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## ***From prevention and treatment of pressure ulcers in palliative care to wound healing centre***

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*Introduction:* Palliative Care Department consists of 15 beds Ward, Home Care Team, Day Care Centre, Pain Clinic and Lymphoedema Clinic. There are approx. 1200 patients under care per year. From 1994 we started system of prevention and treatment of pressure ulcers. The persons involved in this activity in 2003 with other involved in wound management created Polish Wound Management Association.

*Development:* During 6 months work at the end of 2004 in one wing of the building in Hospice Palium we renovated rooms for 5 beds at the Wound Healing Ward and Wound Healing Clinic for Outpatients. This project of Wound Healing Centre was presented to Ministry of Health, Rector of the University of Medical Sciences and Director of Clinical Hospital No 1 in Poznan where we are.

*Main objectives of wound healing centre:*

- 5 beds Unit,
- Clinic for outpatients with chronic wounds
- admission of all patients from Poznan city and suburb with chronic wounds: pressure ulcers, venous leg ulcers, burns, diabetic foot, surgical wounds,
- needs for contractation with National Health Fund to cover all costs of treatment
- cooperation with Surgical Ward if surgical treatment is needed, Dermatological Clinic and Vascular Surgery Unit.
- planned opening on 09.2005

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## ***V.A.C. -therapy in the treatment of hardware-related infections in the septic orthopaedic surgery***

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*Aim:* In numerous medical disciplines, the vacuum-assisted-closure (V.A.C.) system has been reported to be an efficient option in the treatment of wound healing complications and infections. However, its use in the orthopaedic surgery has been limited. Hence, the aim of this paper was to study whether the V.A.C.-therapy could be proven as a treatment option in a variety of orthopaedic related infections.

*Patients and methods:* 4 different hardware-related bacterial infections (skin necrosis after total knee replacement, early infection after total hip arthroplasty, infected, exposed osteosynthesis of the fibula and infected dorsal spondylodesis), that

were treated with V.A.C.-therapy, are presented. For the total knee replacement, a skin graft transplantation was performed after infect eradication for final wound closure, also supported by V.A.C.-application.

*Results:* In all cases, an infect sanitation with hardware preservation could have been achieved. In the case, where a mesh-graft transplantation was performed, no complications were observed. At a mean follow-up of 28 months, no reinfection occurred.

*Discussion:* Although limitations in its use should be made and larger series are desirable in order to generalise conclusions, we believe that the V.A.C.-system may be a valuable option in the management of hardware-related infections in the orthopedic surgery with respect to hardware preservation.

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## ***Minimising pain at wound dressing related procedures – developing a world consensus***

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*'Principles of best practice: minimising pain at wound dressing-related procedures'* is an educational initiative of the World Union of Wound Healing Societies (WUWHS, 2004). It is the first of its kind and provides an opportunity for clinicians worldwide to uphold the patient's right to a high standard of care. It stresses that if a patient has severe pain during dressing-related procedures, it is negligent to repeat the procedure without consideration of technique and pain relieving strategies.

The principles presented are based on statements from two earlier publications (Reddy et al, 2002; EWMA, 2002) and the consensus opinion of an international expert working group. As an international initiative, it is aimed at anyone involved in dressing-related procedures anywhere in the world.

The document introduces a graphic approach to illustrate how layers of pain influence pain at wound dressing-related procedures. Procedural pain from a clinical intervention, for example, occurs on top of background pain (i.e. persistent underlying pain due to wound aetiology) and incident pain (i.e. pain from move-

ment-related activities). It is recommended that this layered approach should be used as part of pain assessment.

The single most important recommendation in the document is: 'assume all patients can use a pain rating scale until proven otherwise'. Routine pain scoring should be undertaken before, after and during a procedure to document trends. This simple measure will provide the best opportunity to assess whether pain is being controlled and act appropriately.

The process of initial, ongoing and review assessment is presented and a format for involving the patient by asking appropriate questions, listening to what patients say and observing their responses is offered.

Analgesic regimens need to be introduced early with top-up doses available for pain that becomes uncontrollable during a procedure.

Selecting appropriate dressing materials can have a significant impact on pain management. Where appropriate, clinicians should select dressings that match the state of the wound and surrounding tissues, stay in-situ for longer, promote moist wound healing and are atraumatic on removal.

For the concept of best practice to make a real difference, clinicians need to challenge common misconceptions about minimising pain and trauma at wound dressing-related procedures and to share these recommendations with colleagues, patients and carers.

## P 104

### ***V.A.C.-application in the treatment of a patella osteomyelitis***

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*Aim:* Primary involvement of the patella is an uncommon form of osteomyelitis. It is still considered to be a childhood disease, whereas this infection is a rarity in adults.

*Patient-Method:* A 66-year old female with a destructive patella osteomyelitis and a prepatellar skin lesion was referred to our clinic. Prior to the infection, a burn injury with consecutive, frustane meshgraft-transplantations has taken place.

*Results:* From the wound a pseudomonas aeruginosa – strain could be isolated. The infection was treated surgically via patellectomy, debridement, soft-tissue pulley reconstruction and V.A.C.-application (pressure: 125 mm Hg). Due to the emergence of a defect in the medial pulley part with joint affection a second surgical procedure was performed 3 weeks later. After Debridement, the joint defect closure could be achieved by mobilisation of the M. vastus medialis and the quadriceps tendon. The excellently conditioned soft-tissues after the primary V.A.C.-therapy could be covered with a skin graft transplantation from the right upper arm, also supported by subatmospheric pressure (125 mm Hg). For a time period of 6 weeks the extremity was immobilised in a mecron-cast. An adjuvant, organism-specific, oral antibiotics with levofloxacin supported the surgical procedure during the entire hospitalization. At retrogressive inflammation parameters no postoperative complications occurred.

*Discussion:* Granulation tissue formation, enhancement of the local blood circulation and bacterial clearance were in this

case crucial for the infection management. Especially the V.A.C.-therapy seems to be an effective option in the treatment of difficult infections of the musculoskeletal system.

## P 105

### ***The importance of the reduction in local irritant effects of wound exudates by effective wound management for the progression of non-healing wounds***

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How wound dressings may act locally to aid chronic wound healing is poorly understood. Along with an increased understanding of the pathophysiology of non-healing wounds such as venous leg ulcers and diabetic foot ulcers, and the realisation that these ulcers exhibit a high degree of inflammation, models have been developed linking the disease aetiology and the visible ulcer. Furthermore, these models have suggested ways in which present therapeutic regimens, such as compression, aid healing. However, little focus has been placed on understanding how locally-applied wound dressings aid in the overall healing response in the context of elevated inflammation. Here, we propose that if wound dressings have the correct combination of materials and physical characteristics they may provide effective management of the damaging local factors (i.e. proteinases and/or bacteria), thereby promoting a local environment supportive of healing. For example, the management of damaging wound exudates, limiting its exposure to the wound bed and surrounding skin, reduces the irritant effects of these exudates, leading to a reduction in the localised stimulation of inflammation. A better understanding of local environment and wound dressing interactions will help in the development of more effective wound dressings in the future.

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### ***Project out-patient funktion – prevention and treatment of pressure ulcers***

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In Denmark it is estimated that 2000 to 4000 persons suffer from pressure ulcers. The population in this project were elderly, weak and immobile patients that normally would have been referred to hospital for treatment. The project was undertaken in a joint venture between the Copenhagen Wound Healing Center, Bispebjerg Hospital and the Health Administration in the City of Copenhagen. (1999-2002) The project involved nursing homes

from 2 of 11 districts (a total of 1200 citizens) Evaluation after the first 2 years showed, that 73.5 % of the 155 included residents had developed their pressure sign/pressure ulcer in the nursing home. There were great variations in establishment of relieving materials. The project changed concept in the last year. The primary focus became – PREVENTION

**Aims:** To register all new residents for pressure signs/pressure ulcers, with systematic risk assessment. To give bedside education of the nursing staffs in prevention and local wound care management.

**Methods:** The research nurse visits all new residents in the nursing home within the first week after arrival. Second visit after a month. Each visit included:

- observation for pressure signs/pressure ulcers
- risk assessment (Barbara Braden scale)
- risk assessment (Barbara Braden scale)
- guidance in use of pressure relieving materials and wound care.

**Results:** 1. visit: 141 residents were included. 2. visit: 126 residents had a follow up visit. (15 were excluded) Mattresses and cushions were recommended at the 1. visit and registered by 2. visit as follow: Residents in low risk had 16 cushions and 8 mattresses recommended and only 9 cushions and 4 mattresses were established. Residents in medium risk had 17 cushions and 32 mattresses recommended and only 5 cushions and 10 mattresses were established. Residents in high risk had 3 cushions and 1 mattresses recommended and only 1 cushion and 0 mattresses were established. 9 residents, who had not received the recommended pressure relieving materials, developed pressure ulcers.

**Conclusions:** Systematic risk assessment was introduced in nursing homes. The nursing staffs have achieved capability in producing relevant proposal for risk assessment, prevention and treatment of pressure ulcers.

**Vision:** The design of the project will be established on a national level.

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### **Investigating the microbiological properties of Hydrofiber® dressings using confocal microscopy**

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**Aim:** To investigate the immobilisation of bacteria within Hydrofiber® dressings.

**Methods:** Visualisation of living and dead bacteria within a population has been achieved using a combination of rapid confocal laser scanning microscopy (RCLSM) and BacLight™ LIVE/DEAD bacterial viability kit. In this kit, a green dye (SYTO 9™ [S-9]) stains only living bacterial cells and a red dye (propidium iodide [PI]) stains only dead cells. The green dye (S-9) when used alone will permeate both live and damaged bacterial cell walls whereas the red dye (PI) can only permeate dead bacteri-

al cell walls where it actively competes with the S-9 dye. Studies were performed to investigate the interaction of bacteria with Hydrofiber® wound dressings, one of which contains ionic silver, a potent antimicrobial agent.

**Results:** In studies with the non-antimicrobial Hydrofiber® dressing potentially pathogenic bacteria (i.e. *Pseudomonas aeruginosa*) were shown to become immobilised within minutes as individual fibres of the dressing coalesce and start to gel. In further laboratory studies with this dressing over longer periods of time (i.e. > 20 hours) no growth of the bacterial population was evident due to no apparent increase in the distribution of green dye within the field of view. In contrast, in the presence of an antimicrobial agent (i.e. ionic silver) within the Hydrofiber® dressing, bacterial cells within the dressing were rapidly killed (i.e. within 1–2 hours) as the green dye was replaced by the red dye.

**Conclusions:** This suggests that the rapid killing of wound bacteria in these studies is due to the availability of ionic silver from the silver-containing Hydrofiber® dressing.

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### **Hydrocolloid dressings: In vitro analysis of their effect on fibroblast contraction and viability**

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**Introduction:** Hydrocolloid dressings have been marketed for over 20 years, with DuoDERM® dressing the first to be commercially produced. There are now, however, numerous hydrocolloids available and they have become perceived as generic and undifferentiated, but there are many differences in formulation, structure and performance.

**Results:** In these studies a fibroblast culture system has been used to investigate a number of hydrocolloid products. This assay is used routinely to investigate 3-dimensional collagen gel contraction and allows the biocompatibility of wound dressings to be compared under controlled in vitro experimental conditions. Therefore the purpose of this study was to assess various hydrocolloid dressings on fibroblast behaviour (i.e. viability and contraction) within a collagen gel matrix. Experiments were run for a total of 96 hours, with contraction measurements taken at 24 hour intervals. At 96 hours quantitative evaluation of the viability of the cells cultured in the collagen gels was performed with the cells assessed using the trypan blue exclusion assay.

**Conclusions:** There were statistically significant differences in the rates of contraction between the different hydrocolloid dressings and this was reflected in similar differences observed with the viability count.

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## **The effect of silver release from silver-containing wound dressings on fibroblast behaviour in vitro**

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**Introduction:** Fibroblast culture systems are routinely used to investigate 3-dimensional collagen gel contraction. As a broad-spectrum antimicrobial agent silver is becoming increasingly used in wound dressings and other topical formulations to minimise the risk of infection. In order to maximise good wound management it is important that these silver-containing dressings should release sufficient ionic silver to provide a potent antimicrobial activity without causing any localised toxicity to cells involved in wound healing.

**Methods:** The purpose of this study was to assess the release rates of seven proprietary silver-containing wound dressings and investigate their effect on fibroblast behaviour (i.e. viability and contraction) within a collagen gel matrix. This in vitro model used primary cultured equine fibroblasts, (i.e. normal and granulation tissue derived) incorporated into collagen lattices. Release rates were measured over a period of 48 hours, and gel contraction was measured for 96 hours and cell viability was then carried out.

**Results:** In these studies there were clear differences in the amount of ionic silver released by the respective dressings and this in turn was reflected in the rates of contraction and viability at 96 hours.

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## **V.A.C.™ therapy in perineal defects**

### **V.A.C.™ Therapie bei Perianalen Defekten**

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Following tumorresection, trauma or infection, loss of soft tissue in the perineal region often is combined with destruction of the anal sphincter. Fistulas into the pelvis or the hipjoints, often combined with episodes of lifethreatening bleeding and sepsis, occur in these cases. V.A.C.™ therapy offers a reliable method to make these problems easier to solve. In this paper two typical cases are demonstrated.

**Case 1:** In 1999 a 29 years old male suffered a sacro-perinael laceration injury with complete loss of the anal sphincter in a car accident. Wound debridement and a colostomy were done primarily. On day fifteen after the trauma V.A.C.™ therapy was applied for 29 days, changed every third day. After further 17 days the anal sphincter was reconstructed by a dynamic graciloplasty. The colostomy was closed 8 weeks after the sphincter reconstruction. Since that time the patient is continent.

**Case 2:** A 47 years old male paraplegic was admitted with a recurrent pressure-sore in the perineal region. The wound was highly infected, the patient was septic. A colostomy and wound debridement was performed. The left hipjoint was in connexion to the perineal wound wick also led 20 cm into the pelvis on the left aspect of the rectum. V.A.C.™ therapy was applied two days after the last revision and changed every third day. After two weeks the patient again had a septic period and during revision an abscess at the left pararectal region was opened with a consecutive major bleeding. During an angiography the source of bleeding could be localised as a branch of the intern iliac artery. It was successfully closed by an interventional procedure with coils. Again V.A.C.™ therapy was applied The fistula to the hipjoint as well as perirectal defect granulated during V.A.C.™ therapy. Bilateral musculo-cutaneous gracilis flaps enabled to a closure of the pressure sore.

V.A.C.™ therapy enables wound bed preparation and healing respectively. In cases with an extensive loss of soft tissue wound conditioning and consecutive closure with flaps is necessary. When the soft tissue is not destroyed V.A.C.™ therapy enables easy closure of the wound without the need of flap surgery.

Perineale Weichteildefekte nach Tumorresektionen, Unfällen bzw. nach Infektionen ist mit dem Verlust des analen Sphinterapparates verbunden. Probleme stellen Fisteln in das Becken und seine Hohlgane bzw. in die Hüftgelenke dar, die nicht selten mit Blutungsepisoden und Sepsis verbunden sind. Die V.A.C.™ Therapie bietet in diesen Fällen eine zuverlässige und Möglichkeit um diese Probleme einfacher zu lösen. In der Folge werden zwei Fälle vorgestellt.

**Fall 1:** Ein 29-jähriger Mann erlitt 1999 bei einem Verkehrsunfall eine sakro-perineale Lazerationsverletzung mit Zerstörung des analen Sphinterapparates. Als Erstversorgung wurde eine Kolostomie angelegt, die Wunde gereinigt und drainiert. Die riesige sakralen Wunde war infiziert, sezernierte massiv und zeigten keine Heilungstendenz. Daher entschloss man sich am 15. Tag nach dem Unfall zum Einsatz der V.AC.™ Therapie. Die Verbandwechsel erfolgten alle drei Tage, die Schwämme wurden bei jedem Wechsel kleiner angelegt. Nach 29 Tagen waren die abgelösten Weichteile soweit fest, dass der direkte operative Verschluss der sakralen Wunde möglich war. Die perineale Wunde war nach 17 Wochen stabil verheilt und zur Rekonstruktion des zerstörten Sphinkterapparates wurde eine dynamische Gracilisplastik angelegt. Nach 8 Wochen die Kolostomie verschlossen. Der Patient ist seither kontinent und die Narbe stabil abgeheilt.

**Fall 2:** Ein 47-jähriger Mann, seit seinem 17. Lebensjahr paraplegisch, kam mit einem mehrfach rezidivierenden perianalen Dekubitus und nach zahlreichen Voroperationen zur Aufnahme. Der Patient war von der infizierten und mit Stuhl kontaminierten Wunde septisch. Eine Kolostomie wurde angelegt und nach mehrfachen Debridements zeigte sich eine breite Verbindung in das linke Hüftgelenk und eine etwa 20 cm lange Nekrosehöhle links pararektal. Zwei Tage nach der letzten Revision wurde mit der V.AC.™ Therapie begonnen, die Verbandwechsel erfolgten alle drei Tage. Bei einer Revision wegen neuerlicher Sepsis wurde ein pararektal gelegener Abszeß eröffnet aus dem es massiv zu blutete. In einer Angiographie die Blutungsquelle als ein Ast der linken A. iliaca interna identifiziert, der schließlich interventionell intraluminal mit coils verschlossen wurde. Unter V.AC. Therapie heilte die Fistel zum Hüftgelenk ab. Die Defekte wurden mit Muskulo-cutanen Gracilisplatten gedeckt.

In beiden Fällen ermöglicht die VAC-Therapie eine rasche Wundbettkonditionierung. Bei tiefen Fistel können jedoch Retentionen zu Abszessen führen. Wenn ausgedehnte Weichteildefekte, in Belastungszonen vorliegen werden Lappenplastiken nötig. Ohne Weichteilverlust führt die V.AC.TM Therapie zum retentionsfreien Anheilen von ausgedehnten Wundtaschen.

## P 111

### **Electrical stimulation of chronic wounds: a clinical evaluation of POSiFECT**

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Electrical stimulation (ES) of wounds is a well researched area of wound healing and has been demonstrated to be effective in many types of wounds. POSiFECT is a new method of applying electrical stimulation to wounds and this study investigated the clinical effectiveness and cost effectiveness ES. This was a prospective, descriptive, evaluative, non-blinded clinical trial with sample size of 18 patients with 21 recalcitrant wounds. This study used the patient as their own control with previously non-healing wounds of greater than a 6 month period, used as comparison when electrical stimulation was applied. Any healing should demonstrate effectiveness in this situation. The total mean surface area of all of the wounds was 17.95 cm<sup>2</sup> at commencement of the study and 10.3 cm<sup>2</sup> at the end of the 8 weeks. This was an average healing of 7.65 cm<sup>2</sup> in all previously non-healing wounds over 8 weeks. 4 patients healed during this period and that is hugely significant, given that ALL wounds were non-healing prior to POSiFECT. This demonstrated the ability of POSiFECT to act as a 'kick-start' for non-healing wounds. The levels of exudate significantly reduced over time between week 1 and week 8 (Wilcoxon  $p > 0.02$ ) leading to a significant reduction in dressing changes during the 8-weeks (Wilcoxon  $p > 0.01$ ). The cost saving for just one community nurse's caseload of 10 patients could equate to a cost saving of £2,439.50p per month when POSiFECT is used and one gentleman's wound healed within 7 weeks, and this made a cost saving of £7,857 during the six months after commencement of POSiFECT. If wounds that have not had signs of healing in 6 months begin to heal, then any healing is significant. Comparing the non-healing wound with the outcomes of healing used the patient as their own control and reflects the ideals of an RCT. The total surface area of all of the wounds had reduced by 66 % over within an 8-week period. Given that there was no healing previously, then this result is significant. The results of this small trial were significant, demonstrating benefits in clinical effectiveness and cost-effectiveness of POSiFECT in 'kick starting' wound healing. The ideals of RCTs were obeyed without the strict criteria of RCTs that limit the selection of wound types.

## P 112

### **Silver antimicrobial dressings in wound management: A comparison of antibacterial, physical and chemical characteristics**

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*Introduction:* Silver-containing dressings are now widely used to assist in the management of infected wounds and those at risk of infection. Whilst the silver component may be similar in most cases, individual dressings may vary in their clinical response due to technological differences in the manufacture of the dressing. Therefore, silver content and release rates, for example, may vary from dressing to dressing.

*Methods:* In order to test this hypothesis studies have been carried out on seven proprietary dressings. Several physical parameters (e.g. fluid retention, with and without the application of pressure, lateral wicking, and dressing pH) were examined as well as the relationship between silver content, rates of release and antibacterial activity in a simulated wound fluid model. The bacteria used were *Staphylococcus aureus* and *Pseudomonas aeruginosa*.

*Results:* The results indicated that there were marked differences in fluid handling properties and a wide pH range for the dry dressings. Similarly marked differences were also shown for silver content and silver release rates, although there was no direct correlation between silver content, release and antibacterial activity.

*Conclusions:* These results indicate that an understanding of the overall properties of a wound dressing is an important aspect of choosing the appropriate dressing to ensure a successful outcome in the management of infected wounds and those at risk of infection.

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### **Skin deposition and tissue staining associated with silver-containing wound dressings**

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*Introduction:* Argyria is the general term used to describe a clinical condition in which a permanent irreversible grey-blue discoloration of either skin or mucous membranes occurs due to excessive administration and deposition of silver. "Although argyria is accepted as a rare dermatosis, once silver is deposited, serum silver levels may remain high for several years" (White et. al., 2003).

*Methods:* In these studies electively amputated human skin (lower limb) was used to investigate the potential for skin discoloration, following the application of two silver-containing wound care products to the skin surface. Measurements for silver release and silver deposition were made using both water and saline as the hydration medium.

**Results:** In water the release of silver from a nanocrystalline silver-containing dressing was much more rapid than from a silver-containing Hydrofiber® and this led to increased levels of silver deposition onto the skin surface, and subsequent skin staining. Metallic silver clusters were also observed on the skin surface following the application of the nanocrystalline silver-containing dressing. Under more physiologically relevant presentative conditions (i.e. in the presence of saline [0.9 %]) silver availability in both dressings and subsequent skin deposition was shown to be similar.

**Conclusions:** These laboratory in vitro studies have shown that the rate of silver release and subsequent silver deposition and skin staining can be influenced by the application of different media (e.g. water or saline). Controlling the release of silver ions from silver-containing wound dressings, should help reduce the potential for silver to be deposited in wound tissue and minimise skin staining. White JML, Powell AM, Brady K, Russell-Jones R. Severe generalised argyria secondary to ingestion of colloidal silver protein. *Clin. & Expt. Dermatol.*, 2003; 28: 254-256.

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## P 116

### **Effective prevention of pressure ulcers. Impact of the implementation of a pressure ulcer prevention program at a palliative care hospital unit**

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**Introduction:** Palliative care patients represent a high at risk population to develop pressure ulcers. An active pressure ulcers prevention program started in 2002 in our hospital which consisted of a nursing staff training, a preventive measure protocol and the use of alternating air surfaces with the Aerocare range products.

**Patients, material and method:** Assessment of the protocol impact in preventing pressure ulcers at the palliative care unit of the Hospital Puerta del Mar in Cadiz, Spain. Measurements cared for prevalence of pressure ulcers and afterwards the prevalence of pressure ulcers developed at the unit.

**Results:** During 2003, pressure ulcer prevalence was of 30% on the first quarter, 17 % on the second, 8 % on the third and 12 % on the fourth. During 2004, prevalence was of 34 % on the first quarter, (9 % nosocomial) , 19,3 % on the second (0 nosocomial) , 13 % on the third (0 nosocomial) and 20,5% (14,5% nosocomial) on the fourth. During 2005 prevalence was of 18 % (9 % nosocomial) on the first quarter and 11,1% (0 nosocomial) on the second one.

**Discussion:** The active program has demonstrated its effectiveness in reducing pressure ulcer prevalence in patients at palliative care. The prevalence reduction of pressure ulcers and the percentage of patients with nosocomial ulcers are directly proportional to the existence of alternating air surfaces.

## P 117

### **Dynamic pressure reduction properties evaluation of a hydrocellular dressing with an specific design for heels**

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**Introduction:** Pressure reduction is an important goal for the prevention and treatment of different pressure related problems like diabetic foot. There are evidences that the Allevyn range of products show pressure reduction properties.

**Methods:** The objective of our study was to obtain data about the dynamic interaction of Allevyn heel in reference to the pressures measured at the plantar area of the foot since this interaction is directly related with pressure relief and patient's comfort level. For the analysis of the acting pressures on the plantar area of the foot on deambulation we used a device called Bio-foot 2001, which consists in a plantar support surface with electric ceramic pieces that generate an electric signal according to the degree of pressure applied. Remote data were recorded in a computer. We measured pressures while deambulation in 5 healthy volunteers with and without Allevyn Heel. Each test was repeated two times.

**Results:** The median of maximum pressure levels using Allevyn Heel was of 923.3 mm Hg (123.1Kpa), while the readings when not using the dressing were 1646.3 mm Hg (219.5 kPa). Maxim pressures reached were 3.171 mm Hg (422,81 KPa) with Allevyn Heel and 5.223 mm Hg (696.4 kPa) when not using it.

**Discussion:** According to the results we may confirm that Allevyn Heel produces a significant relief of dynamic pressures at the heel area of the foot. This fact is especially important for pressure management in foot disorders like diabetic foot or pressure related foot disorders.

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### ***Clinical evaluation of a polyurethane gel dressing on patients with leg ulcers***

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*Introduction:* Patients with leg ulcers usually show disturbances on periwound skin related to the dressing use. Allevyn Compression (Smith&nephew) is a dressing made of polyurethane gel with low adhesiveness, which allows an optimal exudate management and is well tolerated by the frail periwound skin.

*Patients, material and method:* The use of Allevyn Compression is assessed in a series of 43 leg ulcers. The study took place between January 2004 and April 2005.

*Results:* In a total of 43 wounds, there were 27 venous ulcers (62,8 %), 7 arterial ulcers (16,3 %), 6 ulcers of mixed aetiology (14 %) and 3 diabetic foot ulcers (7 %). The initial surface area had an IC95 % average: 9,7; 18,1 cm<sup>2</sup>. All wounds healed during our study time with an average of 7,3 ± 3,9 (SD) weeks and a total average dressing use of 16,5 ± 8,9 (SD). 709 dressing changes have been performed, 15 had exudate leak (2,11 %), four had skin maceration (0,6 %), 3 (0,4 %) window oedema or pain, two (0,3 %) excoriations and one (0,15 %) erythema or vesicles. There have been no drop outs during our study.

*Discussion:* Allevyn Compression is a highly effective dressing for the management of leg ulcers. The negative effects we encountered are relatively low due to the kind of patient and wounds present, so we can assess that the dressing copes effectively with all necessary requirements to treat local vascular wounds in low extremities.

conditions and discuss problems in wound care. May be someone has a solution? Jysk Saarforum is a part of the Danish Wound Healing Society (DSFS), not an alternative organisation.

We received a grant from the Danfoss cooperation, which enabled us to create and launch the website on the 7th of March 2005. Since them medical companies have shown interest and support the site. BUT the site is non-commercial and non-profitable and solely aiming at creating networks and submitting guidelines and science to those interested.

*Bridging the Gap ! – how:* Let us scroll on the site !

Through this part of the presentation the audience will be introduced to the group behind the website, that guarantees the academics of the site.

*Laboratory to Clinician:* Once the companies are " supporters ", they are allowed to send out newsletters, that contains relevant information. In total hundreds (exact number will be given at the presentation) of persons are registered. Once the newsletter has been sent out they are " stocked " in a separate file.

*Doctors to Nurses:* Saarmanual is the common reference in the daily treatment of wounds. Guidelines are given and qualitygoals are given, thus " provoking " local areas to check into the quality of their treatment.

*Patients to Clinicians:* Since the site is open to everyone, patients can read how their wound should be treated and thus making demands to the professionals. Letters from patients are received and they are answered by relevant members from the group behind the book.

Let us continue to look into the modalities: Finally some statistics will be presented.

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### ***Bridging the gap – using the internet***

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The internet is an obvious tool to reduce the gap between the different actors in the wound healing game.

Knowledge, skills and documentation are key words to improve wound care to the benefit of the patients as well as the professionals www.saarbogen.dk - " book of wounds " is such a tool.

The idea to create the internet site was proposed at the 3rd meeting in Jysk Saarforum in Esbjerg, spring 2002.

Jysk Saarforum is a forum where wound care professionals from both primary and secondary sector meet under informal