortage of randomized controlled trials that deal with relative effectiveness and many wounds require combinations of dressings from different manufacturers.

Professionals must continually evaluate dressing performance for themselves to allow modification of patient treatment plans. This requires using standard evaluation criteria combined with effective and standardized documentation to allow establishment of a dressings formulary. In the department of vascular surgery, Bradford Royal Infirmary records are routinely maintained of the surrounding skin condition, dressing performance, patient experience and symptom control. Although the practitioner controls the dressing choice, it is important to consider the patient's perspective as issues important to staff, such as ease of application, handling, packaging and availability of different formats may not necessarily be relevant to a patient who is concerned with social acceptability, odour control, comfort and appearance.

Many product data are generated for marketing and regulatory purposes and Richard White, Clinical Research Scientist (Holsworthy), considered dressing choice from the researcher's perspective. Laboratory models are far removed from real-life clinical situations and many clinical studies have limited relevance to practice, with much research performed to establish product superiority. This means extreme objectivity is needed when assessing laboratory-based dressing studies to determine whether they are simply marketing instruments. Regardless of these criticisms, there is a need for laboratory testing to develop new products. A number of aspects of dressings that can be evaluated in this way include fluid handling, bacterial barrier function, adhesion, performance under compression, and biological and biochemical interactions.

Laboratory tests do at least offer an objective way to compare dressings, even though controversy may arise because of claims that a particular test favours some dressings over others. There is a need for validated test methodology that is agreed by all parties and even then data need interpreting with caution.

TISSUE VIABILITY NURSES ASSOCIATION PAPERS

Two sessions were devoted to presentations for the TVNA and the first was initiated by Sue Bale, Director of Nursing Research (Cardiff), who reviewed the development of clinical nurse specialists in the UK. With the rapid expansion of tissue viability nurse numbers and the evolution of specialist practice continuing to develop into consultant roles, she emphasized that it is important that the clinical nurse specialist role continues to thrive. With the possibility that practice may vary throughout the UK because of a lack of a formal education pathway, she asked: 'Have we got it right? How do we compare with other countries and who will lead the way?.'

Following the theme of evolution in wound care nursing, Karen Weafer, Specialist Sister Tissue Viability (Leicester), described the introduction of tissue viability nursing assistants in the Leicester NHS Trust to provide a wide range of nursing and administrative activities by assisting specialist nurses.

Moving to the opposite end of the nursing spectrum, Heather Newton, Nurse Consultant Tissue Viability (Cornwall), described her experience as a nursing consultant within an existing wound healing team and how it has created new opportunities to review existing services, initiate new patient care delivery systems and enhance the role of the nurse in strategic planning.

The theme of care standardization was developed by Samantha Loftus, Tissue Viability Coordinator (Leicester), who described the application of a clinical benchmarking tool for best practice in pressure ulcer care and Fiona Burton, Clinical Nurse Specialist Tissue Viability (Coventry) who looked at the management of minor wounds in A&E. The Leicester tool comprises four sections of nurse documentation,

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observation of patient care, a patient/carer questionnaire and ward assessment. This study indicated that care was being delivered but not documented, indicating a need for a structured, coordinated approach to documentation and improved education facilities. In the accident and emergency (A&E) setting, minor wound care is not seen as a priority despite the impact on quality of life and audit demonstrated that there was a deficit of staff wound care education.

Considering the time constraints on nurses, Jen Hawkins, Senior Lecturer (Suffolk), described the importance of using a structured interaction with patients to discuss their concerns and anxieties about living with a wound and improve the quality of nurse–patient interactions. This '5 minute model' is time set aside specifically for the purpose and consists of six steps to develop the therapeutic relationship, transfer information, reflect on and evaluate the interaction.

The coming together of like-minded individuals to pursue research occurs in many disciplines and a number of models exist in the wound healing field worldwide. Jeanne Donnelly, Secretary Wound Healing Research Sub-group, described the formation of a new group in Belfast which has the objective of promoting clinical research with an emphasis on imaging techniques, research into affordable products and provision of relevant expertise to potential researchers in wound care. The most widely used imaging technique is photography to form the basis of wound records. John Melhuish, Senior Research Technician (Cardiff), shared his photographic expertise and demonstrated that with a little planning and time, as opposed to taking a snapshot, good-quality wound photographs can be obtained in a busy clinic setting.

Standing in isolation within this group of clinical presentations was a description of laboratory studies to develop natural treatments for wound fungal infections. After sharing the unpleasant facts that the average training shoe contains 140 000 fungal spores and that there are more spores in ballet shoes than in a toilet bowl, it was not surprising when Robert Ashford, Director Postgraduate Degrees (Birmingham), told us that 15–40% of the population suffer from cutaneous fungal infection. He is addressing the problem of fungal wound infections by developing natural products from milk whey and paracress, a member of the plant aster family, that are effective in inhibiting Candida growth. These treatments are still at the pre-clinical stage and will require evaluation in clinical trials.

PLENARY SESSION 2 — WOUND INFECTION AND ITS IMPACT ON DRESSING SELECTION AND HEALING

This session dealt with the topical issues of wound infection from the viewpoint of the clinician (Andrew Kingsley, Tissue Viability Nurse Specialist, Barnstaple), the laboratory (Rose Cooper, Clinical Research Scientist, Cardiff) and the researcher (John Embil, Associate Professor of Medicine, Canada).

Andrew Kingsley summarized the session with almost the first sentence: 'Wound infection and its interpretation is tricky'.

The challenge is to define wound infection and when and how to treat it. Diagnostic signs of frank infection include abscess formation, cellulitis, pus, sudden necrosis with pyrexia and elevated white cell count. The resulting wound breakdown, exudation, discoloration and friable granulation tissue can clearly be related to infection status. Difficulties arise when subclinical infection is present. This is often referred to as critical colonization and may be associated with a cessation or delay in healing with none of the local symptoms associated with outright infection. Essentially, life is an interaction between bacteria and their host and colonization may not necessarily be bad as some bacteria protect against the growth of other more pathogenic organisms.

This leads to the concept of an infection continuum from colonization that has no effect on healing, to critical colonization that can impair healing and to outright infection. It is considered that bacterial load is important and more than 10^5 bacteria/g of tissue can define infection with a deleterious effect on healing but this requires a wound biopsy for analysis. The interaction of bacteria with healing is more complex than can be explained by total numbers as some organisms, such as β-haemolytic streptococci, can prevent healing when present in small numbers. Often a number of different bacteria are present in chronic wounds and the composition and diversity of the bacterial flora is important. There is a need for a meaningful diagnostic system to indicate whether bacteria are the cause of a lack of response to wound treatment. Conventional swabbing techniques and routine pathology laboratory testing offer little help because the result will not differentiate between colonization and critical colonization and a holistic assessment has to be made of wound and patient symptoms to arrive at a diagnosis of wound infection.

Uncertainties surrounding the definition of critical colonization make it difficult to define an antimicrobial strategy given the need to use antibiotics judiciously in preventing resistance. Topical antimicrobials, such as iodine or silver, should be integrated into the treatment plan and other ways of reducing wound bioburden, such as maggot therapy, considered.

TISSUE VIABILITY SOCIETY PAPERS

Papers in the TVS open session could be divided into two describing clinical practice and three investigations of treatment modalities. Telemedicine for accurate electronic recording of assessment, treatment plans, wound photographs and healing graphs was described by Robin Cooper, Wound Care Specialist (Basingstoke), who was involved in establishing a vascular assessment clinic within a diagnostic and treatment centre in Hampshire. Audit after the first 6 months indicated that treatment of ulcers within the clinic setting is cost-effective, with improvements in healing rates and quality of life. Similarly, audit of venous ulcer healing rates for patients treated by district nurses within the Tower Hamlets Primary Care Trust were improved between 2000 and 2002 audits. Alison Hopkins, Clinical Nurse Specialist (London), concluded that district nurses, within the supportive and educational framework offered by a clinical nurse specialist team, can effectively manage leg ulcer care within primary care.

Dr S Rajendran, Research Fellow, described the use of a mannequin leg incorporating pressure sensors to demonstrate that use of a new padding bandage could sustain graduated compression of 40 mmHg at the ankle to 17 mmHg just below the knee. Julian Minns, Consultant Clinical Scientist (Newcastle), identified that some hip protectors may be dangerous when lying on them at night generating high pressures for long periods. Designs incorporating a hard shell surrounded with a shock-absorbing layer could contact the skin overlying the greater trochanter with little distribution of pressure away from this area, leading to skin compromization. The final paper in this session from Fiona Collins, Tissue Viability Consultant (Eastbourne), reported the results of a survey into the use of wheelchair cushions that concluded positively about the Vitafoam Reflexion Standard Wheelchair Cushion in terms of pressure ulcer prevention and comfort.

TISSUE VIABILITY SOCIETY — QUESTION TIME

This session was loosely based on BBC Radio 4's 'Any Questions' with Keith Harding playing the Jonathon Dimbleby role of provocative chairman in his own inimitable way. The panel members were Dr Mike Clark, Senior Research Fellow, Andrew Kingsley, Infection Control/Tissue Viability Nurse Specialist, Debs Thomson, Emergency Services Manager and Helen Orchard, Clinical Nurse Specialist Tissue Viability.

Areas discussed ranged from identifying the major influences in wound management over the last 10 years to the value of laboratory measurements, the influence of commercial interests and purely clinical questions, such as the value of topical steroids.

Major influences were seen as education, tissue viability nurses, the National Institute for Clinical Excellence and the growth of evidence-based medicine. One other influence discussed was how commercial sponsorship of research may manipulate the subjects investigated and the type of test systems used. Some members of the panel thought that laboratory studies were a good first step in providing evidence to aid clinical decision-making. Others thought a free product sample was as much value in making a decision whether to use a product. It was felt that the significance of laboratory data required more explanation than was usually available.

Considerable thought was given to the lack of critique of published papers. The lively discussions that are found in the *British Medical Journal* letters page was cited as an exemplar that would benefit the wound healing literature. Within the wound healing literature most published comments seemed to emanate from companies whose products had been criticized rather than from nurses and scientists working in the relevant areas.

PLENARY SESSION 3 — WOUND BED PREPARATION AND ITS IMPLICATIONS FOR PRACTICE

The second day of the conference found the USA joining forces with Wales to discuss the concept of wound bed preparation (WBP) in this session.

Heather Orsted, Nurse Consultant (Canada), defined WBP as a framework for education and best practice requiring knowledge of the principles of wound healing, of the patient with the wound and of evidence-based practice. Key areas included the recurring theme for this conference of how to define infection and interpret laboratory data in the context of clinical signs, how to select dressings to achieve moisture balance and how to assess the wound. In her practice, each wound is assigned a score derived from measuring wound size, depth, condition of wound edge, presence of necrotic tissue and exudation. This allows a value to be calculated for the wound condition and progress to be monitored during treatment.

Parameters used in scoring systems of this type reflect the outcome of underlying biological processes and Greg Schultz, Professor of Biochemistry (USA), emphasized the need for a molecular understanding of healing to identify what prevents chronic wounds from healing. All chronic wounds have mechanisms in common that are reversed as healing is initiated. The growing body of knowledge defining healing has resulted in development of biologically active treatments, such as topically applied growth factors, dressings that inactivate proteases and gene therapy. The next requirements are for a point-of-care diagnostic test to identify wound bed status and evaluation of adjuvant treatments combining therapies with known different modes of action.

The final speaker in this session, Vanessa Jones Senior Lecturer (Cardiff), took a philosophical approach to WBP by evaluating the concept that it represents an important new paradigm. A paradigm represents a world view that requires belief and if it exists will influence how and what is studied. This requires that the wound care community buy in to a concept that is not new but is currently practised in a non-systematic way. Implementation of WBP brings educational challenges and a move away from reductionism to focus on the wound and its treatment with a focus on task rather than process. This requires knowledge transfer from science to the clinic and education of specialists in the medical and nursing professions as they will need to understand wound assessment and debridement techniques, microbiology and dressing technology.

WOUND CARE SOCIETY OPEN PAPERS

The two sessions sponsored by the Wound Care Society had a clinical focus with a number of case studies and comparative studies reported. Richard Brietstein, Director of Podiatric Sciences (USA), discussed the poorly understood phenomenon of dystrophic wound calcification demonstrated by two patients, one with a calcifying abscess and the second with subepidermal calcification at the site of a leg ulcer. For a case study of a patient with necrotizing fasciitis treated with vacuum-assisted closureVAC therapy, Adrienne Taylor, Tissue Viability Nurse Specialist (Salford), described the impact of the patient's fear of her illness and the importance of psychological support.

Other studies reported on the use of silver-medicated dressings. Treatment of seven wounds with a nanocrystalline silver

dressing showed improvement or healing in four and the dressing was well tolerated (Julia Shaw, Chief Podiatrist Belfast). Taking these type of studies beyond simple observation and into an RCT setting, two silver-impregnated dressings were compared in the treatment of chronic leg ulcers reported by Donna Chaloner, Specialist Practitioner Tissue Viability (Walsall). This protocol attempted to determine the *in vivo* antimicrobial effect of the dressings by comparing the bacteriology of the treated wounds and therefore addressed some of the criticisms of laboratory-based studies.

In an interim study analysis of patients treated postoperatively with radiant heat pad wound warming, Andrew Melling, Research Fellow (North Tees), demonstrated reduced postoperative pain and analgesia use. In evaluating pain in seven patients during dressing change, Fiona Kane, Research Fellow (Stirling), indicated that analgesia could be generated by complementary therapies, such as lavender oil and playing preferred music.

Use of the internet was considered by Samantha Holloway, Lecturer, who analysed enquiries received at the website of the Wound Healing Research Unit in Cardiff. Predictably for a university department, the majority of enquiries concerned educational courses. However, a third of requests were for general information and the highest proportion of enquiries related to pilonidal sinus disease. The positive effect of a 2-day training package on diabetic foot management for podiatrists and community nurses was shown by its impact on practitioners' knowledge and practice compared with a control group (June Jones, Research Fellow Southport). However, post-test scores indicated that there were still gaps and variation in delivery of care. Jeanette Timmins, Tissue Viability Nurse (Edinburgh), also demonstrated by audit that a continuous practical and theoretical training programme is required to improve the assessment and management of chronic leg ulcers.

PLENARY SESSION 4 — MANAGEMENT OF DIFFICULT WOUNDS

The final plenary session with Jackie Chaplin, Lecturer (Glasgow), Joan-Enric Torra i Bou, Physician (Barcelona) and Patricia Price, Director Wound Healing Research Unit (Cardiff), dealing with difficult wounds had a dual focus on treatment and quality-of-life (QOL) issues.

Palliative care wound treatment is found in multiple settings in hospitals, primary care, nursing homes and hospices. There are over 200 palliative care units in the UK and 17–40% of patients have pressure ulcers. Wound care is complex because the patients are often debilitated and cachexic with a polypharmacy. There is a limited time to determine a healing protocol and, given the uncertainty of survival, healing may not be achieved. QOL issues become important and the psychology and social impact of the wound on the patient and his/her family assume greater proportions. Identifying the patient's and family's needs and concerns requires sensitive communication skills to make the dying experience as untraumatic as possible. The impact of treatment is two way and there is also an emotional impact on nurses who have to deal with caring for the dying and who require adaptability to react to rapidly changing circumstances.

Consideration of QOL issues and their impact on healing brings with them the challenge of measurement and which type of tool to use. Some tests, such as the Nottingham Health Profile, identify that the impact of chronic wounds is greater on males. In contrast, other studies that pool QOL in all domains for venous leg ulcer patients demonstrate a greater impact on females. Interestingly, if the ulcer has been present for longer than 2 years, patients experience less pain and have a better general health. Qualitative measures identify pain, mobility and financial concerns and coping with these issues by normalization. Patients make significant life changes that can lead to isolation because of the difficulties of coping with pain and the fear of further injury.

While there is no question that chronic wounds impact on QOL, there is also evidence that QOL may impact on healing. The impact of stress on healing is demonstrated by decreased healing rates in relatives of patients with Alzheimer's disease and in students before examinations. Thus, we know that wounds impact on QOL — we now have to consider how psychological status impacts on wound healing.

LEG ULCER FORUM PAPERS

Among other topics, the two sessions of free paper presentations sponsored by the Leg Ulcer Forum continued the debate over the efficacy of silver-containing dressings. Using a laboratory assessment method, in itself an approach that has generated controversy, Bruce Gibbins, Chief Technical Officer (USA), demonstrated that release of high concentrations of silver may be toxic for fibroblasts and keratinocytes within the wound, as well as bacteria. (This paper was actually presented by Dr Richard White because Bruce was delayed in the USA.) Another paper in the same session by Liz Scanlon, Nurse Consultant (Leeds), reported a health economic analysis of the cost-effectiveness of dressings from different manufacturers. A second product-based study in this session related the benefits of graduated compression bandaging over short-stretch bandage in treatment of venous leg ulcers (Roberto Polignano, Physician, Italy). A case report by Caroline Dowsett, Nurse Consultant (Plaistow), demonstrated the lack of evidence-based medicine to draw upon in treatment of leg ulcers associated with sickle cell disease.

A number of speakers throughout the conference alluded to the need for wound assessment tools and these final sessions gave some hints to the directions being followed. Maria Poole, Clinical Nurse Specialist (Stafford), reported an analysis of leg ulcer recurrence and concluded that there is a requirement for development of a risk tool to be applied once an ulcer has healed. Direct wound assessment by colour analysis of digital images was described by Hakan Oduncu, Research Fellow (Pontpridd), who is developing a wound-imaging system to objectively assess wound appearance and John Melhuish, Senior Research Technician (Cardiff), is measuring changes in

microcirculation induced by compression bandaging regimens and the effect of posture on sub-bandage pressure. Taking the more conventional approach of histological analysis of leg ulcer biopsies, David Miller, Clinical Research Fellow (Cardiff), showed a high frequency (39%) of malignancy in leg ulcers not exhibiting features normally associated with this diagnosis. He advocated a low threshold for biopsy analysis and this was reinforced by a case series of three squamous cell carcinomas presented by Stuart Enoch, Clinical Research Fellow, from the same group who emphasized that early, accurate diagnosis is imperative in disease management.

POSTER SESSION

In addition to a full programme of oral presentations, a further 60 posters were available for viewing throughout the duration of the conference. Space does not permit a description of their content here but, in summary, their subject matter extended from the ubiquitous discussions on silver-containing dressings across the full spectrum of areas discussed in the plenary and open paper sessions.

CONCLUSIONS

Wound healing conferences have been held in Harrogate for a number of years and in 2003 the hard work of the conference organizers was rewarded by delegate comments such as 'I felt this was a very useful conference – it had a good balance of scientific and clinical presentations. Improved from previous years.' Equally important was the viewpoint of the invited speakers whose experience of many conferences allows a comparative viewpoint. Their observations reinforced the delegate impression with a UK perspective from Keith Harding: 'Wounds-UK 2003 was an outstanding impression on the milestone of a better understanding and better development of wound healing given to patients in the United Kingdom. In addition to the excellent plenary sessions, the delegates received a lot of new information from free paper and poster sessions. This conference is increasingly important in taking forward the subject of wound healing in a professional way'. From the USA, Greg Schultz gave an apt closing comment: 'This is where the rubber hits the road', which, roughly translated, means that Wounds-UK 2003 was at the cutting edge of wound care.