[EP401] AN ISCHAEMIC, NON-HEALING AMPUTATION WOUND TREATED WITH HYPERBARIC OXYGEN THERAPY

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E-poster session: Case Studies

Aim: To review a patient who received adjunctive hyperbaric oxygen therapy (HBO) for a non-healing wound at a below knee amputation site with the aim of preventing further surgery.

Method: The patient’s medical history, transcutaneous oxygen measurements, treatment regime, wound measurements, quality of life questionnaires and photographs were collected and reviewed to assess outcome following HBO.

Results / Discussion: A 68 year old gentleman was urgently referred for HBO by his vascular consultant. A recent below knee amputation site had started to break down. There was evidence of ischaemia due to occlusion of his right common femoral artery. He received 35 out of 40 sessions due to an accident at home which resulted in a fractured femur and prevented completion of his full course of treatment. Three weeks after completing his last session of HBO, his wound was healed. At his three month wound review he attended clinic with a healed wound and was wearing a prosthetic leg.

Conclusion: This review supports published studies which demonstrate the benefit of HBO as an adjunct to wound care for difficult to heal wounds. The use of HBO coincided with improved healing of a below knee amputation site which progressed to complete healing, negating the requirement for any further surgery.
APPLICATION OF HUMAN ACCELLULAR DERMAL MATRIX IN LONG-STANDING VENOUS ULCERS. A PROSPECTIVE OBSERVATIONAL STUDY

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E-poster session: Case Studies

Introduction: Wound healing is difficult in s

Aim: To evaluate the effects of the application of human acellular dermal matrix on refractory venous ulcers.

Method: We included two patients with non-healing venous leg ulcers persisting for more than six months after standard therapy.

Human acellular dermal matrix patch was applied once. Patients were monitored at the hospital day-care. Data recorded were: location, ulcer measure, the amount and characteristics of exudates, peri-ulcer skin state, primary and secondary dressings used, and quantification of pain using the visual analog scale (VAS). Pictures were obtained during the follow-up.

Patient 1: A 93 year-old female patient with a past medical history of hypertension, venous insufficiency, contact dermatitis to soaps, fragrances, Carba mix II, and nickel was attended at the day care hospital of a molecular hypertensive leg ulcer. It had appeared 3 years ago and it had been previously treated with standard therapy (TIME) and topical autologous platelet factors, with partial improvement. On physical examination, it was observed a 9.12 cm² size ulcer, 1.5 mm depth, with 50% granulation tissue and 5% fibrin, regular edges and little exudate; pain rating scale was 5. In October 2014 after 3 months without improvement it was decided to apply cadaveric dermal matrix provided by the Barcelona Blood and Tissue Bank. Standard cures were performed thereafter. At follow-up at week 6, superficial and smaller ulcer (7.35 cms²) was observed, 100% granulation tissue on ulcer bed and little exudate. It was well tolerated, without infections and contact dermatitis, pain rating scale was 2. Due to the excellent result, an autologous graft was performed, obtaining the complete epithelialization graft at week 9.

Patient 2: A 80 year-old male patient, with a past medical history of cardiac arrhythmia, left leg tibia-fibula fracture, allergic contact dermatitis to neomycin, nickel, parabens, balsam of Peru, amerchol, fragrances, budesonide, benzalkonium chloride, lanolin, benzoyl peroxide, bacitracin, and Sorbitan for what he was being treated with oral steroids. He presented with a left malleolus venous ulcer appeared 2 years ago, 9.36 cm² size, 2 mm depth, with 100% granulation tissue on ulcer bed, irregular borders, moderate exudate, perilesional dermatitis; pain rating scale was 0. In November 2014, cadaveric dermal matrix was applied. Standard
cures were performed thereafter. At follow-up at week 6 and week 9, it was observed a size reduction (6.3 cm² and 3.3 cm², respectively), little exudate, good tolerance, no infection, and only one episode of dermatitis. He will be autographed in a few weeks.

**Answers / Discussion:** Human acellular dermal matrix patch grafting was easy to manage. Complete granulation tissue was obtained preparing ulcer bed for grafting. Ulcer surface decreased. Amount of exudates decreased. No infection signs were detected throughout the follow-up. Periulcer dermatitis was not a major event. Pain experienced by patients decreased.

**Conclusion:** Human acellular dermal matrix is an alternative option for caring of refractory venous leg ulcers and previous grafting.
MANAGEMENT OF CHRONIC VENOUS LEG ULCERS USING A HYDROCONDUCTIVE DEBRIDEMENT DRESSING

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E-poster session: Case Studies

Aim: Prevalence rates suggest there are 70,000 – 190,000 UK individuals with venous leg ulcers (VLU) at any one time, costing the NHS at least £198M annually¹. Chronic VLU’s are also prone to infection which can delay healing and increase exudate levels, odour and pain². Modern treatments able to reduce dressing costs, decrease nursing time and improve treatment outcomes are important considerations in decreasing financial burden³.

Hydroconductive Debridement Dressings (HDD) use a hydroconductive action to draw large amounts of exudate, bacteria and proteases into itself while loosening sloughy tissue to leave a healthy, granulating wound bed free from the barriers to healing⁴.

Method: Three patients with moderate to highly exuding chronic VLU requiring wound bed preparation to promote healing were evaluated for up to 4 weeks. HDD was cut as required and applied in layers, alongside appropriate compression therapy.

Results / Discussion: All patients showed a reduction in devitalised tissue to the wound bed and signs of epithelialisation. Exudate and odour were well-managed and peri-ulcer skin integrity improved, allowing for decreased frequency of dressing changes and greatly increased patient satisfaction. HDD were well-tolerated underneath compression bandaging.

HDD can quickly, easily and effectively debride CVLU’s, removing devitalised tissue and reducing microbial load without the use of antimicrobial agents which can potentially induce resistance, impair healing and increase costs.

Conclusion: Use of HDD resulted in improved treatment outcomes which can impact on the direct costs associated with managing chronic wounds.

*Drawtex Hydroconductive Debridement Dressings, Martindale Pharma, UK
[EP404] MULTIDISCIPLINARY TEAM APPROACH TO HEALING PRESSURE ULCER WITH HYDROFIBRE DRESSINGS

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E-poster session: Case Studies

**Aim:** To manage a complex patient and aim to heal 7 pressure ulcers with holistic care and use of an antimicrobial hydrofibre dressing.*

**Patient history:**
- Advanced motor neurone disease
- Continuous positive airway pressure needed
- Weight loss
- Reduced mobility

Stage 3 spine x three wounds 1cm x 1cm (fig: 1, 2, 3 and 4)
Stage 3 Left Hip 1cm x 2cm (fig: 5)
Stage 4 Sacrum 5.5cm x 6cm tracking up spine (fig: 6)
Stage 2 Right Shoulder 1.5cm x 1.5cm and Stage 1 left Ribs

*Pictures are not available in abstract book.*

**Method:**
- Holistic care from the District nurses
- Carers to aid turning
- Dietician
- Antibiotics and analgesia.
- Tissue viability nurse.
- GP
- Patient input

Hydrofibre Ribbon dressing packed into pressure ulcers followed by barrier creams to healthy tissue, hydrofibre dressing to cover and a hydrofibre Foam dressing applied daily.

**Results / Discussion:** The sacrum stage 4 pressure ulcer started to haemorrhage (fig: 7) post debridement therefore the nurse applied alginate dressing to the wound bed followed by 10 days of topical steroid cream. Once the haemorrhage stopped the nurse returned to the hydrofibre ribbon dressing
After four months the wounds had improved and reduced in size (fig: 8 & 9). The nurse applied hydrofibre foam dressing
Wound healed after 6 months (fig: 10 & 11)
**Conclusion:** Success of the wounds healing in 6 months has been astounding and a testament to multidisciplinary team work and hydrofibre dressing selection.

Aim: The authors present a surgical treatment of giant nevus pigment using a dermal regeneration template*, split-thickness skin grafts and followed by novel use of a keratin gel** to conservatively and rapidly heal areas of exposed granulation tissue where healing was prolonged.

Method: A 2.5 year old girl with a giant congenital pigmented birthmark qualified for single-stage cut-stigma surgery. After excision, the dermal regeneration template* was used for 4 weeks and followed by split thickness skin grafts taken from the scalp. After a further 2 weeks, the keratin gel** was applied to areas of exposed granulation tissue where healing was delayed.

Results / Discussion: The loss of the skin after excision was ~15% TBSA and 7 weeks later (6 days after the application the keratin gel** to the areas of exposed granulation tissue where healing was prolonged) a very satisfactory cosmetic result was obtained. This demonstrates the successfulness of the approach and the ability of the keratin gel** to stimulate keratinocyte cells to rapidly proliferate and migrate to achieve rapid epithelialisation.

Conclusion: In the author’s opinion, this one-stage resection of the congenital giant pigment using the dermal regeneration template* and the keratin gel** on the skin grafts is a good procedure allowing for a significant reduction of surgery procedure, avoiding additional scarring and giving a good cosmetic result.

* Integra®, Integra Life Sciences
** Keragel®, Keraplast
Aim: To provide advanced and up to date wound care for my clients and to achieve a faster healing period for patients experiencing chronic wounds.

Method: Removal of necrotic tissue and slough from the wound using enzymatic, mechanical or sharp debridement. Wound irrigation with H2O2. Collagen matrix dressing with EDTA and Silver was placed on wound bed. Dressing was changed twice a week.

Results / Discussion: Case 1: 48 year old male, IDDM, with a non-healing wound to the first metatarsal head. In spite of having multiple surgeries, the wound failed to heal. After six weeks of therapy with a Collagen/EDTA/Ag dressing, the wound was closed.

Case 2: 22 year old female had a sinus pilonidal wound which was infected and not respondent to treatment. A treatment plan was initiated using a Collagen/EDTA/Ag dressing, and within 20 days the wound was healed.

Case 3: 72 year old female had type 2 DM and Ovarian cancer after total hysterectomy she was left with a wide and deep wound on the incision side. In spite of chemotherapy wound was closed with Collagen/EDTA/Ag within three months.

Case 4: A 63 year old male, IDDM, with neuropathy of both feet presented with diabetic foot ulcer on both feet he was a candidate for the left below knee amputation. A significant improvement achieved after 6 months of treatment

Conclusion: Collagen wound matrix dressing with EDTA/CMC/Alginate/Silver is effective in the management of chronic or hard to heal wounds. It can also be used on acute (full and partial thickness) wounds.
EP407 CHALLENGING BELIEFS ABOUT THERAPEUTIC COMPRESSION

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Friday, May 15, 2015

E-poster session: Case Studies

\textbf{Aim:} Compression therapy is recommended for the prevention and management of venous ulceration and lower limb oedema. Standardization of compression therapy has provided safety perimeters and methods for reducing variance whilst promoting consistency. However there is a cohort of patients who fail to heal and are considered complex with identified predictors for non-healing. In seeking solutions for this patient group a specialist interdisciplinary team shifted the focus away from existing bandaging regimens towards challenging what is meant by therapeutic compression.

\textbf{Method:} A patient case study of a gentleman in his 40's with venous insufficiency secondary to multiple deep vein thrombotic episodes and non-healing lower limb ulceration is described. The specialist team recognised that high compression was required and the patient received a multilayer short stretch regimen with additional ankle strapping.

\textbf{Results / Discussion:} Despite the consistent management, the levels of compression appeared inadequate in delivering healing outcomes. From a patient perspective he felt more compression was needed. Compression hosiery was added to the regimen to apply over the bandage; Class 3 European flat knit to thigh and Class 2 European flat knit to knee. Healing with good skin integrity and oedema management resulted.

\textbf{Conclusion:} Specialist practitioners always need to consider what will make a difference. Often this will require being creative in thinking about compression and in listening to and working with patients. Protocol based regimens can stifle creativity and the ability to deliver healing outcomes for patients who require something different. Understanding underlying principles and being able to interpret them safely yet creatively can challenge present paradigms on therapeutic compression.
Aim: Patient, 76 old, male. This patient was surgically treated for an incisional hernia with a hernioplasty. The surgical wound suffered a dehiscense and needed negative pressure wound therapy with instilation of polihexanide. The wound was infected with P. Aeruginosa and needed antibiotic therapy. This clinical case serves as an example how NPWT with instilation of polihexanide can be effective and can reduce the time of wound treatment.

Method: The methods used were an integrated negative pressure wound therapy machine* with polihexanide followed by skin graft.

Results / Discussion: The results were excellent. The patient was released after 21 days and the total treatment time was of 42 days.

Conclusion: The NPWT with instillation was the best choice for this type of wound. I think it is very important to share this knowledge.

* vacUlta™
Aim: Patient, 56 years old, male. This patient is a renal transplantation patient. He had a traumatic wound in the right ankle for 3 months. He started the negative pressure wound therapy with instillation of polihexanide and antibiotic therapy. He was released from hospital after 23 days of treatment. He continued as an out patient with the polihexanide gel wound treatment. The treatment was finished after 56 days. This clinical case demonstrates that NPWT with instillation of polihexanide was the indicated treatment because the patient did not do an amputation and the total time of treatment was less than 60 days.

Method: The methods used were an integrated negative pressure machine with polihexanide.

Results / Discussion: The results were excellent. The patient was released after 23 days and the total treatment time was of 56 days.

Conclusion: The NPWT with instillation was the best choice for this type of wound. I think it is very important to share this knowledge.

*vaculta™
Aim: Diabetes mellitus is a chronic disease and a major health problem. Foot ulcers are very common in diabetic individuals due to peripheral neuropathy and ischemia. This situation negatively affects the quality of life and may lead to loss of limbs.

Method: 44-year-old male patient. 10 years diagnosed with type 1 diabetes mellitus. No additional disease. Under the right big toe, there is a heavy exudates, necrotic, yellow slough textured and 6x4 cm foot ulcer.

In patient’s medical history, irregular use of insulin, high blood sugar, careless nutrition and irregular foot care were determined. Diabetic neuropathy was not standing in the examination. The wound having necrotic areas has been consulted to orthopedics and plastic surgery for osteomyelitis and debridement. Above the ankle amputation was decided. The patient did not accept the decision of amputation.

Results / Discussion: Foot was cleaned with water and was softened with moisturizing cream. Ulcerated area was cleaned with physiological serum. Daily dressing was done with necrotic wound care gel. After a week, cleaning in the necrotic tissue and decrease in the yellow slough tissue were observed. 2 cm cavity area was observed in the wound in which level of exudates had decreased. Cavity area was filled with a hydrofibre dressing with silver* covers and was closed with a foam blanket. 4 days apart, dressing change was made. After three weeks, cavity in the wound was filled, granulation occurred, and exudates was completely absent.

Conclusion: Patients with diabetic foot ulcers should be trained in the following subjects: blood glucose monitoring, foot care, nutrition and regular medical check. In foot ulcers, the presence of wound care nursing is crucial for the effectiveness of care.

*Aquacel ag
Aim: Demonstrate consequences of severe meningococcal infection, meningococcemia.

Method: Boy, 3 y.o., was admitted to the hospital on the 13th day of the disease with extensive necrosis of soft tissues on a total area of 43%TBS in the area of both lower limbs circular, buttocks, the lower third of the left forearm, hand, penis. There was a line of demarcation in the field of the left forearm. There were signs of wet gangrene without a line of demarcation in the field of both legs. By ultrasound vascular mode adequate blood flow was determined at the level of the popliteal artery, femoral artery, the left radial artery. Below these levels the blood flow was not determined, testified to the thrombosis of the popliteal artery.

Results / Discussion: Was performed escharectomy (20% TBS), amputation guillotine method of the lower extremities at the level the upper third of both tibias and amputation of the left forearm on the line of demarcation. The soft tissue of the tibias stumps were questionable viability. Was done bandaging, surgical debridement, used antimicrobial dressing*, carboxymethyl cellulose, hydrocolloid, collagen dressings.

It was used special devices for external fixation of the knee for three weeks. The wounds were closed in three stages with meshed 3:1 auto-grafts on the 7th, 10th and 23rd day.

The integrity of the skin is restored on the 40th day after the child arrives in the clinic.

Conclusion: Used tactics of treatment helped to keep the upper third of the tibia for prosthetic treatment.

* Alginate AG
**[EP412] CASE STUDY: MANAGEMENT OF RECURRENT VENUS LEG ULCERS WITH ELECTROCEUTICAL THERAPY* TO IMPROVE PAIN, EXPEDITE HEALING AND REDUCE RISK OF RECURRENCE**

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E-poster session: Case Studies

**Aim:** Venous legs ulcers (VLU) are a huge financial burden posing a significant impact on quality of life, and are a long-term condition with frequent risk of ulcer recurrence. Two case studies were undertaken to determine the effect of using Electroceutical therapy* to reduce pain, expedite healing with high strength collagen to reduce risk of recurrence.

**Method:** Two patients aged 57 and 65 years with multiple (4-6 episodes) recurrence of VLU due to previous DVT, despite compliance wearing high compression hosiery, were evaluated. The patients, with pain scores of 7-10/10 on the pain analogue scale, attended the community complex wound clinic and were receiving traditional therapy with moist healing dressings and high compression bandages. Electroceutical therapy* was applied and wound dimensions, photographs and pain score analogue were recorded prior to, during and following treatment.

**Results / Discussion:** Both patients experienced a significant reduction in pain to 1-2/10 and advancing wounds with 3 weeks of treatment completion. Patient 1 completely healed within one month, demonstrating good deposition of collagen and the patient reported the healed tissue felt much stronger than previously with no pain/tenderness, and was discharged in November 2014 wearing class 3 British standard hosiery. Patient 2 showed significant reduction in wound size and continues with standard treatment. The patients will be followed up at 3 monthly intervals to determine the development of recurrence.

**Conclusion:** Use of Electroceutical therapy* in combination with standard dressings and compression therapy significantly reduced the pain, encouraged rapid healing of the ulcers with evidence of good deposition of collagen. The monitoring of recurrence will determine the long term effect of good collagen deposition.

*Accel Heal Electroceutical therapy
EP413] ENGAGING LTC WOUND CARE CHAMPIONS NATIONALLY

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: Provision of Wound Care Champion (WCC) education enhances key components:
- Education: gaining knowledge and learning about best practices from clinical experts, resources and standards
- Support: sharing information and experiences, coaching, implementation of policies, procedures and products, skin and wound care challenges
- Coaching, mentoring and support of new WCC
- Work with others with similar goals/passion
- Opportunity for discussions and questions

Method: Webinars support the knowledge transfer and drive staff engagement in a number of ways:
- Familiarity with available learning platforms and opportunities
- Connection to subject matter experts
- Real-time sharing of best practices, problem-solving and discussion
- Personalized learning, can tie learning goals to competencies, objectives and priorities
- Engaging in content by suggesting topics for future webinars

Results / Discussion: Skin and Wound Care Community of Practice Webinars (held every other month). Topics included:
- Wound Care Champion Roles and Responsibilities
- Skin Tears, Rashes and Lesions (case studies)
- Wound Assessments, including funding assessments
- Wound documentation and Care Planning
- Strategies for retention of dressings in difficult areas (eg. coccyx)
- Management of Bullous Pemphigoid (case studies)
- Best practice for irrigating and measurements of wounds
- Quality improvement initiatives by auditing of program
- Pressure ulcer identification, staging, prevention and management (case studies)
- WCC role orientation

Total attendees in 2013/2014: 425
Conclusion: Sharing of knowledge provides a means to motivate and engage each Long Term Care facility’s Wound Care Champion (WCC) nationally. In addition, WCCs feel valued for their contributions and supported in their growth and development.
Pressure ulcers are a common, debilitating condition often affecting the older adult. “A pressure ulcer is an area of localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear”*. Regardless of stage, prompt treatment is essential in the older adult who may already be compromised by other comorbidities. An untreated pressure ulcer may worsen and lead to general deterioration, wound infection and osteomyelitis with prolonged hospital stay and rehabilitation. In addition to the significant medical, psychological and social impact of pressure ulcers they represent a large economic burden to health care organizations**.

88 year old male was admitted from home after being found on the floor for a substantial amount of time. He was admitted to the acute setting with dehydration, shock and multiple pressure ulcers including: face, knees, chest, feet and hip.

**Aim**: Demonstrating effective pressure ulcer assessment and treatment using topical regimes, sharp debridement and pressure relieving equipment.

**Method**: Representing a holistic approach, with initial and subsequent assessment and follow up chronologically with illustrations.

**Results / Discussion**: Managing multiple pressure ulcers can seem daunting in the older adult. Correct and timely assessment with subsequent specialist review is essential to optimize healing.

**Conclusion**: Sharing best practice in managing complex multiple pressure ulcers in the older adult.


Aim: Treatment of bilateral venous leg ulcers in a diabetic patient with elephantiasis nostra verrucosa.

Method: Treatment WITH super-absorbent dressings for the management of exudate and a super hydrating foam with 10% urea on the hyperkeratosis, short compression therapy and 3 times a week bath with iodine containing soap.

Results / Discussion: 69-year old male patient, diabetic and following a basal/prandial insulin therapy of 4 injections a day. Diagnosed with “Elephantiasis Nostra Verrucosa” and a body mass index of 32.

Very large edema on both legs with very high exudate level.

Inverted champagne bottle sign and hyperkeratosis.

Large venous ulcers diagnosed (ankle-brachial index >0.9).

Treatment: super-absorbent dressings for the management of exudate and a super hydrating foam with 10% urea on the hyperkeratosis, short compression therapy and 3 times/week bath with iodine containing soap.

The legs show very large exudating ulcers (++++).

Hydrocellular bandages combining silicones and super-absorbent dressings for the treatment of chronic wounds and to prevent maceration.

The treatment is delicate and consists mainly of compression therapy.

Conclusion: In this case, we see a significant decrease of the edema and the exudate but we see an increase of the hyperkeratosis.

The treatment with the super hydrating mousse with 10% urea and the iodine containing soap reduce the scaling significantly.

Due to the reduction of the scaling, the skin starts to look healthier.
The process leads to a complete healing of the ulcers and returns the skin healthy again with a super hydrating foam combined with a 2-in-1 compression system to treat the venous leg ulcers.
Aim: The primary lymphedema is associated with an increase in volume of the limbs, secondary to the accumulation of lymph in the interstitial spaces, especially in the subcutaneous tissues. It is related to a change in primary or secondary lymphatic. Very often associated with an infectious process resistant.

Method: Case report: Patient 76 years with results of DVT 35 years ago suffering from primary lymphedema leg right with a circumferential ulcer almost 2/3 of the lower leg, and smelly by secreting highly resistant to 18 months any drug therapy in treatment with elastic compression. The examination ecocolor doppler leg showed an incontinence femoral-popliteal and right of both saphenous veins. After screening infectious (polymicrobial infection) and targeted antibiotic therapy has been carried to a debridement deep surgical wound and subsequent positioning of a negative pressure therapy in order to cleanse the wound for reconstructive purposes using a thin autograft performed in collaboration with the plastic surgeon.

Results / Discussion: The patient has come to heal within six months, and after two surgical debridement for the persistence of deep infection of the wound. The grafts with large meshes with the application of negative pressure therapy for five days has allowed an optimal control of secretions so as to obtain a good result.

Conclusion: The multidisciplinary approach and the use of modern technology has resulted in a relatively short time, the resolution of a complex case.
[EP417] FAST HEALING OF VLUS WITH INNOVATIVE AND COMBINED TECHNOLOGIES

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Union Casa

Friday, May 15, 2015
E-poster session: Case Studies

**Aim:** Remove the infection, relieving the pain and close in an accelerated way the VLUs.

**Method:** There were evaluated 12 cases of VLU, infected, with fibrine and necrosis, for patients with the ages between 50-90 years old, with different co-morbidities. The patients were dressed every 2-4 days, cleaned with a sterile soap before applying the DACC (antimicrobial and debridement), followed by the hemoglobin spray for granulation, covered by foams as secondary dressings.

For the compliant patients was applied the compression therapy.

**Results / Discussion:** The DACC removed successfully the infection, also did an autolytic debridement. DACC was used until the end of the treatment together with the granulation hemoglobin spray in order to eliminate the risk of reinfection, because of the protein excess of the spray. The pain was relieved by electromagnetic impulse in low frequency. Each time the compression therapy was used, resulted obvious improvement signs.

**Conclusion:** This experience generated a functional kit for the VLU’s healing, proved in the real field. The patients were treated successfully, in Hospitals, home-care services and self-care also, in short time between 25 – 90 days, with no complications, using different and complementary technologies, with synergies discovered in practice. The efficacy and cost effectiveness of the treatments were appreciated by the professionals and patients at the same time.

Products used – brand names: BSN Medical - Cutimed Sorbact Hydroactive/Swabs/Ribbon (DACC antimicrobial), Sastomed - Granulox (Hemoglobin Spray for granulation), BSN Medical - Cutimed Siltec (Breathable Silicon Foam), Axiane - Solviclean (sterile soap), Recovery RX (BioElectronics)
Aim: Topical negative pressure (TNP)* treatment is routinely used in wound treatment. We aimed to show its use in an acute wound as an alternative to surgical treatment.

Method: 23-year-old woman was referred to our plastic surgery clinic after a car accident.

In her physical examination, there was partial thickness wound in the left thigh. In the right leg the wound was both in the anterolateral thigh and calf; there was total skin loss around right knee where the knee joint was exposed. The initial treatment plan was to cover the exposed right knee with a random pattern skin flap or a musculocutaneous flap and to cover the rest of the wound with split thickness skin graft harvested from the contralateral leg. In order to achieve a suitable wound bed with healthy granulation, topical negative pressure (TNP)* therapy was planned and initiated immediately.

Results / Discussion: During the course of the topical negative pressure (TNP)* treatment, knee joint was totally filled with granulation tissue and the leg was seen to heal without any contractile scar tissue but only with some skin colour change. After 70 days of the topical negative pressure (TNP)* and formation of granulation tissue; treatment with bovine collagen matrix and different wound dressings were initiated. The treatment duration was 124 days. There was no extremity function or sensory loss. The patient was then referred to our dermatology clinic for further skin care and treatment.

Conclusion: The topical negative pressure (TNP)* is more effective in young patients. It shortens the time to create healthy wound bed for further surgical procedures as well as shortening the time needed for primary wound healing. Our case is a successful example for combining the non-surgical wound care modalities in an acute wound.
*Photos are not available in the abstract book.*

*Vacuum assisted closure (VAC)*
Aim: Heroin due to its immunomodulatory effect impairs wound healing. In the inflammatory phase of wound healing the neutrophil infiltration, the complement activation, the clearance of the debris and bacteria is missing in heroin-addicted population. Macrophages secrets lower level of growth factors, and there is a delay or lack of fibroblast proliferation, angiogenesis. The authors reported a case of a patient with leg ulcers due to heroin addiction.

Method: A 34-year old male presented a 2-year history of multiple, recalcitrant, painful ulcers on the lower extremities. The localization of ulcers, the atypical clinical appearance, the hyperpigmented, atrophic scars on the shins and the unusual behavior of the patient suggested drug abuse. The extended history of the patient revealed that he had been an intravenous drug user for 6 years and had been on a methadone maintenance program for 4 years. He injected heroin into accessible veins before, but after the sclerosis of the veins, admitted it to the shins in subcutaneous injection. During drug substitution therapy he has pulverized methadone and administered it also subcutaneously.

Results / Discussion: Multiple, 1-2 cm size, round, sharp bordered leg ulcers with necrotic wound beds, clearly defined, prominent edges and inflamed surrounding skin were presented at the sites of drug injection.

Conclusion: In young patients with non-healing leg ulcers after the disclosure of arterial or venous insufficiency, diabetes, pyoderma gangrenosum, foreign body granuloma and artificial origin, we have to think about drug abuse as possible reason behind the skin symptoms.
[EP420] CASE SERIES EVALUATION ON THE USE OF A HYDROCOLLOID WOUND DRESSING* IN THE TREATMENT OF DIABETIC FOOT ULCERS

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E-poster session: Case Studies

Aim: Case series evaluation on the use of a hydrocolloid wound dressing* in the treatment of diabetic foot ulcers.

Method: 15 patients with diabetic foot ulceration were followed for 6 weeks. At each weekly assessment visit a photograph was taken of the condition of the wound bed and peri-ulcer skin. Photographs were also taken of the dressing prior to removal and upon application of a new dressing. The patient and clinician were asked to comment on the conformity of the dressing, ease of application and removal. Due to the outer transparent layer dressings were changed when deemed necessary following assessment with the dressing insitu rather than routinely. The level of exudate and wound measurement was also recorded.

Results / Discussion: Results form the clinicians and patients suggest that the hydrocolloid wound dressing* are both easy to apply and remove. There were no reports of damage to the surrounding and peri-ulcer skin. The peri-ulcer skin remained intact and showed minimal signs of maceration. The dressing conformed well around all areas of the foot. The transparent layer of the dressing allowed for continual assessment of the wound bed without removal of the dressing.

Conclusion: Often wounds on the foot are difficult to dress resulting in the application of bandages and excessive adhesive which can cause difficulties in footwear for patients. Although the numbers included in the evaluation were small the results suggest that the thin absorbent hydrocolloid dressing* was an effective dressing in the management of patients with a diabetic foot ulcer.

*BeneHold Thin Skin Adhesive (TSA) Wound Dressing Vancive Medical Technologies
Aim: To demonstrate the impact of applying research to practice. The case highlights the benefits of using a hosiery* to manage venous leg ulceration (VLU), following publication of the VenUS IV trial, including patient narrative.

Method: The patient:

- Aged 43
- Varicose vein surgery post 4 births
- No advice to wear compression post-operatively
- Self-employed

Presentation at assessment:

- VLU
- Painful
- Odourous

Treatment plan:

- Program of care incorporating skin/wound care and compression therapy
- Transferred from compression bandaging to LUHK

Results / Discussion: Having a VLU had a significant impact on Helen’s well-being, she commented:

I remember travelling home in the car once and I had to cover my leg in a bath towel to reduce the odour. I was also in so much pain, it was worse than childbirth!

The VLU healed in 4-5 weeks of using the hosiery*. The Venous leg Ulcer Study IV trial reported similar healing times and rates with hosiery* to four layer bandaging (Ashby et al. 2014). Helen was able to be involved in decision making and in her care.

The most significant impact for Helen related to her well-being:

Best of all, the pain disappeared and I could venture outside without worrying about that smell. I don’t regret my operation, however I wish I’d been given the compression hosiery sooner. I’m so grateful to my nurse as now my leg ulcer has gone and I’m back on my feet, back to my everyday life.
**Conclusion:** For Helen, using a hosiery* facilitated healing, concordance, self care and well-being.

* Leg ulcer hosiery kit (LUHK)
**[EP422] NECROTIZING FASCIITIS DUE TO ESCHERICHIA COLI AFTER KIDNEY TRANSPLANT**

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Friday, May 15, 2015

E-poster session: Case Studies

**Aim:** Necrotizing fasciitis (NF) is a rarely seen soft tissue infection. In literature there are only few NF cases that have been reported in patients with kidney transplants. The case that we will present is the second NF case that develops in patients with kidney transplant due to *Escherichia Coli*.

**Method:** Kidney transplantation from cadaver was done on a 39 year old patient due to terminal stage of renal insufficiency caused by polycystic kidney disease. 3 days after discharge, he came in with slight erythema and pain in his left extremity under the knee. In spite of the treatment, skin necrosis developed. *E. Coli* was found in blood, urine and tissue cultures. The patient’s wounds healed and came into the grafting phase by the help of repetitious tissue debridements and wound care but the patient passed away due to sepsis caused by pneumonia.

**Results / Discussion:** NF is very rare in patients with kidney transplant. Together with our case there has been 20 NF cases that have been reported in patients who have kidney transplants. To our knowledge our case is the second case that was developed because of *E. Coli*. In the treatment all patients received debridement on top of antibiotic treatment. Amputation became necessary in 25% of the patients. Mortality rate is 30%.

**Conclusion:** NF is a rarely seen, rapidly developing, life threatening soft tissue infection for patients with kidney transplant. Early diagnosis, repetitious surgical debridements and aggressive treatment is extremely important in order to decrease the mortality rate.
Aim: To treat difficult site (head and neck) surgical wounds with negative pressure wound therapy (NPWT) to promote healing, prevent deep infection and assist reconstructive surgery.

Method: In the period 01.2014/10.2014 we treat with NPWT (-125 mmHg / 2-4 weeks) 9 patients with: a) SSI after cranioplasty for Apert syndrome (1 year old baby) and Crouzon syndrome (4 years old baby); b) extensive necrotizing fascitis of the neck due to tooth extraction (1 HIV patient) or infected apical granulomas (1 diabetic patient and 1 malnourished homeless subject); c) extended face and neck SSI after demolitive oral cavity surgery for tongue cancer (3 patients); d) infected excision of spinocellular cancer located to the temple with eye avulsion and osteomyelitis of eye cavity (1).

Results / Discussion: All the patients healed without any complication.

Conclusion: NPWT is an excellent dynamic dressing and well established indications are available. Fear to impact with vessels, frail bone, trachea or brain, strongly limited the use of NPWT in head and neck difficult or infected wounds, also because of really difficult anatomical sites involved but in our series it showed excellent outcomes.
Aim: Carboxytherapy is a supportive method in chronic wound treatment conducted by cutaneous and subcutaneous injection of medical carbon dioxide (CO₂). The primary effect of the injected CO₂ is the correction of tissue hypoxia due to the Bohr Effect. With its effects on endothelial growth factors, it stimulates neoangiogenesis and fibroblast collagen synthesis consequently leading to better wound healing.

Method: Case presentations of four patients with mixed venous and arterial ulceration. All patients suffer of diabetes type 2, obesity, arterial hypertension, chronic venous insufficiency and periferial arterial occlusive disease.

Carboxytherapy had been conducted using a CDT Evolution Machine manufactured by L.E.D SpA Italy.

Results / Discussion: Two male, two female, age from 63-74 y, wounds duration from 6 weeks to 2 years, all on lateral sides of the lower leg, size 3x2 cm up to 8x7 cm. Along with treatment of the underlying diseases, local treatment, compression therapy with short stretch bandages – systems, carboxytherapy had been conducted once a week around the wounds in accordance with protocol. The wounds healed completely from 6 to 12 weeks.

There were no side-effects during the application of carboxytherapy. The patients reacted well to the treatment.

Conclusion: Carboxytherapy is minimally invasive, economically acceptable, patients take it well, it can be conducted in ambulatory conditions by properly trained doctors and can be a supportive therapy in wound treatment.

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Friday, May 15, 2015

E-poster session: Case Studies

**Aim:** Accelerating the healing time of a pressure sore eliminating hypoxia.

**Method:** We observed 8 cases with pressure sores, women (46%) and men (54%) with the ages between 40-92 years, most of the patients were immobilized. The wounds were infected, with fibrine, slough, necrosis. The dressings were changed between 1-3 days in Hospitals and home care services. The approach was: Autolytic debridement, removing the infection and generate the red granulation tissue with DACC dressings, eliminate hypoxia with the hemoglobin spray, remove pain/inflammation and stimulated producing of collagen with the electromagnetic device, keep moisture in the wound with hydrophilic dressings.

**Results / Discussion:** The wounds were stabilized by removing the infection with the DACC dressings, the granulation was stimulated with hemoglobin spray. DACC ribbon gauze was used during the complete treatment to eliminate the high risk of reinfection. The pain was relieved by electromagnetic impulse in low frequency.

**Conclusion:** We found a range of compatible AWC products, in order to heal pressure sores in a reasonable time with small costs and ergonomic way, with not too many technical skills or expensive medical equipment. The patients were happy regarding time of healing, costs and pain management. The synergy between the DACC dressings and the hemoglobin spray was proved in practice, giving the chance to use the hemoglobin in earlier stages of the wounds, and keeping the “peace” by physical hanging the potential harmful pathogens.

Products used – brand names: Cutimed Sorbact (DACC antimicrobial), Granulox (Hemoglobin Spray for granulation), Cutimed Siltec (Breathable Silicon Foam), Solviclean (sterile soap), Recovery RX (BioElectronics)
Is High Level Amputation Necessary in Diabetic Foot Where Necrotizing Infection Has Developed?

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: Foot ulcers are one of the most serious complications of diabetes and can cause amputation in different levels. This study was prepared in order to present two diabetes patients whose extremity was threatened by necrotizing infection and amputation was decided at different centers. A multidisciplinary approach was used to save the limbs and total wound healing was achieved in 6 months.

Method: First case was a 47 year old male patient who was being treated for a year due to his Type 1 diabetes. His necrotizing infection included left foot 2., 3., 4. and 5. fingers and amputation below the knee was decided. Second case was 51 year old male patient with a history of 33 years of Type 1 diabetes and 5 years of chronic renal disease. Amputation above the right ankle was decided due to the necrotizing infection that included the 3., 4., and 5. fingers.

Results / Discussion: Both patients limbs were salvaged by a multidisciplinary approach including vascular by-pass surgery, minor amputations, negative pressure wound therapy, epidermal growing factor treatment, stem cell treatment and application of modern wound care products. Both wounds were healed in 6 months.

Conclusion: Diabetic foot wounds and wound infections require a fast and organized approach in order to reach successful results and avoid amputations. A specially trained team that adopts a multidisciplinary approach can reach close to perfect results in the treatment of diabetic foot wounds and can help the patients improve their life quality by protecting the patients’ lower extremities from amputations.
WOUND DRESSINGS CONTAINING A NEW FORMULATION OF SILVER WITH AG2+/3+ RE-ACTIVATE HEALING PATHWAYS IN STALLED CHRONIC WOUNDS

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Aim: This study aims to evaluate the safety and efficacy of a silver wound contact layer coated with silver oxysalts (Ag₇NO₁₁) that contain silver ions in the Ag²⁺ and Ag³⁺ oxidation states.

Method: 15 patients with chronic wounds defined as >6 weeks in duration and not administered systemic antibiotics for at least 2 weeks were enrolled in the study. The dressing containing Ag oxysalts was applied immediately after routine sharp debridement material was collected and duplicate swabs of the wound bed taken. Wound assessments and samples were taken at 24 hours, 1, 2, 3 and 4 weeks (or until closed) after dressing application. The silver dressing was changed as needed according the standard of care in the wound clinic. Bacterial community composition was assessed by barcoded pyrosequencing with the 454 FLX platform for bacterial 16S rRNA genes amplified from total DNA extracted from each sample.

Results / Discussion: 50% of patients were diabetic or with CVD/PVD co-morbidities. 95% of wounds began to move towards closure and 75% of the wounds closed within the 4 week treatment period. Sequence data indicated presence of bacteria even when culture swabs came back negative. In the majority of wounds >25 bacterial genera were detected.

Conclusion: Silver oxysalt wound dressings appear to reactivate stalled wounds within this study. Molecular sequencing methods are more sensitive at detecting bacteria genera from a wound bed than traditional culturing from the same sampling technique and this method can be used to assess new interventions by measuring the antimicrobial efficacy in situ.
[EP428] USE OF A DACC WOUND CONTACT LAYER WITH TOPICAL NEGATIVE PRESSURE IN A DEEP HIP INFECTION

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: 84 year old female readmitted to hospital with a systemic infection, one month post right, total hip replacement. Commenced on intravenous antibiotics on admission; two days later underwent surgical debridement, washout and exchange of femoral head. Intra-operative samples yielded a heavy growth of *Escherichia coli*; antibiotics commenced upon microbiology advice.

10 days post-operatively for suitability for TNP was assessed. Three sutures were removed, revealing a deep cavity behind a 7cm length of dehiscence. There were high levels of exudate, but also active bleeding, contraindicating TNP. Aim to promote haemostasis, reduce bioburden, manage exudate, fill dead space to promote healing from the wound base.

Method: TNP commenced 17 days post-operatively following final suture removal. The wound was lined with a DACC-coated dressing, filled with moistened antimicrobial gauze around a 15mm gauge channel drain, secured using a Chariker-Jeter technique. Pressure increased gradually from -60 to -80 mmHg over 24 hours to reduce the risk of bleeding.

Dressing changes reduced from 48 hours to twice weekly, with weekly deep wound swabs.

Results / Discussion: Microbiology confirmed the wound remained infection with the following reductions noted:

- Length: 98mm to 70mm
- Depth: 120mm to 98mm
- Undermining: 102mm to 62mm
- Exudate: 300mls daily to 200mls over three days

Conclusion: Due to the depth of infection and cost of surgical revision, the passive mechanism of the DACC-coated dressings against pathogens allowed continued use despite clear wound cultures. The patient’s management was ongoing at discharge, however results appear to support the use of such dressings under TNP in conjunction with holistic care.
**Aim:** This is a case report about care of a female patient with donor site skin graft that was opened for over four months and didn’t have healing signs. The purpose of this case was to describe the treatment strategy of chronic wound with wound balancing matrix of proteases aiming to modulate the microenvironment of the injury providing complete healing.

**Method:** The outcome data were obtained through the entire medical records and periodic photographic of the wound, respecting the ethical standards. Topical treatment proposed was based on the fundamental principles of good wound care and use of a protease modulating matrix. These matrix was composed with Oxidized regenerated cellulose, collagen and silver (ORC+C+Ag). Dressings were changed every 72 hours and evaluated weekly by the specialist nurse. The wound showed fast clinical evolution, resulting in complete healing.

**Results / Discussion:** The wound showed fast clinical evolution, resulting in complete healing in 49 days. Generally when wounds were chronic presents inflammatory markers and high levels of proteases, decrease the activity of growth factors and reduction in number of cells in the wounds. Currently research focused on identifying the effects of elevated proteases activity and the development of new therapies that are able to balance their action. Coverages collagen-based and oxidized regenerated cellulose with silver (OCR+C+Ag) have shown to be effective in inhibiting these proteases, rebalancing the microenvironment of the wound and providing increased rates of healing.

**Conclusion:** In this Case Study was possible observed that the use of ORC+C+Ag in chronics area of donor grafts may reduce the time for complete epithelization and pain complaints and promote greater patient comfort.
[EP430] ACCELERATE TREATMENT OF A VERY OLD AND INFECTED FISTULA

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: Remove the infection and close in an accelerated way the deep and old fistula.

Method: Male, 52 years old, with an infected open fistula for more than 18 months, as a post-op infection with E. Coli and Staphilococcus Aureus. The patient was dressed every 2-3 days, cleaned with a sterile soap before applying the DACC ribbon gauze, alginates for the exudate absorption. For the last dressing sessions was applied hemoglobin spray covered by a foam as a secondary dressing.

Results / Discussion: The fistula was closed after only 14 days. The DACC ribbon removed successfully the infection, it was used until the end of the treatment together with the granulation hemoglobin spray in order to eliminate the risk of reinfection. The bad smell disappeared after the first 3 dressing changes.

Conclusion: A very old open wound was closed in short time, the patient was dressed first by the nurse, then he was able to dress the wound by himself, the protocol being accessible. The patient was pleased with the results from all point of view (efficacy and cost effectiveness).

Products used – brand names: BSN Medical - Cutimed Sorbact Ribbon Gauze (DACC antimicrobial), Sastomed - Granulox (Hemoglobin Spray for granulation), BSN Medical - Cutimed Siltec (Breathable Silicon Foam), Axiane - Solviclean (sterile soap), Hartmann Sorbalgon (alginites)
A RESIDUAL BURN WOUND WITH MUTI-DRUG RESISTANT INFECTION TREATED SUCCESSFULLY WITH WATER IRRIGATION AND INFRARED IRRADIATION IN MARCO

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: A patient with mental disorder was burned with 30% wound, hospitalized in Marco for 1 year. He did not cooperate to change the dressing, the wound was infected with multidrug-resistant Staphylococcus aureus and Pseudomonas aeruginosa, and had no effective drugs for treatment. So this work aimed to investigate the wound irrigation and infrared irradiation on the infection control of and wound healing.

Method: The wound was treated with tape water irrigation, trying to remove the pus and necrotic crusta in the wound, then expose the wound to infrared irradiation for drying about 2h. After the wound was covered with escharosis, irradiation was stopped. 4 days later, irrigation and irradiation were repeated. During treatment, didn’t need to change dressing and applied antibiotic.

Results / Discussion: After each treatment, the wound granulation tissue drop down, wound fluid reduced, wound shrink gradually. 4 times later, the wound was completely closed.

Conclusion: The wound irrigation and infrared irradiation could control the multidrug-resistant infection and promote wound healing, reduce the pain of changing dressing and the use of antibiotic.
Aim: Technological advancement has enabled surgeons to pursue limb salvage with the propensity for functional outcomes that surpass previous expectations, but does this reflect the patients’ desires or that of family or physician? The heterogeneity of patients and their injuries, along with the difficulty of long-term follow-up provides a construct for ongoing ethical dilemmas. We sought to gain insight into the decision-making rationale in the multidisciplinary management of traumatic limb wounds with consideration of surgeon’s and patients’ autonomy, futility, and consent.

Method: Our experience reflects on three traumatic limb injury cases with contrasting outcomes. A 30-year-old male sustained a left upper extremity traumatic amputation, left lower extremity degloving, and abdominal wound status post a motorcycle accident necessitating 55 surgeries. A 60-year-old male endured a traumatic lower extremity wound 6 months before succumbing to a below-the-knee amputation. A 62-year-old male status post a motorcycle crash with a lower extremity necrotizing fasciitis achieved limb salvage. A medical literature search included the following terms: amputation versus limb salvage, informed consent, decision-making capacity, surrogate, conflict of interest, physician to patient relationship, and clinical ethics (January 1996 to October 2013).

Results / Discussion: Fifty-five relevant articles suggested: earlier amputations produced higher functionality; physicians had the greatest influence; patients felt excluded from the decision-making process; and post-acute services were critical to facilitate recovery after amputation/limb salvage.

Conclusion: Studies have shown that with increased mobility, all other aspects are improved so functionality should be the goal.
[EP433] EFFICACY OF SILVER DRESSINGS IN CHRONIC ULCERS OF NON-REVASCULARIZABLE PATIENTS WITH PSEUDOMONA AERUGINOSA INFECTION.

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: To show granulation process and benefit of silver dressings in non-revascularizable ulcered limb contaminated with pseudomona aeruginosa

Method: 73 year-old female, hipertensive; presenting with ulcers and necrosis in left limb for 1 year, claudication at 50 meters; non-compressible ABI (ankle brachial index).

Presenting necrosis of 2nd, 3rd and 5th toes with bone exposure in the middle and dorsal side, no infection. Irregular, 5x6 cm ulcer, medial side of the leg, subcutaneous tissue exposure, dorsal side with 8x3 cm ulcer; heel with 1x1 cm ulcer, fascial exposure.

Angio-CAT: tibioperoneal trunk lesions, no tibial vessels, distal recanalization at plantar arch from posterior tibial.

Balloon percutaneous angioplasty and stenting of femoral superficial and peroneal arteries was performed.

Posoperative necrosis of 2nd and 3rd toes so amputation was performed; ulcers worsened so prostaglandines were administrated for 20 days.

Extracelular matrix was applied during 2 months without benefit, positive bacterial culture (pseudomona aeruginosa), so specific antibiotics and silver dressings were used for 4 months with increase of wound closure speed, granulation and negative bacterial culture.

Results / Discussion: Extracelular matrix didn’t show benefit in critical ischaemic lesions, not even after prostglandine administration.

Conclusion: Chronic ulcers in non-revascularizable patients are a huge challenge because granulation is delayed, so it is easy to get infected, in this case the bacterial culture was positive to pseudomona aeruginosa, that is why silver dressing was chosen. Literature has shown benefit against gramm negatives and anaerobic bacteria; after 4 months of healing the ulcer, wounds are fully closed.
[EP434] EFFICACY OF IRON SUB CARBONATE IN ATYPICAL ULCERS

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: Show the efficacy in the granulation process with iron sub carbonate in atypical ulcers due to rheumatologic disease.

Methods: 57 year old female, hypertensive, rheumatoid arthritis, Raynaud’s syndrome, presents since 2 years, chronic ulcer in lateral side of left leg, 3x3 cm, fascial exposure, no claudication, (Ankle Brachial Index) ABI: 1.

Presenting irregular, 5x6 cm ulcer, lateral side of the leg, subcutaneous tissue and fascial exposure.

Doppler US: old femoral deep venous thrombosis treated with factor Xa inhibitor.

Iron sub carbonate 7.5 gm mixed with vaseline 42.5g was applied twice a day during 2 months, increasing wound closure speed and granulation. No signs of infection, Negative Bacterial cultures.

Results: Iron sub carbonate mixed with vaseline show benefit in atypical ulcers, in which wound dressings as silver, alginate and debridement ointments didn’t show benefit, causing contact dermatitis. After 2 months of healing the ulcer, wounds are fully closed. No contact dermatitis surrounding.

Conclusions: Scientific evidence shows that the principal factor of wound healing in atypical ulcers is how fast the diagnosis is made and treating the underlying rheumatologic cause.

Based on the literature, Iron subcarbonate elinines necrotic tissue and pseudomembranes by proteolytic enzymes, promoving wound healing, and also preventing infection.
[EP435] NICORANDIL

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Friday, May 15, 2015

E-poster session: Case Studies

Background: Although Nicorandil is widely prescribed for Angina, the awareness of its side effects are limited. Oral and anal ulceration is well documented however, leg ulceration and fistulation are not. Ulceration can cause psychological distress, depression, low self-esteem and pain for the patient.

Aim: To inform Health Care Professionals of the effects of Nicorandil on chronic non-healing leg ulcers.

Method: A Case Study following a referral to the Tissue Viability Service from a Practice Nurse who had been dressing the leg ulcers for 10 months, however without significant progress or indication of wound healing.

Results / Discussion: After the initial consultation and medication review it was established that the patient was taking 30mg Nicorandil BD. After consultation with the patient’s GP discussing symptoms, the Nicorandil was completely withdrawn and replaced with a GTN spray. The patient was monitored through this transition period for any adverse effects. All leg ulcers healed in 12 weeks.

Conclusion: In chronic non-healing wounds, Nicorandil may be the cause as it inhibits mechanisms to wound healing. Post withdrawal/titration downwards under medical supervision the approximate duration of wound healing is approximately 12-16 weeks. Over the coming years it is anticipated that there will be an increase in the number of chronic non-healing wounds associated with Nicorandil use.
[EP436] THE TREATMENT OF A CATEGORY 3 PRESSURE ULCER OF A NEONATAL BABY OF 26 WEEKS USING A GELLING FIBROUS DRESSING.

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: A 26 week premature was admitted into the neonatal unit with extreme prematurity, renal impairment and anaemia. At 28 days the baby developed Chronic Lung disease and suspected sepsis. The patient was unable to tolerate nasal prongs as oxygen saturations were low therefore commenced on CPAP. With the use of CPAP the baby developed a 0.5mmx0.5mm bleeding and sloughy wound under their nose. It was dressed initially with a hydrocolloid dressing. 7 days later the wound was noted to have a slight cavity and once assessed by the Tissue Viability Nurse a category 3 pressure ulcer was diagnosed and the nursing staff were advised to commence the treatment of a gelling fibrous dressing and a Hydrocolloid secondary dressing.

Method: The wound was dressed with a gelling fibrous dressing to aid absorption of exudate and promote healing. The wound although a small cavity was granulating. The dressing was secured using a hydrocolloid. The wound was redressed weekly whilst ensuring appropriate pressure relief to the area.

Results / Discussion: The wound healed within 3 weeks.

Conclusion: Pressure ulcers occasionally occur in neonates. Infants who are sedated, who are unable to make spontaneous movements, receiving inotropes, reduced blood flow at the peripheries have an increased risk of pressure damage. The gelling fibrous dressing was able to effectively absorb the exudate, maintain the right environment and promote the right
environment for healing. A gelling fibrous dressing can be used on preterm babies which was reassuring for the parents.
Aim: To review the clinical use of an absorbent antibacterial PVA foam dressing (aPVA)*.

Method: Wound progress with aPVA was assessed by measuring in a case series of 7 patients.

Results / Discussion: The observation period over which wound progression was evaluated varied between the different cases. Therefore, the results cannot be supported by statistical tests. However, a clear reduction in wound volume is seen.

Undermining of tissue (4 patients) week 0 was completely resolved in 2 patients by weeks 13 and 16 respectively and reduced by 60% and 52% in 2 other patients.

Epibole (rolled edge) (3 patients) at week 0 was completely resolved in 2 patients at weeks 13 and 16 respectively and was resolving in 1 patient at week 2.

Maceration (4 patients) at week 0 was completely resolved at weeks 2, 6, 13 and 16 respectively.
The positive impact of aPVA dressing on reduction in wound volume, undermining, epibole and maceration, across a range of wound types was observed.

Host factors contribute to chronicity in non-healing wounds and the application of adjunctive treatments have not been taken into account in the reporting of these results.

**Conclusion:** A viable alternative to topical agents currently used in Europe is found in aPVA foam dressing. The combination of Methylene Blue/Gentian Violet with PVA foam provide an effective topical antibacterial wound dressing with the capacity to deliver favourable outcomes in complex wounds. Formal European prospective evaluation is underway and will be reported in 2015.

*Hydrofera Blue (Hollister, Incorporated, USA)*
Aim: Management of a deep sacral wound (anterio-posterior perineal), 26cm length, 8cm width and 20cm depth, in a woman experiencing a cloacal neoplasia. The patients underwent to an abdominoperineal resection and a coccygectomy surgery. A urinary fistula became a complication in the wound management. The first aim of the treatment was to avoid critical colonizations and systemic infections.

Method: In the first week the wound was treated on a daily base filling the cavity with an iodoform gauze. The wound appeared with an abundant exudate inside the cavity with slough and necrotic tissue. After the wound was treated with a dressing of sodium carboxymethylcellulose impregnated with ionic silver enhanced by ethylenediaminetetra-acetic acid di-sodium salt and benzethonium chloride. For 18 days the dressing has been changed on a daily base.

Results/Discussion: The dressing allowed the management of the exudates and bacterial colonization; clinical signs of localized or systemic infection has never been reported in the wound despite the presence of bacteria (*Escherichia coli*) and the urinary fistula. In 8 months the wound reduced his dimension (8cm length; 3 cm width; 6 cm depth); and the tissue has been maintained clean, while the sacral stump was covered by granulating tissue.

Conclusion: At the beginning the urinary fistula didn’t allow the treatment with negative pressure therapy. The decision of treating the wound with advanced wound dressing has been a success. In 8 months the wound reduced its dimension without any infection and with the evidence of an active tissue healing process.

Reference: Aquacel Ag Extra + from ConvaTec
Aim: To analyze the role of surgeon in the treatment of erysipelas.

Method: A case study – we present a patient with necrotic erysipelas in two anatomic regions and his treatment in different stages of the wound process.

Results / Discussion: Infection control was achieved easily after sharp debridement. Wound bed preparation was followed by split-skin grafting that allowed saving the affected limb. Only forefoot amputation was needed, due to critical ischaemia.

Conclusion: Group A streptococcal infection of the skin is a common dermatological problem, but severe forms come in the scope of surgery. Resulting soft tissue defect often require complex management. Circumferential necrotic lesions have to be treated aggressively early in their course to avoid ischaemic injury and limb loss.
Aim: Malodour associated with infected wounds can be distressing for a patient (Powell 2009). The patient in this case study is a 73 year old female with chronic bilateral mixed aetiology leg ulcers of more than one years’ duration. The ulcers produced high levels of malodourous purulent exudate. At the start of treatment, they measured the length and circumference of both lower legs.

Method: Wound healing was not considered an immediate goal because of the severity of the wounds; the objectives of care were to manage the symptoms of infection, and improve the quality of life.

DACC-coated swabs were chosen as they offer a different approach to managing infected wounds, (Powell 2009) irreversibly binding bacteria and fungi to the dressing away from the wound bed (Butcher 2011). There are no donating agents in DACC-coated swabs; it is deemed a safe dressing for use longer than the two week review as discussed in Wounds UK Best Practice Statement 2013. A superabsorbent secondary dressing managed exudate levels and secured with toe to knee bandaging.

Initially the DACC-coated swabs were changed every four days with the superabsorbent secondary dressing and bandaging changed daily, however as the bioburden and exudate levels reduced, allowing the dressing to be changed every second day.

Results / Discussion: Within a week of starting treatment, the malodour had reduced significantly, disappearing after a month and the patient started to comply with the treatment regime. As the initial objectives were achieved, the plan of care changed to include promoting wound healing.

Discussion: Chronic wounds present challenges to healthcare professionals (Vowden 2011), and have a major impact on the quality of life of patients for various reasons, including long standing pain issues, infection and mobility issues, (Hurd 2013). In this case, chronic wounds were made more challenging by patient non-compliance and malodour.

Conclusion: Using DACC-coated swabs as an antimicrobial dressing for chronic, complex wounds offered a non-painful dressing regime, eliminating malodour and excessive exudate,
giving the patient an improved quality of life. This increased patient compliance and promoted the healing of chronic wounds which previously had not been thought possible.
The use of Granulox to heal a foot ulcer in a high risk patient with diabetes: a clinical case study

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: Diabetic foot ulcers can be notoriously difficult to heal. Complications such as infection, osteomyelitis, peripheral vascular disease and co-morbidities can delay wound healing and increase the risk of amputation. This case study demonstrates how a haemoglobin spray* heals a wound on the foot of a transplant patient who has Type 2 diabetes, is extremely high risk with peripheral vascular disease, underlying osteomyelitis and multiple co-morbidities.

Method: Mr E presented with an ulcer on the apex of his R/1st toe in March 2014. Initial assessment found no palpable foot pulses in the right leg, monophasic Doppler sounds and neuropathy. The wound was swabbed and the patient referred for x-ray and vascular opinion. Underlying osteomyelitis was diagnosed and the patient was deemed to be unsuitable for any vascular intervention unless the situation became critical. Mr E wished to commence conservative treatment and commenced on a 12 week course of antibiotics, offloading of the wound and best wound management. Despite this the wound failed to heal and the osteomyelitis persisted. Haemoglobin spray* was commenced July 2014.

Results / Discussion: Mr E underwent weekly applications of haemoglobin spray* on the wound bed in addition to his normal wound management. Following 8 applications, the wound healed and remains healed.

Conclusion: There is an increasing number of high risk patients where surgery is not appropriate and palliative wound care is the only option. This case study has demonstrated that haemoglobin spray* can be a very useful addition to the treatment of foot ulcers in very high risk patients with diabetes where healing may not otherwise have been achieved.

*Granulox
Aim: To explore the fundamental properties of a wound dressing based on*, that has specifically been designed to treat large wounds at difficult-to-dress anatomical sites.

Method: In 2014 a snap-shot evaluation (after one dressing* application) was conducted with wound patients from different facilities across Germany. The survey was complemented with an observational study on patients of a specialised wound clinic at Düsseldorf University Hospital (up to five wound observations at dressing change).

Results / Discussion: To date results of 36 snap-shot and six in-depth evaluations are available, mainly based on leg ulcers with an average duration of 11 months. The snap-shot evaluation revealed that about one third of the wounds had previously been covered with two dressings, almost a quarter with three dressings and almost every fifth wound had to be covered with four dressings. All practitioners described the dressing* manageability as (much) more easy than that of the previous dressings, and all but one rated the product as very good (about 75%) or good (about 20%). These assessments were confirmed by the in-depth evaluation with the additional information that (at the latest) from the second dressing* change onwards wound situations had improved. This showed, e.g. in the very positive assessment of exudate management properties, and the reduction of wound edge maceration.

Conclusion: It can be concluded that the specifically shaped dressing* is an effective treatment option for large wounds at difficult-to-dress anatomical sites. Both size and shape of the dressing lead to reduced effort at dressing change, not at least as only one dressing was required.

*Hydration Response Technology
Aim: To evaluate the use of enhanced oxygen diffusion in wound healing through topical application of haemoglobin spray in the treatment of chronic wounds where standard care has failed.

Method: Three patients with non-healing ulcers which had failed to improve despite standard care had their wounds reviewed. After assessment, topical haemoglobin spray* was added with a view to kick-start the healing process by improving the oxygen level in the wound bed of each wound. Hydro polymer foams were used as secondary wound dressing.

Results / Discussion: Patient 1: Leg ulcer intermittent for 8 years. Started on topical haemoglobin spray* in August 2014 and in December wound bed appears healthier and patient only changing dressing every 3 days instead of daily as per previous regimen.

Patient 2: A lady with Spina Bifida acquired a stage 4 pressure ulcer in October’14 (18cmx10cm). After limited healing progress and daily dressing, topical haemoglobin spray* was started in November’14 and within 4 weeks reduced by 80% in size with 100% granulation tissue and dressed only every 72 hours instead of daily.

Patient 3: Diabetic foot ulcer for over 2 years. Dressing change on alternate days. Topical haemoglobin spray* started to a wet, sloughy wound bed. After 2 weeks, wound bed appeared clean and granulating but still wet, after further 2 weeks of topical haemoglobin spray* 2x weekly, wound bed healthier and reduced in size.

Conclusion: Haemoglobin, when used as an adjunct therapy, has proved to be very effective in enhancing wound healing. Also it led to more cost effective way of managing long-term wounds, where nursing time was reduced by 2/3 and less dressing change being undertaken.

*Granulox
Aim: Pyoderma Gangrenosum (PG) incidence is low is a chronic neutrophilic painful ulcerative inflammatory disease associated with immune reaction. The incidence of PG is difficult to determine because most reports involve single cases or small series of patients. Several variants of PG have been described, some of which have specific clinical implications. The 4 main clinical types of PG are ulcerative, pustular, bullous, and vegetative, each with distinctive clinical and histopathological features, varying rates of progression, different disease association, and often requiring different types of treatment. PG it has be associated with different diseases such as rheumatological and hematological disorder as in this case.

Method: A 57 year old lady type II diabetic, morbid obese (BMI 56.3), controlled hypertension since and was recently diagnosed to have Granulomatosis with polyangiitis (GPA).

She present with extremely painful bilateral lower limbs ulceration involving the lower third of the legs (photo). Superficial Ulerations developed and progressed rapidly to involve both lower limbs more on the right. Skin biopsy was done which was non conclusive. Extensive Local wound care was addressed to avoid skin maceration to avoid further ulcerations, infection and pain control.

Results / Discussion: Although the patient was on steroids for her GPA due to massive lower limb swelling she developed painful ulceration. Wound healed over 10 months period with some scaring which may be vulnerable to future breakdown with minor trauma. It is essential to initiate systemic steroids at a sufficiently high dose to control the disease and sometimes prolonged low-dose maintenance therapy is required to prevent recurrence.

Conclusion: Local wound care is essential to ensure a suitable wound environment for healing and prevention and treatment of secondary bacterial infection. Nonadherent dressings are the most suitable dressings for these ulcers as they are easily changed and reduce the likelihood of trauma. Potent topical steroids are useful to reduce the irritation in the skin surrounding the ulcer.
USE OF A ROLL ON TOTAL CONTACT CASTING SYSTEM TO HEAL A DIABETIC FOOT ULCER

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Friday, May 15, 2015

E-poster session: Case Studies

Background: Neuropathic diabetic foot ulcers are a common problem. Due to the fact that neuropathic ulcers often precipitate lower extremity amputations in diabetic patients, it is imperative to heal DFUs with the utmost urgency. The cast* heals a high proportion of wounds in a short amount of time, compared to other methods of offloading. **There are more amputations within 1 year from non-cast* treated DFUs than cast* treated DFUs***. This case will demonstrate the use of a cast* system to heal a neuropathic DFU.

Method: This 47 year old male had a history of type 1 diabetes for 24 years (HbA1c 112mmol/mol =12.4%) He was a smoker and admitted to significant alcohol intake. He presented with a neuropathic plantar DFU present for 2 months. His x-ray showed no signs of osteomyelitis. A cast* was initiated and applied weekly.

Results / Discussion: At the first cast change, there was considerable improvement noted. The wound was shallower, granulating at the base and decreased in size from 10 x 11mm to 9 x 10 mm. His HbA1c was now 73mmol/mol = 8.8%. Wound continued to reduce in size following weekly debridement and cast change. Wound was healed at 31 days. Finally, an impression was taken for a total contact insole to protect the area from further pressure and help avoid reoccurrence.

Conclusion: The cast* is an integral part of the management of a patient with a diabetic neuropathic foot ulcer and is proven to significantly reduce time to healing.

[EP446] USE OF ACTIVE LEPTOSPERMUM HONEY WITH A RARE CONGENITAL ANOMALY

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: Exomphalos, a rare congenital anomaly, occurs when the fetus’ abdominal wall does not fully develop, resulting in the intestines herniating through the umbilical ring, developing outside of the abdomen. It is also called omphalocele¹. A large exomphalos is covered with a membrane and is centrally placed¹. It can require several surgical procedures to correct the defect. Infection and rupture of the sac can result in major complications. Previously silver sulfadiazine cream, gauze and a crepe bandage was used and redressed daily to prevent infection and promote granulation, however silver level toxicity concerns have been reported². The availability of honey being produced to a medical standard has allowed us to look at a new approach³.

Method: Clean with warmed sterile 0.9% saline, apply antibacterial medical honey*, wrap with tulle⁸ dressing and crepe bandage and redress in 48 hrs.

Results / Discussion: We noted the dressings to be simpler, only needed to be changed 48hrs, no unusual/unpleasant smells. The baby’s sac decreased in size and was eventually resected surgically.

The Active Leptospermum Honey provided a safe, protective dressing

Conclusion: Further research with infants with this condition is to be considered.

*Medihoney

References:

Aim: Lawn mower injuries result in several emergency room visits per year in the United States and all over the world. The lower extremity is the most commonly affected body part. Diabetic patients with these injuries are at high risk for wound complications, infection, and can be potentially more difficult to manage than the healthy patient.

Method: We present a case of a 61-year-old male recently diagnosed with diabetes who pulled a lawn mower over his foot sustaining an open fracture of his first and second toe. He was given a tetanus booster and one dose of intravenous antibiotics in the emergency department, and his wounds were thoroughly debrided at bedside. He was subsequently taken to the operating room the next morning for a more thorough washout including bone resection and closure. He was discharged on oral antibiotics for two weeks.

Results / Discussion: With adequate debridement and bone resection, we created a healthy wound base facilitating quick and effective healing. Our patient healed without any complications in four weeks.

Conclusion: Take all precautionary measures when treating lawn mower injuries in the diabetic patient. The patient should receive intravenous antibiotics as soon as possible, and promptly be taken to the operating room for adequate wound debridement including any resection of unhealthy appearing bone.
Aim: Plantar heel ulcerations can be challenging for the surgeon who is attempting limb salvage; particularly in an active patient. This location is especially difficult being the weight bearing surface of the body. Treatments available include offloading, rotational and free flaps, healing by secondary intention, partial calcanectomy, and debridements with synthetic soft tissue grafts. Outcomes are variable, but they consistently come with high risk and potentially long hospital stays. Subtotal calcanectomy is a viable option for patients who might be high risk for a below knee amputation and would benefit from primary closure which could potentially decrease their hospital stay and facilitate early rehabilitation.

Method: We present a case of an 91-year-old female who was transferred to our institution for management of localized plantar heel gas gangrene. After an extensive incision and drainage to eradicate the infection fully our team was left with a large defect on the plantar heel. We attempted limb salvage because of her activity level and high cardiac risk for a below knee amputation. We elected for a subtotal calcanectomy removing nearly two-thirds of the calcaneus. This allowed us to primarily close her heel and leave her with a functional foot and leg.

Results / Discussion: This patient healed uneventfully with 4 months of follow-up thus far. She uses her foot and leg for transfers and is overall very satisfied.

Conclusion: Heel wounds have a high risk for infection and are difficult to heal. These patients have long hospital stays and require multiple surgeries. We believe that the subtotal calcanectomy is a good option for high risk semi-active patients who would decline from long hospital stays and repeat surgeries.
**Aim:** Purpura fulminans is a rare life-threatening condition involving dermal vascular thrombosis. The sequelae of this condition leads to fulminant fever, multi-organ failure and hemorrhagic skin necrosis. Due to the aggressive nature of this condition, amputation is often considered to remove necrotic tissue and prevent further destruction. This case study provides insight into the effectiveness of aggressive wound management using a 0.25% acetic acid dressing change protocol used on a patient with rapidly progressive purpura fulminans.

**Method:** A 38 year old female with a history of end stage liver disease and hepatorenal syndrome presented with septic shock, rapidly progressive purpuric lesions and bullae extending the entirety of her bilateral lower extremities. Within days the lesions developed into necrotic eschar and an escharectomy was immediately performed. Daily dressing changes with non-adherent silicone covering and 0.25% acetic acid soaked dressings were carried out post-operatively. Within 2 weeks the dressing protocol was modified to twice daily dressing changes for a 6 week duration.

**Results / Discussion:** The dressing changes using acetic acid led to an impressive regeneration of granulation tissue which truncated healing time. All remaining eschar was debrided at bedside and a healthy wound base was quickly procured for skin grafting.

**Conclusion:** Persistent and appropriate wound management promotes favorable results in wounds that often advance to poor outcomes. Acetic acid can be a powerful agent in lowering bioburden and preparing a wound environment that is optimal for regranulation.
Title: Recourent heel ulcer and the use of Granulox Haemoglobin spray to improve outcome.

Wound takes 4 yrs to heal, reoccures, than after 5 months using Granulox starts to show signs of healing

Hospital/Institution: Northwick Park NHS Trust, London

Department: Poditary

Author: Avni Amlani (Podiatrist)

Aim: The importance of oxygen to the wound healing process has been well researched and recognition of hypoxia as a key issue in wound healing has grown in recent years. Research has shown that topical application of haemoglobin can facilitate oxygen diffusion and make oxygen from air available to the tissue in the wound base at a substantially higher rate than unaided diffusion. This case report presents the results from this product evaluation, conducted in two patients which have failed to respond to standard care. This case report presents the successful management of chronic wounds from two different patients using Granulox haemoglobin spray as an adjuvant oxygen therapy.

Method: From October 2014 for a four month period, a patient was initiated and selected to receive Granulox as an add-on treatment to their current care. The patient had previously had a heel ulcer wound which remained with them for four years. The wound eventually healed but then returned and the patient has had the recurrent heel ulcer for a total of five months. The patient was recruited following verbal product information and agreement to evaluate the product in line with the Hospital evaluation policy.

- Patient 1. A 65 year old male patient with diabetes. Had a previous heel ulcer that lasted for four years. The wound healed, but then returned in the same location and the patient has had the new heel ulcer wound for a total of four months. Until using Granulox he had not responded to any treatment. Wound had a lot of exudates.

Results / Discussion: Patient 1. Wound was 7cm by 3cm, when started on haemoglobin solution (Granulox ®). On the start of Granulox treatment immediately an improvement in the lesion was seen. A reduction in exudates and in the size of the wound and pain. When the patient questioned he was happy with his treatment and continues to use Granulox. He can administer the treatment easily himself and can still use the dressings that he has used previously.

Conclusion: The results of this evaluation indicate that Granulox provides a high treatment response rate even in patients who have recurrent wounds.
A 25-year old woman, with a history of sickle cell disease, born in Brazil, suffered a leg ulcer since she was 12 years old.

In Brazil she was always treated with silver sulfadiazine cream.

She felt always sad, because of the wound she wasn’t able to work and to dress nice.

In 2013 she came to the Netherlands after the doctors in Brasil suggested to amputate her leg.

When we started the treatment the ulcer was 20 cm by 10 cm, covered with a yellow-grey slough.

The wound was treated with an alginate dressing and later on with a honeydressing.

The edema was treated by compression. There was no effect.

After a month we started treating the wound with topic hemoglobin. It was sprayed on the wound twice a week. In the following 4 months the wound healed, eventhough the patient suffered sickle cell crises 4 times. She was also admitted at the ICU.

After 131 days the wound was almost closed, apart from a few very small defects. The patient was very happy and moved back to Brazil.
[EP452] NEGATIVE PRESSURE WOUND THERAPY ON ERYSIGELAS: A CASE-STUDY

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Friday, May 15, 2015

E-poster session: Case Studies

**Aim:** The aim of this poster is to describe and analyze the results of application of Negative Pressure Wound Therapy (NPWT) on a patient, under enoxaparin (160ug) with an ulcer on his leg provoked by an erysipelas.

**Method:** We used a descriptive method – case-study.

**Results / Discussion:** Patient arrived on day 0. He was taking acenocumarol 4mg at home, that stops and started enoxaparin 160/day. He started a quinolon and a β-lactam. On day 8 patient get surgery and surgeon made a debridement. He has a circular wound with 15 cm diameter, and 3 cm deep. On day 9 he has a huge bleeding, so doctor sutured the bleeding edge. On day 14 NWPT was applied, using foam, with no interface. On day 20, there was no bleeding, and the wound had 12 cm of diameter and 1 cm deep, but there was erythema and purulent exudate. We began silver patch as interface. On day 23: positive culture was for *pseudomonas aeruginosa*. Doctors changed antibiotics. On day 27, wound had 0 cm deep, 10 cm of diameter, 100% of granulation. No inflammatory sins were visible. The patient returned to the OR and was submitted to a graft. In the end, patient made an appraisal of the procedure as very comfortable and painless. He was discharged on day 36. The wound was closed.

**Conclusion:** Despite anticoagulation is a relative contraindication for NPWT and there is no literature about the use of NPWT on erisipelas, this case was a success. Team work and holist care was the key of the success.
[EP453] 2 CASES OF WOUND CARE OF PAINFUL NON-HEALING WOUND RESULTED FROM HYDROXYUREA IN PATIENTS WITH MYELOPROLIFERATIVE DISEASES

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Friday, May 15, 2015

E-poster session: Case Studies

**Background:** The incidence of painful ulcers in the ankle or foot area is rare and only reported in patients undergoing long-term hydroxyurea treatment for myeloproliferative diseases. Healing or improvement needs withdrawal of treatment. Also, the quality of life was serious decreased in patients because of painful and long period dressing change.

**Observations:** We describe 2 patients who having hydroxyurea-induced ulcers in ankle and foot and compare the two methods of treatment.

**Conclusion:** 2 cases define the dermatological adverse effect of hydroxyurea therapy and indicated the risk of leg ulcers in patients undergoing long-term hydroxyurea treatment for myeloproliferative diseases. One case demonstrated that topical application of a Tenderwet combined Atrauman Ag (HARTMANN, Germany) can be a successful and safe treatment option for patients with hydroxyurea-induced leg ulcers without cessation therapy.
A 10 days old infant from the Palestinian Authority was admitted into Children’s Emergency Room, Hadassah Hebrew University Medical Center, Jerusalem, Israel. The infant arrived under anaesthesia and mechanical ventilator because of acute renal failure, as a result of dehydration. Also, both his thighs and feet were necrotic. After hemodynamic stabilization, the staff started treatment of the ischemia in his legs. Under conservative treatment the condition of his thighs improved but not that of his feet. In case of no further progress the option of feet amputation was considered. At this stage, a wound-care nurse was introduced. After re-examination of the wounds on the infant’s necrotic feet, she suggested progressive bandaging means to enhance blood circulation and cell proliferation. This treatment was performed daily and assessed every 3 days by the nurse. Already after 4 days blood circulation and cell proliferation improved and the necrotic tissue retreated. By the end of two weeks the necrotic tissue disappeared from the feet, but toes remained cold, necrotic and without circulation. At this stage, amputation of toes alone was decided sparing the feet. Preservation of the feet would enable in the future self-mobility of this infant, which removal of the feet would not.

In this case, involvement of a wound-care nurse and introduction of progressive bandaging technics made all the difference for the prognosis and well-being of the infant.
[EP455] MANAGEMENT OF CALCIPHYLAXIS-ASSOCIATED NECROTIC WOUNDS USING HYDROCONDUCTIVE DEBRIDEMENT DRESSINGS

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E-poster session: Case Studies

Aim: Calciphylaxis is a rare and life-threatening condition involving cutaneous ischaemic small-vessel vasculopathy most commonly associated with chronic renal failure (CRF)¹. It affects 1-4% of patients on haemodialysis and has a 60-80% mortality rate¹. Clinical presentation is painful skin ulcerations beginning as dark, indurating bruising which progress to necrosis². Wound care is primarily aimed at pain control and prevention of trauma and infection¹, including careful debridement of necrotic tissue³.

Method: A patient with CRF presented with spontaneously occurring, painful necrotic lesions bilaterally to the abdomen. The wounds were extensive in size with excessive exudate and odour, requiring multiple daily dressing changes. Biopsy following hospital admission confirmed calciphylaxis. Wounds and surrounding skin deteriorated significantly in the initial few days so the Tissue Viability Team recommended Hydroconductive Debridement dressings* (HDD) applied in layers to manage exudate and debride devitalised tissue, and observed daily.

Results / Discussion: Within 4 days, existing wounds had mostly debrided and dressing changes reduced to alternate days. New necrotic areas were observed on the right side with signs of fistula development. After 6 weeks, HDD were maintaining debridement and managing exudate, with left-sided wounds granulated to the surface. Calciphylaxis had extended along the right side and patient deemed for conservative management only. However, HDD were continued and patient improved. After 10 weeks, the left side had almost healed. The right side was granulating and continually improving. Patient was discharged and complete healing was achieved.

Conclusion: HDD were an effective method of debridement and exudate management, promoting healing in a compromised patient with unusual, complex wounds.

*Drawtex Hydroconductive Debridement Dressings, Martindale Pharma, UK
Aim: Haematomas are bruises or collections of blood in the tissues, usually caused by blunt force trauma. The nature of ageing skin makes older people particularly vulnerable to haematoma formation, especially if on anti-coagulant therapy. Large haematomas, where reabsorption is limited, are likely to require debridement due to increased risk of infection. If surgical debridement is not indicated, conservative management using autolytic debridement can be used. This traditionally involves hydrogels to donate moisture, but is a slow process usually taking approximately 3 weeks. Hydroconductive debridement is a selective process which actively promotes and accelerates autolysis through drawing of exudate and interstitial fluid into the dressing, loosening devitalised tissue and sequestering bacteria and harmful proteases to promote healing. These cases describe using Hydroconductive Debridement Dressings* (HDD) to effectively debride haematomas in a timely manner.

Method: Three elderly patients with large traumatic haematoma wounds to the lower leg with devitalised tissue to the wound bed were treated with HDD. HDD were applied in layers with a suitable secondary dressing to secure and compression bandaging where indicated. Dressings were changed 2-3 times weekly and continued until the wound bed was adequately prepared.

Results / Discussion: Necrotic and sloughy tissue was debrided from the wound beds of all three wounds within 1-2 weeks of using HDD, promoting healthy granulation tissue and epithelialisation. The dressings were comfortable and easy to use, managing exudate well and with no incidences of infection.

Conclusion: HDD provide a quick, gentle and effective alternative to hydrogels and surgical debridement for the management of extensive traumatic haematoma wounds.

*Drawtex Hydroconductive Debridement Dressings, Martindale Pharma, UK
A CASE STUDY OF AN OBESE PATIENT WITH A LARGE SACRAL PRESSURE ULCER

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: Although education on pressure ulcer prevention has improved, extensive pressure ulcers do occur, especially in complex situations such as obesity. The aim was to provide tailor made solutions to achieve an optimal outcome.

Method: Case ascertainment was used addressing the complex psychological and physical issues that arise in the 64-years old obese male. His weight was 160 kg and his height was 1.70 meter. In a short period of time he had lost 50 kg for no obvious reason. He lived alone, was inactive, incontinent of both urine and faeces and spent most of his time sitting in a chair. He had developed a class 3 (EUPAP classification) sacral pressure ulcer that was initially unsuccessfully treated at home.

Results / Discussion: Upon admission to the hospital, surgical debridement was performed leaving an ulcer of 21 x 15 x 6 cm. During hospital stay 2 grade 4 heel ulcers developed. After 1 months he was transferred to a nursing home, where he received an air mattress and foam to off-load his heels. He received education on his condition and a dietician was consulted. The granulating sacral ulcer was covered with a collagen dressing, a silver alginate and an absorbent pad, fixed with a film dressing. The heel ulcers measured 8 x 8 cm and had black necrosis, which was debrided. Both legs were swollen with oedema, which was addressed with compression bandages. Sacral ulcer closure was achieved within 13.5 weeks and the heel ulcers had markedly improved.

Conclusion: Adressing specific patient issues combined with optimal wound care was shown to be successful.
EVALUATING AN IMPROVED ANTIMICROBIAL HYDROFIBER DRESSING. *CAN RESULTS BE REPLICATED?

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Friday, May 15, 2015

E-poster session: Case Studies

**Aim:** In 2014 the author published a 1 patient case study¹ which evaluated a new antimicrobial Hydrofibre dressing*. The dressing was aimed at overcoming local barriers to wounds healing – exudate, infection and biofilm. The original product has been upgraded to offer more effective exudate management. Could the 1 patient positive outcome be replicated with multiple evaluations?

**Method:** Case study evaluation
- Minimum 5 patients with criteria of local barriers above
- Age range 57 - 87 years
- Wound duration 6 months to 10 years
- Application of antimicrobial Hydrofibre with + technology** dressing.
- Evaluated over 4 weeks – use of product continued if clinically indicated.

**Results / Discussion:** All wounds improved or healed.
- Pain and exudate reduced.
- Decision made to continue with the product beyond the 4 week evaluation time.
- 50% reduction in dressing change.
- Poster images will demonstrate wound improvement.

**Conclusion:** 60% of chronic wounds have biofilm² where the extracellular polymeric substance (EPS) protects bacterial colonies and prevents antimicrobials being effective. The + technology within the Hydrofibre dressing** breaks down the EPS and allows the ionic silver to be effective in tackling the bacteria.³ This further evaluation demonstrates that where exudate, infection and biofilm are involved in wounds not progressing, use of this antimicrobial Hydrofibre dressing** can address symptoms and progress the wounds, some to full healing. The patients in this evaluation had established static wounds, and all have positively progressed with associated significant reduction in nursing visits.

*AQUACEL® Ag+ Dressing

**AQUACEL® Ag+ Extra Dressing, both ConvaTec®Inc, supplied for evaluation.
OFFSETTING BENEFITS VS. RISKS: USING NEGATIVE PRESSURE WOUND THERAPY TO HELP IMPROVE THE QUALITY OF LIFE FOR A TERMINALLY ILL PATIENT WITH A VERY COMPLEX WOUND

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: The immediate aim for this patient was to preserve life by managing the risk of sepsis. Ongoing aims were balancing effective wound management with quality of life (QoL).

Patient was a 65-year old male, diagnosed with rectal gastro-intestinal stromal tumor in 2003, requiring a partial bowel resection with stoma and oral chemotherapy.

03/2012 - deep X-ray therapy received for the tumor.

25/10/12 - patient presented with an acute sacral lesion of unknown origin. Excision and debridement of infected tissue resulted in a very extensive wound with significant undermining in several directions. Endoscopy required to visualize full extent of wound cavities.

Method: Although cancer is contraindicated for Negative Pressure Wound Therapy (NPWT), in this exceptional case clinical opinion was that the potential benefits (managing initial risk of sepsis, exudate management, maintaining periwound tissue integrity etc.) outweighed any potential risks.

Both clinical team and patient agreed NPWT represented the best treatment option.

Results/Discussion:

01/11/12 – NPWT commenced. Dressings changed 2-3 times/week in theatre.

01/12/12 – NPWT dressings changed twice/week on ward.

17/01/13 – clinical team aim to return patient home to optimize QoL.

20/02/12 – patient discharged home. NPWT continued for 6-months. Conventional dressings used thereafter.

NPWT prevented initial sepsis and significantly reduced wound area/volume. NPWT improved patient’s QoL as he remained at home for 18 months enjoying time with family and friends.
Conclusion: NPWT can offer significant benefits when managing complex wounds. In this instance NPWT helped manage this acute episode while also playing a major role in allowing the patient to return home.
**Aim:** The aim of the case study was to determine the effective line of treatment for diabetic wounds with reference to alternative medicine including Ayurveda, Siddha, Unani and Traditional treatments in Sri Lanka. The objectives were to ascertain cleansing effects, slough removal and tissues growing effects of three different poly-herbal formularies. (In terms of alternative medicine, such effects refers to Shodhana, Lekhana and Ropana respectively)

**Method:**

- Detailed history, past treatments of the patient were recorded
- The clinical examinations and the investigation (FBS, RBS and PPBS) were carried out daily
- Dressing of the wound carried out as follows daily
  - Application of formula I for more than 20 minutes
  - Application of formula II for removing slough
  - Application of formula III for healing wound
- In order to get the patient’s blood purification, patient was administered oral decoction containing thirteen herbal ingredients for six days

**Results / Discussion:** The wound was progressively healed with continuous treatments within 12 weeks period as illustrated.

Pictures are not available in abstract book.

**Conclusion:** Present case study concluded that the application of Polly-herbal formulations I, II & III is an effective treatment for diabetic wounds there by prevent the amputations of the limbs.
Aim: Some wounds can be very challenging due to a variety of reasons. It is therefore imperative that the most effective treatment choice is made. The objective of this evaluation was to eradicate the sloughy tissue and progress the chronic wound from the inflammatory phase.

Method: An 81 year old male patient with type 2 diabetes and asthma developed a neuropathic foot ulcer to the dorsum of his right 1st interphalangeal joint. Although it has been treated with various regimes over the previous 4 months it remained static with no healing. Three different dressings were then used.

Results / Discussion: Treatment was commenced for 7 weeks with a hydro-desloughing dressing. Initially the wound measured 10mm x 20mm and there was 90% slough present. After treatment the wound measured 6mm x 18mm and there was 10% slough. A foam dressing with TLC-NOSF* was then commenced. After 10 weeks the wound measured 3mm x 3mm. The wound was finally treated with an adhesive foam dressing with TLC.

Conclusion: The hydro-desloughing dressing reduced the wound size and slough, and the foam dressing with TLC-NOSF continued to reduce the wound area dramatically having a positive impact on the patient’s quality of life. The adhesive foam dressing with TLC ensured continued healing whilst protecting the peri wound area. None of the dressings adhered to the wound bed, making this dressing regime an ideal choice for sloughy diabetic foot ulcers.

*Technology Lipido-Colloid and Nano-Oligo Saccharide Factor
Aim: Cutaneous Polyarteritis Nodosa is an auto immune condition, a rare form of vasculitis relating to the small and medium sized arteries in the dermis. It can result in very painful subcutaneous nodules, increased risk of thrombi, cutaneous ulcers and tissue necrosis. A major issue for these patients is the elevated levels of pain that can be associated with the lesions.

Method: A 48 year old woman began to develop very painful vasculitic ulcers bilaterally below the knee. These were multiple in number and ranged in size. After searching treatment options, the patient discovered the TLC range of dressings and the evidence to support non adherence, pain-free and atraumatic removal. The Clinical Support Specialist (TVN Hon) assessed the patient and suggested appropriate dressings.

Results / Discussion: Initially the patient utilised the TLC contact layer. The patient experienced pain free, atraumatic dressing changes for the first time. This led to a dramatic improvement to her quality of life both psychologically, physically and socially. The appropriate TLC based dressing was used at each appropriate stage of wound healing. At present all wounds have healed effectively with exception of one small area.

Conclusion: By utilising the range of dressings not only were the objectives for each stage of wound healing met effectively, but the patient experienced atraumatic, pain-free dressing changes. This led to the dramatic improvement in her quality of life.
Aim: Use of Hyperbaric oxygen therapy in patients suffering from small vessel vasculitis with chronic traumatic wounds.

Method: A 87 year old Caucasian female, suffering for more than three years from small vessel vasculitis, presented at our Center after one year of unsuccessful therapeutic efforts for a traumatic wound of the right leg. The patient underwent a cycle of 30 hyperbaric oxygen therapies, breathing 100% oxygen for 75 minutes at 2.5 atmosphere, daily for five days a week. The initial peripheral transcutaneous oxymetry (PtcO2) was 25 mmHg. PtcO2 increased during Hyperbaric Oxygen therapy, reaching 638 mmHg. During the same period patient underwent advance wound care twice a week.

Results / Discussion: Hyperbaric oxygen therapy, by increasing local oxygen supply, reduced local critical ischemia and encouraged wound healing. The patient returned to her normal lifestyle after 174 days.

Conclusion: Hyperbaric oxygen therapy has been a successful synergistic treatment in a small vessel vasculitis with chronic traumatic wound of the right low extremity.
Aim: Promotion of healing in the diabetic foot provides many challenges for podiatrists, due to the aetiological changes related to diabetes within the foot. In this case a hydro-desloughing dressing was chosen to promote healing of a post-amputation wound in a diabetic patient.

Method: A 60 year old gentleman was referred post-operatively after undergoing a 1st Ray (great toe) amputation due to suspected osteomyelitis. He was a poorly controlled type 2 diabetic taking oral anti hypoglycaemic medication. Challenges were predominantly managing exudate and the need to debride sloughy tissue. The use of the hydro-desloughing dressing was complemented by the use of a pressure relief ankle foot orthosis.

Results / Discussion: The initial wound was 9.7 cm x 7.2 cm. After 6 months the wound reduced to 1.4 cm x 0.5 cm. Exudate was managed effectively with equally effective facilitation of autolytic debridement. Robust granulation tissue began to form early resulting in a faster than expected healing trajectory with effective epithelialisation. The wound margins were protected from maceration and remained robust. Pain free and atraumatic removal resulted in a fully concordant patient and a reduction in the disturbance of the newly formed granulation tissue. Scar tissue also appeared reduced.

Conclusion: The hydro-desloughing dressing therefore offers the clinician and the patient improved outcomes in what is often seen as a challenge when healing wounds on the diabetic foot.
Aim: Selecting the ideal dressing is a key part of the wound management plan. In this evaluation, three different dressings with TLC were used. The objective was to assess the efficacy, as well as clinician and patient acceptability, absorbency capabilities, the effect on the peri-wound area and the desloughing capabilities.

Method: 5 patients were included.

Results / Discussion: Patient 1: 93 year old female patient with a macerated thumb laceration. After 3 days the wound was healed and no maceration was present.
Patient 2: 91 year old female patient with a tibial crest skin tear. Complete healing was achieved by day 16.
Patient 3: 65 year old female patient with a category 4 highly exuding sacral pressure ulcer (with 50% slough reducing to <5% after 3 weeks).
Patient 4: 92 year old female patient had a few broken areas in the sacral region. Healing progressed with pain free and atraumatic dressing changes prior to discharge.
Patient 5: 94 year old female patient with a 6 month old sacral pressure ulcer. Treatment enhanced the fluid handling capacity whilst ensuring the protection of the peri-wound area.

Conclusion: The adhesive foam dressing with TLC demonstrated the efficacy for a wide variety of wounds as both a primary and a secondary dressing by managing; preventing and reducing maceration and increasing wear time. Atraumatic, pain free dressing removal was also demonstrated. The hydro-desloughing dressing reduced slough.
Aim: The concept of “wound bed preparation” gives particular importance to debridement and the control of exudate. The objective of this evaluation was to assess the reduction in sloughy tissue in the local management of a leg ulcer using a hydro-desloughing dressing.

Method: The patient is a 55 year old female with history of depressive disorder, obesity, osteoarthritis and minor anemia. A simple trauma to the left leg led to a venous ulcer of 6 years duration. Patient health is compromised as she is a diabetic type 2 and neuropathy in both knees. The size of the wound was approximately 10x13.5cm. The ulcer was producing yellow/green exudate swab carried out confirmed it was sensitive to antibiotic medication.

Results / Discussion: After 5 days of using the hydro-desloughing dressing, exudate level decreased. The dressing was comfortable and soft. At week 4 the slough has dramatically vanished, healthy granulating tissue was clearly visible. The dressing was easily applied, conformed well to the ulcer and patient reported it was comfortable. The dressing managed the exudate and encouraged desloughing of the wound.

Conclusion: The small ulcer above the ankle is almost healed. The wound progressed to healing without any episodes of infection.

The patient has commented that the hydro-desloughing dressing eased her pain during dressing change and the effective exudate management has increased her confidence when having to travel with other patients to clinic for dressing change, increasing her general well-being.
Aim: Healing of a complex, chronic skin wound after multi-professional and multidisciplinary evaluation and management approach.

Method: Although healthcare professionals involved in the care of patients with acute and chronic skin lesions are often numerous, there is frequently a lack of well-defined paths that lead the wound to healing in the shortest time possible. The case report presented is that of a lower limb infected, chronic skin wound, managed at the patient’s home. A homecare nurse requested for advice to a colleague, who is an expert in wound care; this has led to the recognition of the complication, followed by the collection of clinical documentation and their transmission to other operators. A targeted initial therapy has been established, and the maintenance therapy has been fully delegated to the caregiver at home.

Results / Discussion: The synergy between professionals (nurse expert in wound care, home care nurse, family doctor, microbiology laboratory, caregiver), and an antimicrobial therapy using specific dressing products (skin cleansers; biofilm disaggregators) have led to recovery in less than 60 days an infected wound, chronic for more than 8 months, significantly reducing costs and the workload of the professionals involved.

Conclusion: Starting from the doubt of a health care professional followed by the involvement of other professionals with specific competences, the healing of the wound was reached together with the startup of a management and organization path, simple but effective.
Aim: This presentation is designed to demonstrate the possibilities of using modern wound dressings in traumatology with follow-up care with a serious, life-threatening injured patient. In these cases besides the surgical care the application of proper bandage is very important.

Method: A 48 year-old male was transported to our A&E following, serious lower limbs injuries. The left lower limb at knee level was amputated, closed fracture of the right femur with luxation of knee with the popliteal artery injuries were found. After the restoration of circulation and amputation, infection and extensive tissue necrosis developed. The sequential necrectomies and vacuum-assisted wound treatment successfully eliminated the bacteria with exemption of the *Pseudomonas aeruginosa*. Then we swapped to silver impregnated sponge-dressing*, which met every requirement under the modern dressings. The stump wound became sterile, covered with mesh graft. The right leg wound cleared too, the patient could managed its dressing at home binds.

Results / Discussion: Prolonged surgery’ adjuvant therapy and the use of modern dressings managed to save one of the injured limb, and on the other the patient will be able to wear prosthesis. The patient does not need a wheelchair, remained independent.

Conclusion: Using careful surgical technique and modern dressings in extensive and infected damaged soft tissue injuries can lead to successful treatment. The patients’ quality of life improves during treatment and later at home. The modern dressings are not only comfortable, but with their use of direct and incremental costs of the treatment can be reduced.

*Hydrofyber
Aim: In our community centers wounds are a recurrent pathology that can alter patients’ lives. This is why we try to improve patients’ QoL by reducing their pain, avoiding leakage, reducing treatment days.

Method: We present 3 clinical cases with different etiology.

- 70 years old woman (HTA, obesity, TKR). Leg ulcer in right maleolous with erythema and serous exudate. Oedema. Really painful (9-10 in Analogue Visual Escale, AVE). Pre-treated for 30 minutes with lidocaine. Wound has been treated for 2 weeks with hydrodeterive and a foam dressing
- 31 years old male (non relevant pathologies). He had a moto accident, resulting in 3 toes completely burned by friction
- 49 years old woman (DM, dyslipidemia, ischemic cardiopathy, HTA and obesity). Dehiscence in a thorax surgical wound (11x2x1cm). Biofilm presence, oedema, erythema, odour, moderate exudate. Important pain associated (7 AVE)

Results / Discussion: In the 3 cases we have applied a new hydrofibre dressing with silver and benzethonium chloride.

- After 2 days, the wound was debrided, in 1 week we could observe granulation tissue, and pain has an important decrease (5-6 AVE)
- After 2 days wound was completely cleaned, in 1 week we could observe granulation tissue and in 38 days wounds were completely healed
- After 7 days the wound was debrided, pain decreased from 7 to 4 AVE and erythema from the perilesional skin improved. In 12 days the wound was healed

Conclusion: The new hydrofibre dressing with silver and benzethonium chloride has helped to heal and reduce pain in all cases.
[EP470] INITIAL EXPERIENCES OF USING A NEW LIGHTWEIGHT, HIGHLY PORTABLE NPWT SYSTEM TO EXPEDITE WOUND HEALING IN TWO PRIMARY CARE PATIENTS

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Friday, May 15, 2015

E-poster session: Case Studies

**Aim:** The primary aim of this work was to expedite wound healing in primary care using a new, lightweight Negative Pressure Wound Therapy (NPWT) system.

**Method:** Patient 1: 46-year old male paraplegic with a moderately exuding left Ischial Tuberosity category 3 pressure ulcer of 4-months duration. Treatment aim: expedite healing.

Wound measured 3.5cmx2.5cmx0.5cm (area=8.75cm²; volume=4.38cm³).

Patient 2: 54-year old diabetic female with a lightly exuding post-op stump wound after right below knee amputation. Wound was 6-months duration. Treatment aim: encourage granulation tissue in wound bed and prevent further surgical intervention.

Wound measured 1.0cmx1.0cmx1.5cm (area=1cm²; volume=1.5cm³). Tissue type at wound bed was 90% granulation; 10% slough.

Both patients received continuous NPWT at -80mmHg throughout treatment.

**Results / Discussion:** Patient 1: NPWT used for 17 days. Wound dimensions reduced to 1.75cmx1.5cmx0cm (area=2.63cm² (equivalent to a 70% reduction); volume = not applicable as wound bed level with epithelium).

Patient 2: NPWT used for 14 days. During this time the wound measurements remained the same however the sloughy tissue had been replaced by granulation tissue across 100% of the wound bed. Full epithelialisation achieved 5 days after NPWT stopped.

The NPWT system evaluated very well in both cases and overall product assessment was very positive.

**Conclusion:** These cases illustrate the potential clinical benefits that a small, easy to use, highly portable true NPWT system can offer patients in primary care. A key advantage is the ability to provide patients with the very latest in advanced wound therapy without it intruding into their daily lives.
Aim: Compression therapy is the optimum treatment for venous leg ulcers. This poster challenges the view that the current “gold standard” bandaging technique is the most clinically or cost effective treatment. Application of therapeutic compression bandaging is difficult and requires specialist knowledge and skill. Many practitioners fail to apply bandages in an effective, competent manner. Using an innovative system could eliminate the difficulties experienced with traditional compression methods due to its simplicity, ease of application and ability to apply and sustain accurate compression at the desired level.

Method: Using case study evidence, the innovative system is used as a first line approach for compression therapy on a 48 year old male patient with a venous leg ulcer. The system enables patient participation and after instruction he undertakes most dressing changes.

Results / Discussion: The ulcer responds well to consistent compression therapy. He is able to wear his usual footwear, has no restriction in mobility, does not have to take time off work as clinic visits are kept to a minimum. Due to the simplicity of applying the system the nurse work load is reduced, clinic appointments are shorter and costs reduced. Patients can be involved as much or as little as they wish to be.

Conclusion: This innovation accommodates virtually all leg shapes and sizes and takes the guess work out of applying compression. Unlike bandages, it is easily adjustable to ensure maintenance of consistent compression therapy. Surely this is best practice.
Aim: Bacteria and bacterial products, such as endotoxins and metalloproteinase, can disturb the process during all wound-healing phases. Debridement is a proven method in dental cleaning to make sure the biofilm is threatened. Fortunately nowadays more data is published about the importance of debridement in wounds. Clinical cases where a monofilament debridement product* was used effectively are presented.

Method: A Large retrospective study shows a significantly shorter wound treatment time when wounds containing slough are effectively debrided once or twice a week. In the Netherlands, patients are frequently monitored by nurses in homecare. Surgical debridement needs to be done by a physician as nurses are not certified to perform surgical debridement. For debridement in the community the monofilament debrider* was evaluated.

Results / Discussion: Patient 1 presented with a pressure ulcer on the right lateral side of the foot. After debridement with the monofilament debrider*, granulation tissue is stimulated and clinically the biofilm seems to be eradicated. Patient 2 presented with an ulcer on the right leg due to an infected haematoma, 5 days after a sharp debridement was conducted. After debridement with the monofilament debrider* granulation tissue has been stimulated. The biofilm signs are no longer present. Both patients reported the debridement procedure to be comfortable and no bleeding or other complications were noted.

Conclusion: The monofilament debrider* is proposed as a safe option for debridement, especially in a community setting. The procedure can also be carried out by nurses as opposed to surgical debridement.

*Debrisoft, Lohmann & Rauscher
Aim: Autologous fat grafting is commonly used for both cosmetic and reconstructive purposes. Case studies show that fat grafting may also be effective in treating chronic wounds. We present cases where fat grafting was used to treat chronic pain in a patient with a below knee amputation (BKA) stump and a patient with fat pad atrophy pain.

Method: This is a case series.

Results / Discussion: Patient 1 is a 42 year-old female marathon runner with status post BKA secondary to a motorcycle accident 20 years ago. She presented with pain of the bony prominences of the BKA stump at the fibular head and tibial remnant while running. There was no evidence of infection or open areas on the stump, which had a thin layer of subcutaneous tissue overlying the fibular head and tibial remnant. To mitigate pain, the patient underwent fat grafting from the right thigh to the BKA stump twice, reporting reduced pain after the first treatment.

Patient 2 is 15 year-old male with linear scleroderma and sclerodactyly, presenting with a loss of subcutaneous tissue and fat to his right heel pad, causing pain and an area of pressure over the heel affecting walking. He underwent 4 treatments of fat grafting from the abdomen to the right heel pad obtaining excellent functional results. His dorsal mid foot tendons appeared suppler, with less bowstringing.

Conclusion: We present anecdotal evidence of the efficacy of fat grafting for treatment of amputation site pain and fat pad atrophy pain. However, further research is needed.
Aim: The aim of the case study was to evaluate the effect of a bacteria and fungi binding gel dressing* in the management of an infected decubitus ulcer.

Method: A 69-year-old female was admitted following a fall from her wheelchair with rhabdomyolysis, a severe systemic infection and a 40 x 30 cm decubitus ulcer after being left helpless in place on her floor for 2 days. Co-morbidities included: type 2 diabetes, hypertension and arteriosclerosis with a surgical history of bilateral below knee amputation. The wound on admission was infected, highly exuding and malodorous. Wound management effectiveness was centered upon and assessed by the debridement efficacy, patient comfort and infection management. The results were documented and photographed.

Results / Discussion: After 3 weeks the wound was odour free, improvement in colour and character was noted with a significant reduction in the presence of wound fibrin. The wound size was reduced to 25x25 cm. Following 9 weeks of management the wound was well granulated and reduced in size to 14 x 11 cm.

Conclusion: The case report demonstrated the ability of a bacteria and fungi binding gel dressing* to advance wound healing with regard to debridement efficacy; effectiveness in managing infection and the improvement in quality of life parameters expressed as reduction in pain with each dressing change and wound odour management. The nursing staff found the dressing easy to apply and remove.

*Sorbact gel dressing ABIGO medical
Aim: To treat a necrotic heel dated five months in an 80 year old woman suffering from multiple chronic conditions affecting the circulatory system. Sharp debridement performed by doctor on 18/3/14. On 15/4/14 the sore became necrotic again. Several different dressings were used after the sharp debridement for the following five months which showed no improvement.

Method: 6/8/14 it presented as a necrotic but humid sore. Maceration was slight. Signs of infection were present. We applied daily a polyamide fabric* coated with metallic silver and impregnated with a non medicated lipid and a secondary dressing of a multilayer, autolytic debriding dressing** with a central core of superabsorbent polyacrylate activated by ringer solution. After 28 days we used a multilayer, autolytic debriding dressing*** containing Polyhexanide. Dressing change was done every 72 hours. After 2 weeks there was autolysis of the slough which was removed by sharp debridement. On 16/9 the secondary dressing was changed to an absorbent foam dressing**** with a net shaped hydrogel wound contact layer. On 29/10/14 complete closure of the wound.

Results / Discussion: Following this regime there was autolysis and control of the infection. The risk of another amputation was discarded. This dressing combination proved to be the most efficient as many other important dressings had been used to no avail.

Conclusion: After 12 weeks the sore was completely healed and the patient discharged home.

*Atrauman Ag: Polyamide fabric coated with metallic silver and impregnated with a non medicated lipid
**Tender Wet Active: A multilayer autolytic, debriding dressing with a central core of superabsorbent polyacrylate activated by ringer solution
***Tender Wet Plus: A multilayer, autolytic debriding dressing containing Polyhexanide.
****HydroTac: An absorbent foam dressing with a net shaped hydrogel wound contact layer.
WOUND CLOSURE USING POLYHEXAMETHYLENE BIGUANIDE HYDROCHLORIDE (PHMB) GAUZE AND TOPICAL NEGATIVE PRESSURE IN A INFECTED POST OPERATIVE DIABETIC PATIENT

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E-poster session: Case Studies

Aim: Post operative infections can pose a significant risk to patients under going surgery, developing in approximately 5% of all procedures. (NICE, 2001)

The aim of this abstract is to show how using a Topical Negative Pressure (TNP) system and a Poly (hexamethylene) biguanide hydrochloride (PHMB) impregnated gauze and long term antibiotics healed an infected post operative wound in a 6 month time frame. Dressings were changed every 72 hours, in accordance to the manufacturers guide lines. PHMB gauze had not previously been used within the organisation.

The patient was discharged home after 3 weeks with tissue viability input from the hospital. The family was taught how to seal leaks in the dressing, to change canisters and to recognise warning signs for infection.

The patient was encouraged to shower before attending clinic prior to the dressing change.

Method: Foam dressing negative pressure was applied for the first week of therapy. Then PHMB gauze was used. The rationale for using gauze was two fold. Firstly as the wound covered a large area surface area, the gauze allowed greater coverage. Secondly, as the wound was critically colonised with bacteria, a topical disinfective agent was needed to reduce pathogens within the wound.

Results / Discussion: The patient and her husband were very engaged with the wound and would actively follow any instructions given. If the patient experienced any pain or unusual symptoms they would contact the TV service.

Conclusion: The wound healed in a relatively short period of time because of a number of factors. TNP gauze system which was ideal for the size of wound. Family engagement and access to an acute setting.
Aim: Treatment of both necrotic heels in their inflammatory phase of an 85 year old woman suffering from five comorbidities and who underwent a coronary arterial bypass graft.

Method: Admitted on 2/5/2013. The heels were treated with hydrogel and hydrocolloids. Despite repeated sharp debridement necrosis persisted. 15/7/2013 a multilayer, autolytic debriding dressing* with a central core of superabsorbent polyacrylalate activated by ringer solution was applied daily. 25/7/2013 the softened detached eschar was completely debrided. Thereafter polyamide fabric** coated with metallic silver and impregnated with a non medicated lipid and a secondary dressing of a multilayer, autolytic debriding dressing*** with a central core of superabsorbent polyacrylalate activated by ringer solution were applied daily. Maceration was controlled by Polyurethane foam dressing**** with a gas-permeable, waterproof and germ-resistant outer layer.

Results / Discussion: The dressings controlled maceration and the inflammatory response. This helped autolytic debridement and avoided unnecessary pain.

Conclusion: After 11 weeks there was complete closure of both ulcers despite the patient had arterial insufficiency.

*Tender Wet Active: A multilayer autolytic, debriding dressing with a central core of superabsorbent polyacrylalate activated by ringer solution

**Atrauman Ag: Polyamide fabric coated with metallic silver and impregnated with a non medicated lipid

***Tender Wet Plus: A multilayer, autolytic debriding dressing containing Polyhexanide.

****Permafoam: A polyurethane foam dressing with a gas-permeable, waterproof and germ-resistant outer layer.
[EP479] USE OF NEGATIVE PRESSURE WOUND THERAPY IN ABDOMINAL DEHISCENCE WITHOUT CAVITY FILLING: CASE REPORT

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E-poster session: Case Studies

**Aim:** To report a case of abdominal dehiscence treated with negative pressure wound therapy without total filling of the wound cavity.

**Method:** This case report was conducted from July to November of 2014, in a general hospital in the city of Sao Paulo, Brazil. Patient admitted with surgical site infection with abdominal dehiscence measuring 20x5 cm, 12 cm detachment to the right, 14 cm to the left, 2 cm of caudal direction and 15 cm cephalic direction. The wound progression was followed through photographic records and mensuration. At the beginning, the wound dressing changes were performed 2 times a day with hydrofiber-silver dressing and further surgical closure of the dehiscence. After 5 days, the wound progressed with necrosis and new dehiscence, which required enzymatic and instrumental debridement. On August 8th, the wound started being treated with negative pressure therapy with dressing change frequency of 72 hours. On August 28th, the patient was discharged and referred to stomatherapy clinic where initiated the treatment with silver-polyurethane foam dressing, changing every 4 days until complete epithelialization of the entire wound. The patient participation in the study was voluntary with the signature of informed consent under Resolution 196/96.

**Results / Discussion:** Acceleration of granulation of the wound bed, patient comfort, less manipulation and avoided the need of a new surgery.

**Conclusion:** The negative pressure wound therapy without total filling of wound cavity has promoted fast granulation and shortening of the wound treatment period.
Aim: Ventricular assist device therapy (VAD) is used to treat heart failure. One of the major risk factors for patients with an LVAD is a driveline infection (infection at the site where the electrical cable that powers the pump exits the body). The presence of a driveline infection significantly increases mortality on the LVAD at the time of heart transplant. Unlike in other patients with device related infection the LVAD cannot be removed in the presence of infection as this will usually result in the patients death.

Method: Our group wanted to improve outcomes for patients with driveline infection. We used surgical driveline debridement in conjunction with negative pressure therapy with an irrigation system to try and eradicate infection and biofilms that form on the driveline and cause chronic infection.

Results / Discussion: We treated 6 patients with surgical debridement and negative pressure therapy with irrigation. Due to the VAD there was a need to continue anticoagulation throughout the treatment, therefore wounds were packed for up to 72 hours after surgical debridement prior to starting negative pressure with irrigation. We used saline irrigation for the first 24 hours and then where possible used antibiotic solutions via the irrigation system. All patients were able to be discharged at the end of the treatment with conventional VAD dressings and 4/6 had no further wound complications for >6months.

Conclusion: Surgical debridement and the use of negative pressure therapy with irrigation can improve appearance, microbiological load and help with wound healing in patients with an LVAD insitu this compares favorably to other methods of treating VAD driveline infections.
Aim: This case report aims to describe the results of the use of negative pressure wound therapy (NPWT) in the treatment of a wound in right foot with tendons exposure after amputation of the fifth toe after trauma in a patient with diabetes.

Method: This case report was conducted in a home care patient, male, 35 years-old, from July 29 to August 21, 2014, victim of an accident at workplace with a 30 kilograms piece on his right foot, causing the fifth toe fracture, resulting in a local infection and amputation. NPWT was applied 2 times per week, each application lasting 72-96 hrs, followed by dressing change and wound bed cleaning. The pump was set to a continuous negative pressure of 120 mmHg. Measurements of wound length, width, depth and appearance were recorded in all dressing change procedures.

Results / Discussion: After six dressing changes (23 days of treatment with NPWT), there were a reduction of 4 cm in wound length and 1 cm in width, 50% reduction of tendons exposure, 90% reduction of exudation amount, and the amputation area was totally covered with granulation tissue. The fast reduction of wound area is explained by some authors that refer that NPWT provides a centripetal force that approximates the wound edges (macro deformation) allowing thereafter less complex wound reconstruction techniques.

Conclusion: Wound treatment with NPWT improved local perfusion, infection control, edema reduction, granulation tissue proliferation, and reduction of wound length, width and depth.
AN ACUTE AUDIT OF THE BENEFITS OF A MONOFILAMENT DEBRIDEMENT PAD

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E-poster session: Case Studies

Aim: Clinical audit is a quality improvement process that seeks to improve the patient journey and outcomes through systematic review of care against explicit criteria and the review of change.

Wounds have an impact upon the individual, the health service and society. They have a major personal, social, and economic impact. This audit reviewed a Monofilament Debridement Pad and its impact across an acute trust concentrating on pressure ulcers and traumatic wounds including haematomas.

Method: A structured audit form, designed to review standard care delivery and encourage improved clinical practice, was circulated across nominated wards and departments over a 2 month period.

Results / Discussion: A total of 16 evaluation forms have been collected to date and data collection continues

- The use of the monofilament debridement pad assisted in removing wound debris quickly
- Debrided wounds very well enabling clinicians to identify improved wound outcomes leading to improved wound management decisions
- Performed extremely well in the management of hyperkeratosis
- Assisted with the categorisation of pressure ulcers at the patient’s bedside
- Opened up the wider debate of the categorisation of pressure ulcers across the Tissue viability community
- Reduction in referrals of haematomas to the plastics team in another trust
- A reduction in inappropriate referrals

Conclusion: This audit has demonstrated that the implementation of the monofilament fibre pad to assist in the process of pressure ulcer categorisation, wound debridement and management of haematomas has had many positive and cost reduction benefits to the organisation and improved patient outcomes.
Aim: Evaluation of re-epithelialisation using both silver and non silver containing hydrofiber dressings in lower limb vascular ulcers: 2 clinical cases.

Method: Two patients with wounds considered to be critically colonized were treated with silver containing hydrofibre dressing and later switching to non silver hydrofiber dressing. After 3 months treatment, the re-epithelialisation was evaluated as a change in the ulcers surface of both patients.

Results / Discussion: The first patient was a 53 year old woman with a vascular ulcer on the lower left limb. She was affected by Sture webar syndrome (ABI 1) and lymphatic edema. Initial ulcer size: 8x3x0.7 cm. An average 8/10 pain grade (VAS) was reported during the whole treatment with critical colonization signs. The ulcer size decreased in size from 29.6 cm² to 4.71 cm². The second patient was a 67 year old man with two vascular ulcers on both right and left lower limbs. He also had several co-morbidities (eg. aortic valve replacement). Original size of the ulcers: 4x3.8x0.4 cm on the right side (ABI 0.1) while 7x3.3x0.5 cm on the left (ABI 0.7). In both ulcers a zinc multilayer bandage was applied over the hydrofibre dressing. After 3 months of treatment the right ulcer decreased in size from 15.2 cm² to 1.05 cm while the left one from 23.1 cm² to 5.85 cm².

Conclusion: Both patients exhibited a marked improvement in their ulcers, with rapid re-epithelialisation observed over a short period of time. Moreover the usage of those dressings was easy and painless.
Aim: To evaluate the ability of two medical devices to resolve Category 1 heel pressure ulcers in at-risk patients in care of the elderly setting.

Method: Five Subjects were classed as ‘high risk’ of pressure injury to the heels. Each had regions of non-blanching erythema on both heels.

Each Subject had one silicone heel pad placed on the left heel and a silicone bordered adhesive foam heel dressing placed on the right heel.

Ultrasound scans were taken of each heel at the start of the study and at the end of the study 4 weeks later. Scans were also taken of the Subject’s normal skin adjacent to the affected area to obtain a profile of what the Subject’s uninjured skin should actually look like.

A clinical assessment of the non-blanching erythema region of each heel was completed.

Clinical outcomes measures were:

- Area of non-blanching erythema
- Skin maceration
- Pain
- Quantifiable assessment of dermal oedema at the end of the study

Results / Discussion: The heels with silicone heel resolved by week 2. Two of the heels on the foam dressing healed by 2 weeks but the other 3 heels took 3 weeks to heal.

Conclusion: Studies involving 5 people are small for any firm conclusions to be drawn but this is mitigated by each patient acting as their own control. Resolving a Category 1 PU a week earlier would have a significant bearing on costs as well as improving patient outcomes.
[EP485] COMPLEX TREATMENT OF TROCHANTERIC PRESSURE ULCERS

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E-poster session: Case Studies

**Aim:** We represent a clinical case, which reveals complex treatment of pressure ulcers, using surgical, conservative and rehabilitative treatment and not achieving positive effect. A 28 year old paraplegic male complained of non-healing, discharging wounds on both hip regions. Pressure sore in the region of right hip - 10x7 cm, on the left hip - 10x6 cm, both wounds have tunnels, spread bad odor and secrete serous fluid. 9 months ago excision and myocutaneous flap were performed on a left decubitus ulcer. Due to failed healing of the wounds, the patient was hospitalized to LUHS Kaunas Clinics, Plastic and Reconstructive Surgery department.

**Method:** After the patient was hospitalized, silver impregnated and hydrocolloid dressings were applied, also topical antimicrobial creams containing silver were used. Pressure sores were washed with antiseptic solutions. Systematic antimicrobial therapy was given according to culture results from wound-swab - moderately *Pseudomonas aeruginosa*. Necrectomies were performed on both wounds, negative pressure therapy was also used. In the course of complex treatment, pressure sores granulated, secretion diminished. The patient was consulted by a dietologist, special nutritional mixture was prescribed to enhance patients nutritional needs. Also the patient received kinesiotherapy and physiotherapy. Despite complex treatment, patient developed fever, blood test showed signs of inflammation. Pelvic organ CT indicated purulent coxitis. The patient was transferred to mixed traumas department, surgery was performed. Blood culture showed sepsis, corresponding systemic antibiotics were given.

**Results / Discussion:** After a complex treatment, wounds didn’t heal completely, a frequent complication – osteomyelitis – occurred.

**Conclusion:** Even in the case of complex treatment, positive results don’t always occur.
[EP486] MANAGEMENT OF TRAUMATIC WOUNDS USING NPWT AND A BACTERIA AND FUNGI BINDING DRESSING

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E-poster session: Case Studies

Aim: To evaluate the effect of a bacteria and fungi binding dressing* as the NPWT filler in the management of two ‘at risk’ traumatic wounds.

Method: A 64-year-old female sustained a traumatic injury after heavy metal plates fell onto her leg. The patient had no medical co-morbidities with good perfusion demonstrated by strong pedal pulses. The wounds were situated on the anterior aspect of the left leg in close proximity to the tibia. Initially the wounds were clinically infected with positive wound cultures prompting antibiotic management. Following debridement, both wounds were managed using a bacteria and fungi binding dressing* as a NPWT filler and primary wound contact layer upon NPWT cessation.

Results / Discussion: After two months the wound progression was deemed very successful by the patient and treating team. Improved wound healing, an infection free wound environment and the generation of healthy granulation tissue were all assessed as factors leading to success. The simplicity of the dressing involved allowed all phases of wound management to be achieved economically as an outpatient to the benefit of the hospital and patient.

Conclusion: The case report successfully demonstrated the ability of a bacteria and fungi binding dressing* to be used as an NPWT filler. In addition to an antimicrobial effect, the transfer of exudate and maintenance of the desired pressure gradients were also achieved. Atraumatic removal was appreciated with ease of removal and effectiveness as highlighted features.

* Sorbact Compress, Sorbact Ribbon Gauze - ABIGO medical AB, Sweden
Aim: We present a case report of the use of Autologous Skin Cell Suspension (ASCS) and Negative Pressure Therapy (NPT) in extensive plantar foot necrosis.

Method: A 62 year old female presented with circulatory collapse caused by pneumococcal sepsis requiring prolonged treatment with antibiotics and inotropic support. There was no past history of diabetes or vascular disease. After 6 weeks she had necrotic fingers and feet caused by ‘inotropic vasospasm’. Demarcation was encouraged in the hope that surgical debridement would be limited to removal of digits. Her fingers responded well, but unfortunately her right leg required amputation below the knee. However, her left foot plantar surface remained essentially viable although all toes were necrotic. Therefore, the plantar surface was debrided and the toes amputated. NPT was applied with clean granulation appearing between exposed fascia and tendons at 12 days. ASCS was then used to apply a film of viable keratinocytes, fibroblasts, melanocytes and Langerhans cells to the area of granulation tissue. Autologous cells were harvested from a 2 cm$^2$ piece of thigh skin.

Results / Discussion: After two weeks there was a significant growth of viable epithelium. Initial wound size was 13x8.5cm, reducing to 9.5x8cm at 2 weeks, 7.5cms at 8 weeks and 1 cm at 17 weeks. This is a >99% reduction in wound area with healthy, robust new skin.

Conclusion: This case study compliments our current experience ASCS and NPT in foot wounds and confirms that it is a valuable management option in this complex patient group.

Note: Autologous skin cell suspension generated using ReCell® (AVITA Medical)
Aim: To test the efficiency of a honey gel in soft tissue originating from wounds. They can be very challenging and the characteristics of honey gel seemed us very interesting: antiseptic, antibacterial absorbability, osmotic drainage ability, stickiness. We choose to try one of the honey gel that we thought would not be too aggressive and not too thick so that it could be instilled into the sinus.

Method: 9 patients without allergy to honey were included: 7 men, 2 women, age 46-75 (mean: 59) 7 suffered from diabetic foot ulcers (6 with acute osteomyelitis), 1 from neuropathy, osteoarthritis, feet deformity and osteomyelitis. 1 had a traumatic wound and leukocytosis. All had a sinus: 1.5-5cm (mean: 3.25 cm) that did not closed despite antibiotic per os and iodine instillation. None had macroangiopathy. The honey gel was instilled into the sinus on a day to day basis by the patient, a family member or a caregiver.

Results / Discussion: 6 of 8 patients (75%) had a complete closure of the sinus through 3-8 weeks (mean: 4.8). 1 has a 60% closure after 3 weeks and 1 has is wound cleaned after 3 weeks. 1 dropped out. 3 had a bone excision and 1 a toe amputation.

Conclusion:
1: the use of honey gel should be considered in any sinus related wound: Efficient for a Low Cost.

2: it makes sense that the honey gel being completely absorbed (in opposition with rope dressings) played an essential role in the healing process as no foreign body stayed in the sinus.

3: the excellent results of our little case study justify larger trials.

The honey gel was Revamil gel from Bfacory - The Netherlands
Aim: Diabetic foot is a complex pathology with narrow window of opportunity to work. A non-healing ulcer ends up in severe infection. 80% of DFI are neuropathic in India. Off-loading is the major solution for healing of plantar ulcers. Application of antimicrobial solutions or ointments is not the answer to heal the ulcer. Off-loading devices are expensive. Indian economy does not allow wide usage. We planned for economical device which does not cost more than 1$.

The ideal off-loading device should be; patient compliant, easy to apply, cost effective, does not require special training to apply, effective in healing the wound, ambulation with device should be comfortable, should be accommodated in Diabetic Foot wear with ease, should be practiced at all levels of rural health care system in developing countries. We could achieve above requirements with our Mandakini off-loading Device.

Method:

- Materials used: 1. Used Hand Gloves. 2. Adhesive plaster*
- Method of Application: Fore foot Lesions are attended by applying the device proximal to lesion. Hind foot lesions are attended by applying device distal to lesion
- Number of Gloves to be used will be decided on weight of patient
- Frequency of application: every week

Results / Discussion: Complete healing of all plantar DFU’s in 4-8 weeks. I have been using this device regularly since 6 Years.

Conclusion: The Hospital waste such as used gloves, can help us to off-load the body weight at Ulcer site. "Mandakini" offloading device is economical, most effective and easy to apply assured healing of DFU within 4-8 weeks.

* Dynaplast
**Aim:** The authors present their clinical experience in three patients with complicated and infected chronic wounds.

**Method:** All three clinical cases are treated with a hydrofiber silver dressing. This type of dressing is used for all phases of wound healing until definitive epithelization occurred in all 3 patients.

A biofilm is any group of microorganisms in which cells stick to each other on a surface. The formation of bacterial biofilms in chronic wounds is a serious challenge for their treatment. Recently it has been noted that bacterial biofilms may impair cutaneous wound healing and reduce topical antibacterial efficiency in healing or treating infected skin wounds.

All three clinical cases are photo documented.

**Results / Discussion:** Case 1: a 72 year old patient with diabetes mellitus, transversal myelitis, and prolonged treatment with high doses of corticosteroids with venous wound on the lateral surface of the distal third of the left leg.

Case 2: a 64 year old patient with diabetes mellitus, who had an amputation of the first toe of the left foot due to arterial occlusion and infected ulceration in the same area.

Case 3: a 42 year old woman with an open fracture in the ankle and complicated postoperative wound due to prolonged bone healing.

Our treatment protocol led to reducing the number of dressings, shortening the treatment period and therefore to an economic benefit.

**Conclusion:** Infection and microorganisms have a major impact on wound chronicity. Recent scientific studies have identified the presence of surface-associated bacterial communities in the form of biofilm in chronic wounds.
Aim: West Midlands Tissue Interest group came together with the multidisciplinary team of podiatrist and vascular nurse specialist to try and gain a consensus on the way pressure ulcers are monitored and recorded in a consistent way across the midlands. The ambition from a patient safety perspective was to demonstrate that: when categorizing particularly the diabetic foot as pressure damage these ulcers were being counted in datex and incidence reports across the midlands as avoidable harm, thus increasing workload and thorough investigation from the tissue viability teams involved. The aim of this collaboration was to identify from a standardised approach what should be categorized as a pressure ulcer, diabetic foot ulcer or vascular ulcer. Identified risk element of what is pressure and what is not.

Method: A consensus of opinion was devised to put appropriate preventative measures in place which incorporated the education of patients, carers and health care professionals to examine the risk factors and report appropriately.

Results / Discussion: A poster is now available on all the wards to guide staff to document the appropriate patient pathway for care using the multidisciplinary team.

- patient safety
- Patient effectiveness

Conclusion: The group now has a resource available that gives the bedside staff clear boundaries of what is appropriately listed pressure ulcers which will hope decrease the number of inappropriate referrals and expedition to the specialised clinician.
OUR EXPERIENCE WITH A NEW HYDRO-DESLOUGHING DRESSING IN PLASTIC SURGERY

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¹Hopital Nord

Friday, May 15, 2015

E-poster session: Case Studies

Aim: In reconstructive surgery, covering large skin excisions can lead to complications such as skin graft necrosis, or dehiscence of sutures under tension, requiring controlled wound healing to be used.

Method: In this work, we present two post-operative wounds’ complications requiring desloughing using a dressing chosen for its absorbent and desloughing properties, available in a pad and rope version, well adapted to our practice.

The first observation case is a large excision for a bilateral sub-mammary Hidradenitis suppurativa, initially covered with a total skin graft with secondary necrosis.

The second case is dehisced sutures following thigh lipectomy performed by liposuction followed by tight skin redraping after inner face incision.

Results / Discussion: Hidradenitis excision wounds were covered with the rope dressing following appearance of adjoining slough after graft necrosis. By the second week, total desloughing had occurred and healing was virtually complete one month later.

The dehisced lipectomy suture exposed exuding and sloughy cavity adipose tissue that was drained using the rope for total desloughing with granulation achieved by 6 weeks and complete healing 6 weeks later.

Conclusion: These two observations, taken from our plastic surgery practice, confirm the benefits of the hydro-desloughing dressing in the drainage of exudate and sloughy tissues during desloughing, enabling rapid progression towards healing.
EP493 CASE STUDY OF POLYMERIC MEMBRANE DRESSING IN A 76 YEAR OLD PATIENT WITH RADIOTHERAPY INDUCED SKIN BREAKDOWN

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: Compromised wound healing in irradiated tissues is a common and challenging clinical problem (Haubner et al, 2012, Truman 2013). This case study is designed to demonstrate the use of Polymeric membrane dressing for radiation damage in a patient.

Method: A 76 year old patient with malignant neoplasm underwent neck dissection 2013. He had 30# fractions of radiotherapy 6 weeks, skin damage was noted at the right supraclavicular area (RTOG 2). He went onto develop methicillin resistant Staphylococcus aureus (MRSA).

He was referred to the Lymphoedema clinic for swelling affecting the submental area. The broken area of skin measured approximately 7cm x 5cm was then dressed a polymeric membrane dressing. He was given a cotton vest style garment with a polo neck to hold the dressing in place. At his review 4 weeks later the skin damage had significantly improved, with no visible erythema, and a wound reduction of 5 x 5cm.

Results / Discussion: The patient commented that the dressing improved his quality of life by reducing pain and erythema which has been found in previous studies (Scott 2014, Truman 2013). The appearance of the dressing was good. For head and neck patients this is particularly important due to the obvious visibility of the area.

Conclusion: The advantages of using advanced wound dressings for the treatment of patients presenting with radiotherapy-induced skin damage has been shown in this case study to be beneficial in improving this patients skin and improve healing outcomes.
Empowering the Patient to Management Non-Healing Wound with Direct/Indirect Consultations Crossing Hospital to Home Care

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: We report a patient with vasculitis has suffered from bubbles rupture wounds with secondary Plastics but poor healing six years on her two hands. Physiologically, we use the TIME paradigm to provide a structured and systematic approach for managing wounds. Psychosocially, we had direct consultations to encouraged and educated patient in hospital, indirect consultations by telecommunication after the patient discharged. This continuously caring support and adjustment may improve the quality of care under which empowerment can occur.

Method: Our team include the patient, wound care professional, nurses and doctor. We explained every process to patient. Tissue management - The wound bed was cleansed with 0.9% normal saline. Infection and inflammation control - Silver sulfadiazine was used. Moisture balance - We scattered gauze and mixed in silver sulfadiazine as primary dressing to decrease maceration happened. Secondary dressing was gauze. Protect wound edges - Keep surrounding skin clean. If maceration, wet-to-dry dressing was replacement alternately. We educated patient basic wound assessment, nutrition, and facilitating skills in hospital. After discharged, communication was continuously by telecommunication with messages and photos. We not only gave supports by telecommunication about three times a week, but also provided direct consultations at least once every two weeks.

Results / Discussion: Over one month, reduce the wound area. The patient can be positive to do with own wounds, confidence increasingly, and improve self-expectancy.

Conclusion: Empowerment with the concept of case-manager to support patient solving wound problem is helpful in this patient. Using telecommunication to provide continuously adjustment crossing hospital to home care and directly consultations would not be absent. Our encouraging experience may be extended to manage other chronic wound.
Aim: The treatment aim was to use negative pressure wound therapy (NPWT) in place of conventional dressings in order to help manage high exudate levels; increase granulation tissue in the wound bed to allow closure by primary intention; maintain patient mobility and improve quality of life whilst reducing the frequency of dressing changes.

Method: The 52 year old female patient showing signs of sepsis was admitted to hospital with a groin abscess of 1 week duration. Upon admission a CT scan was performed, intravenous antibiotics prescribed and radical debridement of necrotic tissue took place in theatre.

The patient visited theatre 4 times for debridement and also had a stay in ICU where she was ventilated due to sepsis and suffered a pulmonary embolism.

Wound measurements were 43.5cmx8cmx12cm (at the deepest point). The wound bed presented with 50% slough and 50% granulation tissue.

Gauze based NPWT set at -100mmHg was used for 5 weeks. Dressings initially changed three times per week.

Results/Discussion: The use of NPWT resulted in several clinical benefits including;

- debridement of devitalised tissue
- management of high exudate levels
- maintenance of patient mobility
- granulation tissue in the wound bed increased from 50% to 95%, allowing the patient to return to theatre for wound closure

In addition, NPWT was cost-effective as it replaced the need for conventional dressings which required changing up to twice a day.

Conclusion: The use of NPWT for this patient resulted in significant clinical and financial benefits over conventional wound dressings. Carefully targeting NPWT at the appropriate patients can result in unparalleled clinical outcomes whilst being highly cost-effective for healthcare providers.
Aim: The misuse of buprenorphine and its generic variants by injection into leg veins can lead to severe chronic ulcers associated with the toxicity of the excipients contained in the dissolved tablets (starch, silica, talc).

Method: We report the occurrence, in France and in the United Kingdom, of two cases of chronic leg ulcers related to the injection of opiates or buprenorphine and resistant to usual local treatments. These were young patients (33 and 34 years), with 2 and 4-year-old chronic ulcers respectively, both blocked at the insufficient desloughing stage, with no trophic improvement or healing progression despite many local treatments used. Considering the sloughy and moist nature of the wounds, we decided to use the hydro-desloughing dressing with initially daily dressing change.

Results / Discussion: The oldest ulcer, in a now weaned patient, responded very favourably thanks to complete drainage of slough in 7 days, followed by resumed healing with total epithelialisation by week three. The two-year-old ulcer, in a young woman still taking opiates, was more recalcitrant to treatment, taking 9 weeks to control local slough and resumed healing.

Conclusion: Opiate or buprenorphine injections constitute a cause of recalcitrant lower limb ulcers due to the presence of chronic inflammatory infiltrates associated with excipients. Our experience with the hydro-desloughing dressing confirmed its efficacy in the desloughing of resistance slough coatings, initiating rapid healing that had previously been impeded.
[EP497] SILVER RELEASE PROFILE AND ANTIBACTERIAL EFFECT OF A NEW SILVER FOAM DRESSING WITH SILICONE ADHESIVE

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Friday, May 15, 2015

E-poster session: Case Studies

**Aim:** To compare the silver release profile and antibacterial effect of a new silver foam dressing with silicone adhesive (A) with a similar non-adhesive silver foam dressing (B), with three other silver foam dressings with silicone (C-E), and a silver hydrofiber dressing (F).

**Method:** Silver release was measured in fractions collected at 4h intervals for 7 days by Franz diffusion method. Dressings A and B were tested in a dynamic zone of inhibition test (ZOI) against *P. aeruginosa* and *S. aureus* for 7 days.

**Results / Discussion:** A and B provided similar sustained silver release over 7 days. 7 days cumulated release was ~800 ug/cm2 for A and B and between 97 ug/cm2 (F) and 607 ug/cm2 (E) for the other dressings. Percentage of total silver released within the first 24 hours was 42% for A and B (A, 336 ug/cm2) and between 52% (C, 271 ug/cm2) and 87% (F, 84 ug/cm2) for the other dressings. A and B showed effect against both bacterial species for 7 days.

**Conclusion:** Dressing A and B have similar profiles with sustained silver release for 7 days and antibacterial effect for 7 days. Clinical efficacy of dressing B is documented in several RCTs*. Due to the similar release profile and similar antibacterial effect, dressing A is expected to show similar clinical efficacy.

*Leaper et al. PLOS ONE 2013, 8 (7)

(A) Biatain® Silicone Ag
(B) Biatain® Ag Non-Adhesive
(C) Mepilex® Border Ag
(D) Mepilex® Ag
(E) Allevyn® Ag Gentle Border
(F) Aquacel® Ag
Aim: Calciphylaxis is a life-threatening condition traditionally observed in end-stage renal disease patients. Cases of nonuremic calciphylaxis have also been reported, but they are rather uncommon. Calciphylaxis presents as painful necrotic ulcers typically seen in lower legs. Intravenous sodium thiosulfate has been reported to be effective in the treatment of uremic calciphylaxis, but the use of this treatment can be limited due to its adverse effects.

Methods: Three patients with biopsy-proven calciphylaxis were treated with intralesional sodium thiosulfate (250 mg/ml). Sodium thiosulfate was injected together with lidocaine subcutaneously in the active borders of the ulcers 4 – 8 times. Two patients had been treated before with intravenous sodium thiosulfate with no satisfactory result, and intravenous sodium thiosulfate was replaced with intralesional sodium thiosulfate. One patient received only intralesional sodium thiosulfate.

Results: The ulcers of two patients were healed completely during intralesional sodium thiosulfate treatment. The ulcers of the third patient showed approximately 50 % reduction in an 8-week treatment period, and after that also intravenous thiosulfate was started.

Conclusions: Intralesional sodium thiosulfate may be an effective treatment of localized calciphylaxis, but further studies are needed.
Aim: There is consensus that concludes that silver as a topical antimicrobial has a role to play in the management of bio-burden and infection in a wide range of wounds. The aim of this evaluation is to review the safety and efficacy of an ionic silver alginate dressing in the form of a paste as part of the management plan for chronic diabetic foot ulcers (DFUs).

Method: A 6 patient case series was completed as part of the DFU treatment, using an assessment and evaluation tool to review outcomes of the ionic silver alginate paste in the clinical setting. Participants were selected if they had a non-healing DFU wound and/or there were signs of mild to moderate infection. Outcomes were measured by reduction in size, exudate/odour levels and clinical signs of infection.

Results / Discussion: There were clinical improvements observed in the majority of participants. Where odour was present, this was found to have reduced significantly. The dressing was found to be easy to use and conform to DFUs well. No one went on to develop deeper infection. Participants also reported overall satisfaction in noticing less malodour and exudate levels.

Conclusion: The management of DFUs often necessitates the consideration of micro-organism control on the wound surface. This silver paste can be applied effectively and easily to foot wounds and it was found to stay in place and be comfortable for the participants. This dressing should be considered when an antimicrobial infection is suspected. Therefore, the use of systemic antibiotics can be minimised if the infection can be controlled locally.
Aim: Lately, the wound microenvironment has drawn the attention of the medical community with increasing evidence indicating how the modulation of biochemical, biophysical and cellular responses may play pivotal roles in regulating tissue regenerative responses. Interestingly, wound pH modulation has shown to contribute to promote physiological wound healing. We evaluated the modulation of wound microenvironment applying a new wound care solution.

Methods: We have retrospectively selected 9 patient cases with infected chronic wounds of the leg, showing minimal or no progress with standard therapy and having thereafter received a new acid-oxidizing spray solution, characterized by pH<3, RedOx 1100mV and stabilized hypochlorous acid (>95% of free chlorine species). The wound care solution was administered once daily for 4 weeks with no other active treatments.

Results: Infection rates significantly (p=.013) decreased as well as Cutting&Harding clinical signs of infection (p=.017). As relates to the wound conditions in the 4 weeks of treatments the WBP score and its tissue and exudate components were all significantly improved (p=.014, .008 and .025 respectively) similarly to the Bates-Jensen Score (p=0.012). Associated pain decreased significantly too (p=.027), while wound size did not show significant reductions at 4 weeks, as expected in this timeframe. pH measurements showed a trend of reduction (p=.093) and a correlation with wounds showing signs of restarted healing.

Conclusions: These preliminary results urge us to continue and increase the observation of patients with chronic wounds further characterizing the role of this new solution, a promising addition to the physician’s armamentarium, in clinical practice.

* Nexodyne™
Aim: To present a case study of a gentleman with a longstanding mixed aetiology leg ulcer treated with additional methods to obtain higher level of localised compression.

Method: A 69 year old gentleman with a history of diabetes and a longstanding mixed arterial and venous ulcer (29 years) presented to the Wound Care service in 2012 with a reoccurrence of ulcer on the left medial malleolus.

Weekly treatment consisted of light compression type 3a applied with a spiral technique. An elasticated tubular bandage system, applied over the compression bandage, was introduced to increase pressure with caution as there was arterial insufficiency.

It was noticed that although the wound was healing there was significant oedema around the circumference of the wound. To promote localised oedema reduction the lymphoedema specialist team were consulted and kinesiology taping was introduced. This was applied firstly with anchor points at the popliteal area and strips running along the whole length of the leg and terminating in proximity of the wound. At follow up the tape was applied around the wound based on localised pressure principle.

Results / Discussion: Measurements and photos taken on a regular basis showed wound bed reduction, epithelialisation and oedema reduction. A qualitative questionnaire was completed by the patient at each follow up and showed increased mobility and patient’s comfort.

Conclusion: The addition of elasticated tubular bandage and kinesiology tape resulted in localised oedema reduction, continuing wound healing, improved mobility and patient’s comfort.
EP502 EROSIIVE DIAPER DERMATITIS IN ONCOLOGIC PEDIATRIC POPULATION

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Friday, May 15, 2015

E-poster session: Case Studies

Background: Erosive diaper dermatitis is a severe irritant dermatitis of the perianal region. It may occur in any patient who wears diapers, but this problem is more common among infants and toddlers, representing 10-20% of all skin disorders in pediatric population. It is difficult to completely eradicate predisposing factors in a diapered child in general and in particular in the children with background diseases.

Aim: To describe an optimal treatment and prevention of pain and suffering caused by diaper ulcers in pediatric population.

Method: Single patient case study (among 30 oncologic patients who were treated with a gel* for erosive diaper dermatitis). One year old girl, who was diagnosed with ALL, and suffered from severe diarrhea as a result from chemotherapy. The patient suffered from extensive diaper ulcers for over 6 months with no response to conventional treatment. In this point the use of a gel* was offered.

Results: During the last year more than 30 children were treated with the gel* in Schneider children's medical center of Israel. Our observation showed significant faster healing of ulcers in comparison to antibiotic treatment and steroidal creams. Today the gel* is the drug of choice for treatment of erosive diaper dermatitis among oncologic pediatric population.

Discussion: Innovative treatment of diaper ulcers was found during routine practice of wound care coordinator. Combined care which includes hygiene, patient and staff education along with the gel* use, improves quality of life and prevents suffering in oncologic pediatric patients with erosive diaper dermatitis.

*Flaminal Forte
[EP503] ADVANTAGES OF USING INTEGRA® DERMAL SUBSTITUTE AS PRIMARY WOUND CLOSURE

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: To prove advantages of using a dermal substitute* as primary wound closure after a minor foot amputation in case of hardly predictable healing development.

Method: Six patients with severe suppurative complication of diabetic foot underwent a mid-foot amputation or thorough sharp debridement followed by Integra closure with graft meshing or Redon drainage. All of them were dismissed within five to eleven days from hospital and continued with outpatient treatment. Three to five weeks after autologous meshed epidermal graft was applied in case of good granulation tissue status.

Results / Discussion: Four of six patients reached the stage of epidermal graft application. Three of them got healed completely, unfortunately yet only one is able to walk. In two cases our approach disappeared – one due to lack of nursing care where severe heel defect developed and one patient died due to a heart attack.

Conclusion: Using a dermal substitute* after a mid-foot amputation in uncertain terrain solves wound closure immediately, prevents secondary contamination, is very easy to care about and can provide additional time for the surgeon to make final decision – to choose higher amputation stage or continue wound healing. On the other hand there’s always a high risk of under-graft suppuration and sepsis development. In our praxis no severe suppuration developed possibly of good drainage level.

* INTEGRA®
Aim: To illustrate the use of larval biosurgery to debride a complex diabetic foot ulcer.

Method: A 60 year old single male, with poorly controlled type II diabetes, gross lymphoedema, chronic history of leg ulceration, and non smoker, developed an infected neuropathic ulcer on the plantar surface of his heel, which required hospitalisation.

The patient was treated with intravenous antibiotics, the ulcer dressed with honey and foam. After two weeks the ulcer had not improved it was necrotic and increasing in size. The patient was deemed not suitable for surgical debridement, and was to be discharged, the patient also wanted to leave.

On discussion with the patient and consultant, an application of larvae in a bio bag was agreed upon.

The larvae biobag was placed in a gauze bed with a cavity over the ulcer and secured with bandage. The patient toe walked with a crutch, and elevated his foot when possible.

Results / Discussion: The ulcer was successfully debrided back to a pink granular base, the patient was then discharged after this application. The ulcer was dressed at home and went on to full healing. Larvae biobag biosurgery should be considered earlier as a debridement therapy; it is cost efficient and effective especially where surgical debridement is not an option.

Conclusion: Larvae in a biobag were a very cost effective and efficient way of moving a static necrotic ulcer to a pink proliferative viable state. The larvae were pivotal in healing this complex diabetic foot ulcer.
Aim: To present a rare and difficult case of wound treatment in a patient with extensive ulcerations after intramuscular injections of oil.

Usage of site enhancement oils is highly common within the fitness environment. Symptoms can arise many years after initial injection.

Method: A 45-year-old male bodybuilder, who had injected synthol and paraffin oil into both upper arms for several years, was admitted to our Wound Healing Centre in 2012 with an ulcer on his left upper arm. The ulcer was treated successfully with split-skin transplantation. Two years later he was admitted again, this time with several superficial ulcers across both upper arms. Both arms were deformed and rock-solid with a circumference of 65 and 66 cm, respectively. The ulcers were infected and painful, and the patient had redness of the skin on both lower arms with palpable oleomas. He had normal strength and movement of both arms.

MRI showed oleomas of various sizes diffusely distributed in biceps and triceps muscles. Histological examination showed fibrosis, chronic inflammation and oleomas.

Discussion: Compression therapy and antibiotics were efficient on the minor ulcerations but surgical revision was needed to cope with the larger defects. Because of infection and the avascular tissue, time of healing was prolonged.

Conclusion: Skin ulcerations after intramuscular injections of oil can be very difficult to treat. Used alone or in combination, compression therapy, antibiotics, surgical revision and split skin transplantation can be used to treat the condition. Prophylactic measures and correct information to these patients are of huge importance.
[EP506] TREATING A HARD TO HEAL PEMPHIGUS VULGARIS WOUND IN A ELDERLY PATIENT: A CASE STUDY

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: Pemphigus vulgaris is a life-threatening autoimmune bullous dermatosis and its management represents a major challenge to long term care nurses. The patient was a female of 96 years, who suffered pemphigus vulgaris involving 25% of the total body surface area; with initial poor wound care response to wet to dry therapy. However, a marked improvement in wound healing and decreased patient discomfort was observed after application of an adhesive dressing*. Also, we were using the principles of the TIME paradigm.

Method:

- Tissue management: The wound bed was cleansed with 0.9% warm saline before dressing application. High-pressure irrigation was used on the thick slough tissue, and low-pressure irrigation on the granulation tissue of the visible areas of the wound bed. Gauze was directly applied to absorb the saline on the peri wound
- Infection and inflammation control: metronidazole gel, applied directly to the wound surface, and an adhesive dressing * as the primary dressing**
- Moisture balance: Adhesive dressing* was therefore applied as a primary dressing that to absorb the exudate and maintain a reasonable moisture level on the wound surface during the initial care period
- Protect wound edges: we washed the unclean surrounding skin, followed by a barrier film

Results / Discussion: Complete wound closure was achieved after three months of treatment. The fragile skin remained intact during treatment with the dressing.

Conclusion: Adhesive dressing* may offer an effective adjunct in the treatment of patients with Pemphigus vulgaris. Recommendations for improving practice include early identification of Pemphigus vulgaris sing, early referral for dietetic assessment and tissue viability intervention, and education for health professionals.

*Safetac Technology
**Mepilex, Mepilex Ag
Aim: We aimed to present the consequences of inappropriate surgical treatment of unrecognised pyoderma gangrenosum that was misdiagnosed as inflamed skin wounds in a patient with ulcerative colitis.

Method: 21-year-old male with history of ulcerative colitis presented to the local surgical ward with high fever and multiple painful ulcerated skin lesions of both lower legs. Due to suspicion of infected skin ulcers/abscesses drainage incisions and extensive nectectomy were performed. The patient was transferred to our tertiary referral centre on day 3 as medical condition was not improving. Based on history of longstanding ulcerative colitis, appearance of lesions and lack of improvement after surgical treatment the diagnosis of pyoderma gangrenosum was established. The patient started methylprednisolone 1 mg/kg iv, antibiotics due to bacterial superinfection and silicone - polyurethane based modern wound dressing that were changed every 2-3 days. After inflammatory parameters declined post-incisional wounds were sutured. Negative pressure wound therapy system (-125mm Hg) was applied for 7 days on skin defect to prepare wound bed with granulation tissue. Epithelisation of wound edges was in progress and scar formation was finished in several weeks..

Results / Discussion: Inappropriate surgical treatment of pyoderma gangrenosum resulted in prolonged healing, however with negative pressure wound therapy and silicone - polyurethane based modern wound dressing the wounds have healed after prolonged time.

Conclusion: In patients with ulcerative colitis, even if the disease is in remission, any skin lesion should raise the suspicion of pyoderma gangrenosum. Surgical procedures should be avoided as they result in poor and delayed healing.
Aim: Chris was referred for hyperbaric oxygen therapy (HBO) to stimulate healing of a wound to his achilles which had been present for over 2 years.

Method: The records were reviewed and information gathered including wound size and wound photographs at the start and end of HBO and 1 and 3 months later.

Results / Discussion: Chris ruptured his achilles tendon and underwent reconstructive surgery which subsequently broke down. Further grafts failed and although the wound had been granulating for some time, it was not epithelializing. Chris received 40 HBO treatments at 2.4 ATA five days a week and wound care was managed by nurses at the hyperbaric centre. The wound dimensions can be seen in table 1 and photographs in figure 1. After 40 HBO depth had reduced and there was improved tissue quality. It is common to see continued improvement following completion of HBO. A number of trials have demonstrated the benefit of HBO for diabetic ulcers. However, there is little evidence to support other chronic wounds. Referral is usually considered on an individual basis when other options of care are exhausted.

Conclusion: This case suggests a need for further research on this treatment modality in patient groups other than diabetics.

Table 1: Wound dimensions

<table>
<thead>
<tr>
<th>Time Point</th>
<th>Length(cm)</th>
<th>Breadth(cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start of HBO</td>
<td>8.7</td>
<td>4.8</td>
</tr>
<tr>
<td>End of HBO</td>
<td>8.7</td>
<td>4.5</td>
</tr>
<tr>
<td>1 month after HBO</td>
<td>7.5</td>
<td>4.4</td>
</tr>
<tr>
<td>3 months after HBO</td>
<td>5.6</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Figure 1: Wound Photographs
Aim: A case series of 7 patients who required extensive foot debridement and a combination of topical negative pressure wound therapy and bespoke orthotic footwear to facilitate wound healing in a timely manner.

Method: All patients underwent extensive surgical debridement in theatre by a vascular surgeon to remove all infected, necrotic and sloughy tissue. Post operatively a Tissue Viability Nurse assessed the wound and recommended topical negative pressure be commenced to facilitate granulation tissue growth. All patients were reviewed post op by a vascular physiotherapist to provide immediate post op footwear to allow early mobilisation before being reviewed and cast for bespoke orthotic footwear in the vascular orthotic clinic by a specialist orthotist.

Results / Discussion: These patients were all complex with multiple co-morbidities and some had compliance issues. Using a multidisciplinary approach at UHCW ensured they all healed in a timely manner and continue to remain healed.

Conclusion: Using a combination of surgical debridement, early use of topical negative pressure wound therapy and bespoke orthotic footwear all delivered through a multidisciplinary approach ensures excellent outcomes for patients undergoing extensive foot debridement.
[EPS10] CASE REPORT: TOPICAL OXYGEN THERAPY IN A PATIENT WITH A COMPLEX LEG ULCER

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: To evaluate the effect of topical oxygen therapy in treatment of a non-healing complex wound.

Method: A special device extracts oxygen from the air and delivers 12-14 ml/hr 99.9% oxygen through a flexible tube to an Oxygen Delivery System. This system is in direct contact with the wound surface ensuring an oxygen rich wound environment. The system can be placed on a non-infected wound void of necrosis or eschar and must be covered with an absorbing bandage. The system was used in a 76-year-old female with a medical history including diabetes presenting with a complex venous pre-tibial leg ulcer measuring 10 x 10 cm caused by a trauma in 2012. All previous local wound measures, including negative pressure therapy had failed in this complex wound.

Results / Discussion: Since 2012 we have used several wound gels and dressings for non-healing wounds in combination with compression therapy. Unfortunately, often without optimal wound healing results. Recently, we started using the novel topical oxygen therapy. After 5 weeks and 5 days there was a complete healing of the wound with adequate and reliable skin coverage.

Conclusion: The use of topical oxygen for a non-healing pre-tibial ulcer lead to a complete wound healing within 6 weeks, whereas traditional local measures had failed. Community nurses and patient were very satisfied with this new therapy modality.
Aim: Evaluation of the results of the topical negative pressure therapy of the infected wound after open inguinal hernia repair.

Method: 80–year old man in 2 weeks after the emergency incisional hernia repair has been admitted to the Surgery Department due to infection of the wound. The patient has reported pain in the left side of groin and fever. Physical examination revealed the tumor with erythema, tenderness and increased temperature in the abdominal wall in the area of the mesh. USG revealed the abscesses. The patient underwent extensive surgical debridement. Due to signs of general infection, the antibiotic therapy was started. After 8 days of using dressing with 10% solution of saline the negative pressure therapy was started. The therapy was programmed to a continuous of negative pressure to 125 mmHg.

Results / Discussion: After of 6 treatment cycles, each lasting from three to five days, a major improvement was noted. However, during the 7th cycle the wound has started to secrete large amounts of serous fluid - up to 450 ml per day. The NPWT was ceased. After several days of use the gauze dressings, the secretion was reduced. The patient was discharged to further ambulatory care.

Conclusion: Intensive secretion of serous fluid may be induced by use of the long-lasting of topical negative pressure therapy in the mesh-related infection after inguinal hernia repair.
Aim: The aim of this report is to present a clinical case demonstrating the successful treatment of a class IV abdominal wall defect using a porcine dermal collagen implant* in a patient after peritonitis treatment with NPWT.

Method: The 46-year-old man underwent distal gastrectomy because of complicated 2 postbulbar ulcers penetrating into the pancreas. Early postoperative period complicated by acute pancreatitis. The patient underwent relaparotomy. The disease progressed and infectious pancreatic complications such as infected pancreatic necrosis, peripancreatic, retroperitoneal space and right colon necrosis with peritonitis followed. The next reoperation consisted of the right hemycolectomy, debridement of the necrotic tissue and choledochostomy.

A 18 x15 cm post laparotomy wound was left open and treated with NPWT for 15 days. We therefore used a porcine collagen implant to attempt closure of the large abdominal wall defect. The implant was cut to shape of the abdominal wall defect and was fixed with separate vicryl sutures.

Results / Discussion: Successful treatment of peritonitis with negative pressure wound treatment has been frequently reported. Long term open abdomen treatment in complex cases often leads to an extensive abdominal wall defect. The main benefit of collagen implant is its possibility of integration in contaminated fields or fields which are at high risk of surgical infection. There were no complications within 17 months of follow-up.

Conclusion: The main properties of the collagen implant we used are the possibility of its use in infected or contaminated fields, biological tolerance of the material and low risk of adhesion.

*Permacol, Medtronic
Aim: With this case report we want to share our experience of how the results due to the use of NPWT on a wound with deep infection caused by Cryptococcus, candidate for skin grafting, has made it possible to avoid this intervention, also improving patient well-being.

Method: After thorough debridement of the wound, and in combination with antibiotic therapy, NPWT has been positioned for the preparation of the wound bed, in order to receive a graft. The device has been applied for 14 days, with weekly change of the dressing.

Results / Discussion: After NPWT, the progress toward healing of the lesion was so advanced that lead us to reconsider the opportunity of skin grafting, opting for closure by secondary intention with advanced dressings. This result has allowed not only to save the cost of the graft but also to overcome the difficulties of the patient, noncompliant to surgical treatments. The NPWT device has also helped to reduce medication changes, improving the well-being of the patient.

Conclusion: In the reported case, the availability of a disposable device expands the possibility of treatment to a wider variety of skin lesions of various etiology, improving Facility performances while reducing the overall cost of healing and improving the well-being of patients.
Aim: The aim of this presentation is to report a case of the treatment of a variant of bullous erythema multiforme in patient with Stevens-Johnsons syndrome.

Method: We have used enzymatic alginogel (enzymatic system glucoso-oxidasis and lactoperoxidasis) + alginogel (L-arginin, hydroxibenzoate) for enzymatic necrectomy with satisfactory result in treatment of damage tissue. Alginogels have high antimicrobial activity and they are supporting growth of the new tissue after enzymatic necrectomy.

Results / Discussion: In a previously healthy 10 year old boys was started suddenly a bullous erythema multiforme during 3 days with skin and mucous membrane lesions include ocular symptoms. The cause of the disease was unknown. The child was transported by air to ICU of University Hospital and treated by team of pediatric anesthesiologist, surgeon, dermatologist, eye specialist, stomatologist, ORL specialist and many next.

Alginogels have started immediately enzymatic necrectomy and replacement of damaged tissue in local medical treatment in combination with next complex therapy.

Conclusion: Stevens-Johnson syndrome (a variant of bullous erythema multiforme) is very insidious disease with high morbidity and with problematic healing.

The use of alginogels like a local medical treatment combined with complex therapy is in our opinion one of the most gentle but most effective possibility to heal tissue with minimal consequences.
[EPS15] ATYPICAL LEG ULCER - CASE REPORT

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¹Outpatient Clinic for Dermatology "Željko Pavičić"; Dermatology  
²Institute of Emergency Medicine the City of Zagreb

Friday, May 15, 2015

E-poster session: Case Studies

Aim: Atypical wounds are most commonly associated with hematologic and autoimmune diseases, cancer, trauma, caused by environmental conditions such as radiation, heat, insect bites, etc. and psychosocial factors. In addition to being the only diagnosis difficult and treatment is extremely complex, combined and time-consuming. Often have very few clinical data, and very often clinical picture is confused and unclear.

Method: During his stay in the hospital, after processing and preparation approaches to surgery in the first act is done debridement*, to the other act done by transplantation of skin Tierschu. Both procedures pass regular. Since the beginning of hospitalization carried out targeted antibiotic therapy with monitoring of all parameters. Implement and negative pressure therapy. Graft is largely received the remaining seats granulation set the BioBran.

Results / Discussion: With regular checkups and proper bandaging remaining defects patients in January 2010 fully heal ulcers. After this procedure, there is no deterioration of the local status ulcers.

Conclusion: Treatment of atypical wounds requires teamwork, which includes specialists from different branches of medicine with a lot of experience and knowledge on this issue. Initially should recognize that this is some sort of atypical wounds, and then all treatment plans must start with the identification of causes of atypical wounds, underlying diagnosis of disease that led to the formation of wounds. With early diagnosis, adequate treatment and teamwork can solve almost every case of atypical wounds.

*Versayet
[EPS16] THE EFFECT OF HBOT IN CHRONIC ARTERIAL INSUFFICIENCY - CASE REPORT

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2Technical College Bjelovar
3Policlinic Marija; Hbot

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E-poster session: Case Studies

**Aim:** Chronic arterial insufficiency is a term that refers to all the states in which are narrowed or clogged atherosclerotic process parts of the arteries that supply blood to the flanks. Besides the surgical treatment and medication, HBOT plays an important role in the treatment of arterial insufficiency and the prevention of disease progression.

**Method:** The patient has on his right thumb foot ulceration 1.5 x 3 cm, caused by arterial insufficiency. After 14 sessions of hyperbaric oxygen therapy for 60 minutes at a pressure of 2.5 ATA patient feels subjectively significantly better, without pain at rest, the wound on his thumb almost fully healed. We made a control color Doppler where is no hemodynamically significant changes in the circulation of the right foot, but the treatments of hyperbaric oxygen therapy given optimum results as far as healing ulcers on her thumb. Painless railroad tracks is more than 500 m.

**Results / Discussion:** At control exame after 28 HBOT on 2.5 ATA reveals that the ulcer on my thumb fully healed. Railroad tracks is now unlimited, intermittent claudication occur only in faster running approximately 200 meters.

**Conclusion:** It was concluded that the treatments of hyperbaric oxygen therapy yielded a good result because the chronic arterial insufficiency in the patient moved from Fontaine stage III / IV stage Fontaine II B although the hemodynamic status of the right foot is stationary.
Aim: To collect clinical cases in order to observe the healing process of surgical acute wounds for which was used an absorbent foam dressing* and to appreciate the opinion of surgeons on the use of the dressing.

Method: Clinical case collected in the daily surgery practice in wounds for which surgeons used the studied wound dressing. Patients were followed up after 1 week, 2 weeks and one month.

Results / Discussion: The study collected 67 clinical cases involving patients aged 44 years old, predominantly male (61.9%) and whose wounds had an average surface of 5.6cm². The dressing was prescribed them for an average period of 2.1 weeks with a change every 2.5 days. The iconography of wounds to be presented shows an healed area of 64.3% at the 1st week, of 79.3% at the 2nd week and of 88.4% after one month. The percentages of totally healed wounds were respectively of 20.0%, 30.9% and 49.1%. On scales from 0 (not at all agree) to 5 (strongly agree), surgeons estimate to 4.2 the ease of application of the dressing, 4.8 its drainage efficacy, 4.9 its non-adherence to the wound, 4.8 its preservation of the edges and 4.8 the absence of pain when removal.

Conclusion: The iconography of the evolution of wounds illustrates the contribution of the dressing to fast healing of surgical wounds and to the comfort of care of the patients.

* Lipido-colloid foam dressing with adhesive border, Urgotul Border
Aim: A male patient (56y) presented with previously-healing grade 4 PUs (wound 1, 5.5 x 2.0 cm depth 0.1 cm; wound 2, 4.5 x 1.5 cm depth 0.1 cm) on the right buttock that had not contracted for three months. The ulcers had not responded to nanocrystalline silver, povidone iodine or cadexomer iodine dressings. Wound swabs identified MRSA colonisation. Clinical assessment determined that biofilm was preventing wound epithelialisation. The objective was to restart healing by eradicating MRSA colonisation and disrupting biofilm.

Method: Wound management included peri-wound cleansing with saline and barrier film application to the peri-wound skin. Antimicrobial management was instigated using a biocellulose dressing with PHMB* covered with a foam adhesive dressing**. The wounds were managed by 3 x weekly dressing changes and four-weekly visits by the Tissue Viability Nursing service. Progress was recorded by clinical observation and wound measurement. Wound management was adjusted according to clinical findings.

Results / Discussion: The area of wound 1 reduced by 70% over four weeks and stalled. Alternating antimicrobial management every two weeks was started at week 12 with the biocellulose dressing and an iodine dressing***. The ulcer closed at six months. The area of wound 2 reduced by 93% over four weeks and the ulcer healed completely by week eight.

Conclusion: The introduction of the biocellulose dressing with PHMB correlated with a significant contraction of both wounds after four weeks of therapy following the previous recalcitrant phase.

* CelluDress-PHMB (Medicareplus International)
** Tielle Plus (Systagenix)
*** Iodosorb (Smith & Nephew)
Aim: We present a patient with chronic posttraumatic wound in the lower leg. The patient was injured in a road accident as a driver of a motor scooter. Immediately after trauma locking plate osteosyntesis was performed. Two months after surgical treatment, there is a skin and subcutaneous tissue defect in the surgery area with exposed hardware material.

Method: We performed wide debridement and lavage of the wound. Topically hemoglobin spray was applied with a gauze as a secondary dressing.

Results / Discussion: After admittance in the surgical practice, sharp debridement was performed by which we have removed cellular debris and traces of fibrin deposits. Abundant lavage with saline was done. Tissue sample for microbiological diagnostics were taken. We applied topically hemoglobin spray on the wound. We recommended, to the patient, daily application with prior toilette. To the following control patient came after seven days, when we spotted wound contractions, with the appearance of healthy granulation that filled the wound. The edges of wound began the epithelialization. During next seven days the whole defect is epithelialized. The surrounding skin had proper color and was euthermic. Control laboratory tests were within reference range. Medical examination after two months showed properly healed wound.

Conclusion: Using topical hemoglobin spray we increased oxygenation of tissue in the wound. This stimulated the creation of a "healthy" granulation tissue that completely filled the defect and allowed the epithelialization from the wound edges. The increased amount of oxygen in the wound must have played a significant part in controlling bacterial colonization.
Aim: Diabetes mellitus is one of the leading public health problems in the world. Diabetics have 20 fold risks for the amputation of lower extremities than a general population. Based on the epidemiological studies, it is estimated that 25 % of all patients with the diabetes acquire the diabetic foot with ulceration, and 5-15 % will undergo the amputation. Hyperbaric oxygen therapy (HBOT) has been promoted as an effective treatment for the diabetic foot wounds.

Method: We want to show the young man who is work-capable and who was supposed to undergo an amputation of the lower extremity. He was in the hyperbaric oxygen chamber twice. Despite the HBOT, the local state of our patients wound did not improve. On the contrary, it got worse so we decide to employ a local treatment.

Results / Discussion: Every day we did a tedious wound debridement, and we used the NPWT a few times. We continued the treatment with bioclusive dressings and the topical hemoglobin. After applying the topical hemoglobin, we noticed that the wound began to heal much faster and that the pain was greatly reduced. But the most important thing was that our patient did not have to undergo the amputation that was proposed from the very beginning.

Conclusion: Despite the sophisticated treatments we developed, there are still lots of amputations of the lower extremities due to the diabetic foot. We should therefore use the modern techniques of treatment and all of our available funds for this cause, because most of the patients who undergo the amputation are young people who can still contribute a lot to our society.
[EPS21] OUR EXPERIENCE WITH CEFTAROLINE IN THE TREATMENT OF COMPLICATED SKIN AND SOFT TISSUE INFECTIONS, CAUSED BY MRSA – PRESENTATION OF THREE CLINICAL CASES

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¹University Clinical Center Ljubljana, Slovenia; Department for Surgical Infections

Friday, May 15, 2015

E-poster session: Case Studies

Aim: Ceftaroline is the latest generation of parenteral cephalosporin antibiotic with a broad-spectrum of antibacterial activity against Gram-positive bacteria, including methicillin resistant Staphylococcus aureus (MRSA) and Gram-negative bacteria, but not Pseudomonas aeruginosa and Acinetobacter species. It is the only beta-lactam antibiotic that is effective in the treatment of complicated bacterial skin and soft tissue infections caused by MRSA. Our aim is to present the treatment with ceftaroline in three patients with complicated skin and soft tissue infections caused by MRSA.

Method: The first patient received ceftaroline after surgical debridement due to MRSA diabetic foot infection. In the second patient the treatment with ceftaroline was prescribed in combination with metronidazole due to the secondary MRSA and anaerobic abscess under spermatic cord. The third patient received ceftaroline due to extensive cellulitis of upper arm, after below knee amputation was performed due to diabetic foot infection in MRSA sepsis. In all three patients the clinical, microbiological and laboratory assessments were performed throughout the course of treatment with ceftaroline.

Results / Discussion: The treatment with ceftaroline was effective as it helps out to resolve all the clinical signs and symptoms of infections. There were no side effects observed, patients tolerated ceftaroline well.

Conclusion: Our experience with ceftaroline is concordant with the data on ceftaroline in other studies. Ceftaroline represents an attractive option for the initial empirical treatment of patients with complicated skin and soft tissue infections, including those with suspected or already approved MRSA infection.
CAPTURING THE PATIENT’S PERSPECTIVE AND CLINICAL EFFECT OF A TWO-COMPONENT BANDAGE SYSTEM FOR MANAGING LYMPHOEDEMA OF THE ARM

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E-poster session: Case Studies

Aim: Treating lymphoedema with bandages is recognised as an effective program of care. Several bandage systems are available internationally. Limb volume, and mobility are routinely recorded to measure treatment outcome clinically. However little is published on the patient’s perspective during treatment. Recording patients views on comfort and ability during bandaging aims to show how tolerable the chosen system is alongside limb volume outcomes.

Method: A cotton backed foam roll and a cohesive bandage* was applied to a lady with arm lymphoedema. A Visual Analogue Scale (0 comfortable/easy and 10 uncomfortable/not easy) on days 1; 3; 8 measuring comfort of bandage, ability to perform activities and limb mobility was completed by the patient. Limb volumes were taken by the nurse.

Results / Discussion: Comfort on Day 1 = 4, reducing to 1 on Day 8. Ability to perform activities Day 1 = 2 reducing to 0 on Day 8; limb mobility Day 1 = 1 reducing to 0 on Day 8. The patient has experienced other systems in the past and reports ability to do weekly shop, wash hair and bake a cake wearing this system as activities not achieved during previous systems. Limb volume recorded a reduction in excess volume of 55% expressed as a % of initial excess.

Conclusion: This bandage system was comfortable and did not restrict mobility from Day 1 and continued to improve patients experience throughout the duration of the treatment.

*Lohmann & Rauscher Rosidal TCS/ Actico 2C
Aim: This antimicrobial dressing with hydrogel reduces a widespread of bacterial load by combining the antimicrobial action with moist wound management. The hydrogel component is free of preservatives and promotes autolytic debridement in sloughy or partly necrotic wounds. We can present the results of wound healing by using this dressing in the treatment of a variety types of wounds. Every wound case presented has been started with either non-healing, chronic or even more complicated.

Method: We decided to use this dressing to treat several complicated non-healing wounds. We intend to present the four wound-cases we found the most interesting.

- A patient with a chronic leg ulcer with phlebo-lymphoedema,
- A patient showing a non-healing postoperative wound (after breast reconstruction)
- A patient with dehiscent surgical wound (after a surgery for carcinoma vulvae)
- A patient with a leg ulcer complicated by a negative reaction to Silver dressings

Results: The disappearance of clinical signs of infection was accomplished in all cases. There has been a reduction of exudation from the wound, of odour and pain shortly after the beginning of the treatment. Patients also did not complain about pain along the treatment and some of them have withdrawn from their earlier social isolation caused by the previously non-healing wound.

Conclusion: The antimicrobial dressing proved to be very efficient wound cover during the treatment of non-healing patients with complicated wounds with good patient acceptance.

*Cutimed Sorbact Gel
AURICULOPLASTY AFTER A DOG BITE

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Friday, May 15, 2015

E-poster session: Case Studies

**Aim:** To acknowledge the assessment of biting injury in the auricular area and following surgical repair technique. A 9-year-old Caucasian male was referred from regional hospital after the complaint of pain and vascular impairment in the left external ear. He presented with the left pinna bitten of by a dog 7 days before the referral. During the examination of plastic and reconstructive surgeon, left earlobe necrosis and questionable blood supply to the left pinna were observed.

**Method:** Wound site culture was negative and necrectomy of the earlobe under general anesthesia was performed. Defects were covered with local tissue and paraffin dressings with chloramphenicol were applied. With increased visibility of the necrosis zone over the course of treatment, 5 days after the necrectomy, auriculoplasty was performed. During the operation, after the necrectomy and dissection of soft tissue, the cartilage was tucked under the skin and sutured with interrupted 5/0 Polypropylene sutures. Patient received cefazolin after the operation. With surgical wounds healing properly, he was discharged on the fourteenth day.

**Results / Discussion:** Wound was unable to heal properly not until the full removal of necrotic tissue and the approximation of skin defects. Biting character of the injury impaired the ability to assess it successfully.

**Conclusion:** Injuries of tearing or biting mechanism require greater skill while both assessing and repairing the damage.
Getting the Diagnosis Right: Effective Management of Non-Cellulitic Erythema with Inelastic Compression Bandaging

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Friday, May 15, 2015

E-poster session: Case Studies

Aim: This case study describes the management of severe contact dermatitis and chronic oedema with cohesive inelastic compression bandaging. Reflecting on the importance of seeking a differential diagnosis for bilateral erythema.

Method: Patient was referred to the University Hospitals of North Midlands Red Leg Service (RLS).

Presentation:
- Bi-lateral oedema
- Acute erythema
- Heat and pain
- Lymphorrhoea
- No malaise
- Bloods normal

Investigations and differential diagnosis:
- Full holistic assessment
- Photographs shared with online MDT
- Patch testing ordered
- Diagnosis, contact dermatitis

Management:

Lymphorrhoea treatment plan, incorporating:
- Super-absorbent dressings
- Inelastic cohesive compression bandages
- Shared care with community nurses

Results / Discussion: In 10 days:
- Lymphorrhoea stopped
- Pain reduction
- Dramatic oedema reduction
- Skin improvement
- Patient delighted
The RLS was set up to address the drain on resources and impact to the individual associated with inappropriate diagnosis of cellulitis, for those with bilateral leg erythema.

This case highlights the importance of appropriate assessment and diagnosis. Standard treatment for similar presentations, prior to the introduction of the service, frequently involved in patient admission and IV antibiotics due to mis-diagnosis of cellulitis. This prevents the patient from receiving the right treatment at the right time.

For managing chronic oedema, a system that is safe, easy to use and yields rapid results is most favourable. The case also demonstrates efficacy with using a superabsorbent dressing under inelastic compression.

**Conclusion**: Considering a differential diagnosis for bi-lateral erythema is essential. In the absence of cellulitis, the use of inelastic cohesive compression and superabsorbent dressings facilitate oedema reduction and effective lymphorrhoea management.
Aim: To present a senior patient with impaired wound healing ability. A 65-year-old female presented with a non-healing wound on the left calf. 6 weeks before the presentation the patient was injured by a cow at her home. Lacerated wound on the left calf, with skin defect size of 7 x 6 cm, covered with the granulation tissue. Area slightly oedemic. Blood culture revealed very large growth of *S. Aureus* and *β-haemolytic streptococci* - susceptible to penicillin and oxacillin.

Method: Immediately after hospitalization, patient underwent autodermoplasty operation. Wound was washed with antiseptic solutions beforehand. Split-thickness skin graft was harvested from the left shin to completely cover the skin defect. Staples were used for the fixation. Patient continuously received antimicrobial agent therapy based on microbiology laboratory results. She was discharged on the eighth hospital day with the recommendation to continue applying dressings with chloramphenicol for a few days.

Results / Discussion: Patient's wound healing process was impaired primarily by an infection obtained most likely in non-hospital environment. Hospital-acquired infection is unlikely, because of bacteria high susceptibility to antimicrobial agents.

Conclusion: It is important to identify the underlying cause of impaired healing of the wound and deal with it. It becomes even harder task in senior patients.
Aim: To acknowledge the assessment of circular saw injury in the lower extremity and following surgical repair technique a 27-year-old male transferred from regional hospital presented with laceration wound in the left leg. The trauma occurred at work. During the examination of plastic and reconstructive surgeon, 7 cm. wound in the posterolateral aspect of the left calf and paresthesia of dorsal calf area was observed. Patient was unable to dorsiflex the hallux. Blood supply to the foot was intact.

Method: Immediate operation under spinal anesthesia was performed. Long peroneal muscle tendon and peroneal nerve damage diagnosed during the revision. Nerve injury was repaired with interrupted 6/0 Polypropylene sutures and tendon with McClarney 2/0 Polyester sutures. Paraffin and sterile dressings applied. Extremity immobilized at the knee joint with a cast. Systemic antimicrobial therapy was administered both before and after the operation. The patient was also consulted by a neurosurgeon, who stressed the need of neurosurgical repair after 14-21 days.

Results / Discussion: Injury mechanisms with a tendency of tear, in this case circular saw, deforms normal anatomical structures, obscures the view of trauma site and impairs the ability to assess it successfully.

Conclusion: Injuries of tearing mechanism require greater skill while both assessing and repairing the damage.
Aim: This abstract describes how reflection and education has led to service improvement for chronic oedema. A case study demonstrates the impact such improvements on an individual’s quality of life.

Method: With the launch of a new Tissue Viability led leg ulcer service, gaps in service and skill-mix for chronic oedema management became apparent.

In response, 3 clinicians enrolled for an accredited university chronic oedema module to develop knowledge and clinical skills to yield service improvement.

The course supported audit of service provision, further highlighting gaps in service.

The care of Mr. S (age 67), illustrates the impact of the skills obtained on the course.

Medical History:

- CVA
- Obesity
- Diabetes
- Hypertension
- Gout
- Cellulitis (April 14)

Oedema History:

- 15-20 year history of bilateral chronic oedema
- Posterior and anterior left leg ulceration
- Mr S concerned regarding the possibility of amputation

A programme of care was commenced incorporating skin/wound care and cohesive inelastic compression bandaging.

Results / Discussion: Left leg:

Circumference reductions in 15 days:
Dorsum 7.5cm, ankle 13cm, 14cm

Right leg:
Circumference reductions in 6 days:
Dorsum 4cm, ankle 13cm, calf 10cm

Mr S was then measured for made to measure hosiery.

The audit results were presented to the CCG and funding has been obtained to bridge gaps, working jointly with the Lymphoedema service to provide seamless chronic oedema care.

**Conclusion:** Identifying and addressing gaps in service and knowledge has led to improved quality of life for Mr S. Many others will in turn benefit due to changes to care delivery.
[EPS29] ADMINISTRATION OF BISPHOSPHONATES TO OVERCOME BACTERIAL RESISTANCE TO CARBAPENEMS. CLINICAL EXPERIENCE

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¹The Nikiforov Russian Center of Emergency and Radiation Medicine
²St.Petersburg State University

Friday, May 15, 2015
E-poster session: Case Studies

**Aim:** To evaluate the clinical effect of administration of bisphosphonates for the treatment of infections caused by multidrug-resistant Gram-negative microorganisms.

**Method:** Previously published data showed the effectiveness of combined application of subbactericidal concentrations of bisphosphonates and β-lactam antibiotics against multi-resistant Gram-negative organisms in vitro. After permission by the local ethics committee this combination was administered for the treatment of patients in burn ICU. The study included 3 patients with major burns. Strains *Acinetobacter baumannii* (2 cases) and *Pseudomonas aeruginosa* (1 case) resistant to carbapenems have been implicated in infectious processes. Positive cultures were obtained from the blood, wounds, sputum, and urine samples of patients. BONEFOS was used intravenously in a dosage 300 mg per day for 5 day course with IMIPENEM in a dosage of 2000 mg per day. In addition, solution containing BONEFOS and antiseptic Polihexanide was administered topically on the wounds.

**Results / Discussion:** There were no adverse reactions after intravenous and topical administration of bisphosphonates. During therapy with combination of bisphosphonates and carbapenems marked regression of clinical and laboratory signs of infection was achieved: decrease of fever and white blood cell count. Bacteriological examination showed no growth in blood and urine samples. Titer of microorganisms in a sputum decreased from $10^6$ to $10^2$ CFU/ g, in wounds from $10^5$ to $10^1$CFU/g.

**Conclusion:** Promising results achieved in a small cohort of burnt patients in overcoming microbial resistance to carbapenems. Combination of β-lactams with bisphosphonates in subbactericidal concentrations requires further investigations.
Aim: Using case reflection to illustrate how the evaluation of an alternative compression bandage has led to improved clinical outcomes, cost benefits and quality of life.

Method: Elastic compression has commonly been used within the trust to manage venous leg ulceration (VLU). An evaluation of a 2-component inelastic compression kit was conducted, initially with 5 patients, for formulary inclusion.

Indications:
- VLU
- Mild-moderate chronic oedema
- Mixed aetiology disease (under specialist supervision)
Such conditions are common-place on the case-load.

Results / Discussion:

Case study:
- Female, 84
- Leaking Varicose eczema
- VLUs
- General skin fragility
- Chronic oedema
- Reduced mobility
- Management with 3 layer compression, 3x weekly, for years
The patient had lost hope that her legs would improve. Her pain threshold was very low. The DN team were sceptical about using the new system, as it challenged ritualistic use of multi-layer elastic systems.

Results:
- Within 1 week, considerable reduction in oedema
- The patient was more comfortable due to tolerable resting pressures
- The patient is now able to wear her own shoes again
- Staff reported preference to new system due to ease of use
- Within 4 weeks, legs were dry and wounds healed
- Now wearing made to measure flat-knit hosiery
- Cost of nursing input has reduced by 2/3. (3 visits per week down to 1 visit per week for skin care).

All evaluations yielded:

- Quick results
- Ease of use
- Patient comfort
- Reduced cost of care

**Conclusion:** Use of the system has achieved Clinical effectiveness, improved patient experience and cost minimisation in all cases.
Aim: To emphasize the importance of a multidisciplinary dedicated approach.

Method: Presented is a young woman following successful kidney transplantation, suffering from venous hypertension affecting the left arm in which an arterio-venous shunt was present. Symptoms were mild edema and a venous ulcer on the thumb. Symptoms were thought to be caused by a steal phenomenon, therefore the dialysis shunt was surgically excluded. Hereafter there was a dramatic increase of edema causing extreme pain and functional disability. Duplex scan showed total absence of venous run-off in the forearm; proximally there was preexisting occlusion of the brachial veins and distally the cephalic and basilic veins were used in shunt operations. There was no central venous occlusion. A diagnostic venogram proved technically impossible due to absence of access veins. A MRV was not possible due to claustrophobia. Surgical treatment options were deemed lacking. In the following week she developed painful venous ulcers and flexure contractions in the finger joints. With impending amputation a specialized team was formed consisting of a wound specialist, fysiotherapist, vascular surgeon, pain specialist and compression therapy specialist. She was intensively treated with compression therapy, elevation of the arm and daily physiotherapy.

Results / Discussion: With a combination of special wound dressings, compression gloves, taping of the arm and hyperbaric oxygen therapy the edema was successfully treated, the wounds healed and functionality of the arm was preserved.

Conclusion: This case presentation illustrates that limb threatening venous edema of the upper extremity is very challenging and should be treated using a dedicated multidisciplinary approach.
Aim: Demonstrate that the use of recombinant human epidermal growth factor is efficient wound closure by secondary intention.

Method: We studied the case of a male patient who suffered bite of spider in pelvic member right, presenting two weeks later necrotic injury 8 cm in diameter. We evaluated the degree of affection of soft tissue in the leg and conducted surgical debridement with subsequent treatment recombinant human epidermal growth factor through intrallesional infiltrations two times per week, with evaluation of the size and characteristics of the wound bed.

Results / Discussion: The wound only required in total five applications of recombinant human epidermal growth factor at doses of 0.5 ml with a frequency of less than that prescribed by literature, for period of three weeks; showing an adequate evolution of the wound with respect to the formation of granulation tissue.

Conclusion: The treatment with recombinant human epidermal growth factor of a wound for bite of spider proved to be efficient in the formation of granulation tissue in the wound and be a treatment option in the advanced management of wounds. through the dosage of a 5 ml vial divided in dose of 0.5 ml in each implementation the wound require a total of 5 applications in three weeks, demonstrating that should not be necessary the complete administration of the content, nor much less every third day until the total closure of the wound. It can be concluded that the dose-response granulation tissue determines the suspension or continuity of treatment.
**NEGATIVE PRESSURE WOUND THERAPY FOR MATURATION OF DERMAL REGENERATION MATRIX IN THIRD-DEGREE BURN INJURY**

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Friday, May 15, 2015

E-poster session: Case Studies

**Aim:** Burn injury is a very complex trauma with high morbidity and mortality that affects more than one million patients worldwide every year. The initial treatment of burned patients with volume reposition, excision and early grafting of the wound has resulted in a great impact increasing the survival rates of these patients. The purpose of this study is to report a clinical case of a patient with third-degree burn injury in whom Negative Pressure Wound Therapy (NPWT) was used associated with a system* in order to stabilize the contact between skin graft and the receptor area, to stimulate the neovascularization and control the moisture in the wound area.

**Method:** This case report was conducted with voluntary informed consent in a Brazilian hospital from August 27 to September 15, 2014, in a male patient, 33 years-old, victim of fire causing a third-degree burn injury on neck area. The neck area wound was covered with the dressing* and NPWT dressing according to the standard procedures. NPWT dressings were changed every 5 days for 2 weeks with the pump pressure of 60mmHg. A skin graft was then laid on the wound with a system*, and NPWT was maintained for 5 more days with pump pressure of 80mmHg.

**Results / Discussion:** Integration of the system* and incorporation of the skin graft were observed in the performed area.

**Conclusion:** The NPWT has promoted a better integration of the system* decreasing the time between the application of the system* and the final grafting.

*Dermal Regeneration Matrix (DRM)
Aim: The aim of this evaluation study was to determine if a gel* can assist with wound healing for the epidermolysis bullosa patients at our clinic and in the Lombardy region.

Method: Patients were treated for 1 month with the gel* and wound photographs were taken to document progress.

Results / Discussion: Seven patients were treated: 4 with the recessive form and 3 the dominant form, 5 male and 2 female with an age range of 3 to 35 years old. The gel was applied daily. In all cases, the gel was well tolerated and there were no adverse side-effects. For 6 of the 7 patients, a significant improvement in wound healing was observed when the gel was used, compared to the period before the trial.

Conclusion: Following this evaluation study, we believe that this gel assists with wound healing in dystrophic epidermolysis bullosa patients and we are recommending that it is made available by the Lombardy Regional health care provider.

*Keratin gel, KeragelT® by Keraplast
Aim: The authors present the case of a young man who developed a skin ulcer after medullar lesion.

Case Report: A 29 year-old man with high cervical lesion developed, over a six-month period, open pressure ulcer lesion in his left-side buttock. The neurological consequences of a swimming pool accident were quadriplegia from C6 down, neurogenic bladder and fecal incontinence. The skin lesion continued to grow, with exudation of clear fluid form and sometimes also blood.

Method: The wound was cleaned with a solution* combined with the application of silver alginate. To achieve a better management of the healing process we decided to combine a low level laser therapy with wound coverings with the solution* and Hyaluronic Acid cream to optimize the tissue regeneration activity. The lasers used were a near infrared 785nm gallium-aluminum-arsenide (GaAlAr) semiconductor laser delivering minimum 25mW/cm² (six lasers diodes) in continuous wave and a near 830nm GaAlAr laser delivering 3 x 33mW per diode in continuous wave. The lasers were applied in the contact mode for 10 to 40 sec per point, irradiating directly over the wound and the intact skin around the periphery of the ulcer. The incidence energy was approximately 2J/cm² or 14J/cm²/10seconds (per diode).

Results / Discussion: The laser therapy after 16 applications, twice a week, resulted in a near-complete resolution of the open wound over a two-month period.

Conclusion: This case illustrates the difficulty of healing chronic wounds. Laser therapy offered a safe and effective course of action as an adjunct therapy associated with satisfactory wound-treatment practices.

*Prontosan®
[EPS36] AN ISRAELI CASE REPORT OF CIVILIAN TELEHEALTH USE IN CONFLICT ZONE

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¹Meuhedet Health Fund; Wound Clinic

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E-poster session: Case Studies

**Aim:** To strengthen the use of telehealth as it is still far from accepted in mainstream medicine, we want through a case report to add our contribution by adding one more piece of conviction it is an accurate, life saving and low cost tool.

**Method:** The Israeli health system is that where every citizen gets the services of the national basket of treatments and provided through 4 health funds. Inside them every doctor entering the computerized patient file has access to all his data, never mind where each is located.

The wound clinic (WC) in Ashdod (A) in south Israel is an internist and vascular medicine doctor (MD) coming from Jerusalem once a week and an Ashdod nurse.

The story is that of a 76 diabetic man with necrotic wound at his left foot. Pulses were weak and he was sent to a doppler. Before the results, rockets poured south Israel, the MD stayed in Jerusalem (80 km from A). Follow up was made by phone and computer report where the doppler results appeared: left superficial femoral artery occlusion - ABI:0.54. Call was made to a vascular surgeon in Kaplan hospital (20 km north of A). Through a fax from Jerusalem to A, the patient was admitted. After an angiogram and a failed angioplasty, a femoro-popliteal bypass was successful. After quickly delivery from hospital and homecare by the WC nurse the wound healed.

**Results / Discussion:** This case report is once more unveiling the worth of telehealth, permitting to handle patient care for the best interest of the patient and the public finance.

**Conclusion:** Mainstream medicine should make its utmost effort to integrate telehealth.
[EP537] NONTUBERCULOUS MYCOBACTERIAL INFECTION RELATED TO NASAL IMPLANT

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Friday, May 15, 2015

E-poster session: Case Studies

**Aim:** Mycobacteria are rarely detected with routine bacterial culture and are often resistant to empiric antibacterial agents. A high index of suspicion during the initial evaluation of lesions is the first and most important step in cutaneous NTM infection control.

**Method:** A 43-year-old female presented with swelling of the forehead. Ten years ago, she underwent augmentation rhinoplasty using silicone implant. In response to the swelling, an incision was made, pus-like discharge was drained, and the nasal silicone implant was removed. Although routine culture and NTM culture showed negative results, NTM polymerase chain reaction (PCR) detected NTM infection.

**Results / Discussion:** After continued clarithromycin medication for three months, the patient recovered without recurrence of infection.

**Conclusion:** Nontuberculous mycobacteria (NTM) are important pathogens for cutaneous infections related to contaminated environments and invasive procedures. The possibility of NTM infection should always be included in differential diagnose, when evaluating skin lesions, regardless of the immune status of the patient.
A CASE STUDY OF THE USE OF DERMATONICS ONCE HEEL BALM IN A PATIENT WITH LYMPHOEDEMA.

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Friday, May 15, 2015

E-poster session: Case Studies

**Aim:** To assess whether a balm* is an effective treatment for dry cracked heels in the care of patients with Lymphoedema.

**Method:** A 34 year old female primary Lymphoedema patient with a history of asthma, personality disorder and self-harm was seen in the Lymphoedema clinic. Current medication included Sodium Valoprate and Duloxetrine. On examination both heels were extremely dry with cracks noted. Using the Young Townson (2014) FootSkin Hydration Scale she was a level 4. The patient was currently using a balm** twice daily. The balm* was recommended to be used once a day to the dry cracked areas which her carers would assist her to apply.

**Results / Discussion:** Patient and Carer Feedback:

- “Absolutely fantastic”
- “Like a miracle cream”
- “Easy to apply, no redness or skin reactions occurred”
- “Left heel no cracks present just slight dryness”
- “Right heel – which was worse than the left now has a lot less cracks and dryness”

Patient went from FootSkin Hydration Scale level 4 to level 2 in 3 weeks

**Conclusion:** The balm* is an effective treatment for dry cracked heels and not only is it useful for the care of patients with Diabetes, but also can be used as part of a skincare regime for Lymphoedema patients. Further research would be needed to make this single case study representative.

*Dermatonics Once Heel Balm
**Flexitol heel balm
[EP539] RECONSTRUCTION OF LARGE WOUNDS USING A COMBINATION OF NPWT AND PUNCH SKIN GRAFTS

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E-poster session: Case Studies

**Aim:** The objective of this study was to evaluate the efficacy of a combination of NPWT and punch skin grafts in the reconstruction of large wounds.

**Method:** This study is a retrospective review of 9 patients, who were treated using the combination treatment during the period of Oct. 2013 and Apr. 2014.

**Results / Discussion:** Of the 9 cases, 8 were the result of melanoma wide excision and 1 was a nonhealing wound after a fracture surgery. Mean patient age was 58 years (range, 32~82). Mean period of NPWT was 22.5 days before skin graft and 13.6 days after skin graft. Among the 9 cases, sole was the most common location of the wound (4 cases) followed by heel (2 cases), right 5th toe (1 case), left popliteal fossa (1 case) and right shin (1 case). NPWT induced rapid growth of granulation tissue and seemed to facilitate graft take and survival.

**Conclusion:** A combination treatment of NPWT and punch skin graft can be a viable option to treat large wounds. The resulting scar is much smaller than the size of the wound due to contraction and also cosmetically and functionally superior to the wound treated by other methods.

Key words: Large wound, Negative Pressure Wound Therapy (NPWT), Punch skin grafts.
Aim: A case study to assess the efficacy of a dressing* in the management of radiotherapy induced skin changes.

Method: A 76 year old patient with malignant neoplasm of unknown primary, mitral valve disease, gout, atrial fibrillation and chronic obstructive airways disease. He underwent neck dissection and 30# fractions of radiotherapy 6 weeks, after which he experienced erythema and moist desquamation to the right supraclavicular area. He went onto develop methicillin resistant Staphylococcus Aureus (MRSA) in the wounds and was self- treating the area with a topical antiseptic cream. The patient was advised to wash the area daily with a simple soap substitute and moisturise the surrounding skin with an ointment to hydrate the skin. The small broken area of skin which measured approximately 7cm x 5cm was then dressed with a dressing* 10 x 10cm and the patient was given a cotton vest style garment with a polo neck to hold the dressing in place.

Results / Discussion: At his review appointment 4 weeks later the area had significantly improved, with no visible erythema, and a wound reduction of 5 x 5cm and as the skin around the wound had improved, an adhesive 5 x 5cm dressing* could now be used. The patient was delighted with the results and stated that the whole area was much less painful.

Conclusion: The advantages of using a dressing* for the treatment of patients presenting with radiotherapy-induced skin damage has been shown in this case study to be beneficial. The ability of the dressing to facilitate wound cleansing, prevent the wound from drying out and absorb any exudate as well as promoting comfort makes it an excellent choice.

*PolyMem®
Aim: Open Thoracic Window (OTW) is a simple and safe procedure for high-risk patients which results in quick detoxication and is vital for the evacuation of toxic material. Our aim was to:

- Understand the roles of surgical drainage, lavage techniques, debridement via VATS, decortication, thoracoplasty and open window Thoracotomy play in the diagnostic stages and long term treatment
- Deliver safe and effective wound management
- Ensure that the patient and clinicians have a good understanding regarding the complexity and long term goals of the condition

Method:

- Drainage, different evacuation techniques, decortication, thoracoplasty and open window Thoracotomy
- Use of antibiotics for confirmed osteomyelitis and initial empyema culture
- Lung function recovery
- Patient psychological management.

Results / Discussion:

- Local control of the infection and control of sepsis were satisfactory using both therapies
- The suction used during NPWT did not create any air leaks or bleeding from the lung or mediastinal structures
- NPWT allowed a reduction of the empyema cavity, improved the re-expansion of the residual lung resulting in rapid eradication of the empyema
- Pleural empyema was not detected at the 3-month follow-up appointment

Conclusion: Post pneumonic empyema is the most common form of empyema and is still recognised as a major cause of morbidity and prolonged hospital stay. The use of NPWT and MDT with the abdication of an open thoracic window offers rapid treatment for complex pleural empyema with minimal surgical effort and the opportunity for a primary closure.
Aim: There are increased costs to both Clinician time and dressing resources with the highly exuding wound as they often have a higher need for costly dressing changes*. Therefore, it is of paramount importance that the health care practitioner understands the fluid-management capability of dressings used in order to establish and maintain an appropriate moisture balance of the wound through appropriate dressing choice. Similarly, through appropriate dressing choice, risk of damage to the healthy tissues through increased moisture levels is reduced and more cost-effective treatment plans can be implemented.

Method: This study reports on the clinical effectiveness of a superabsorbent foam silicone adhesive dressing. The product was evaluated with 12 Subjects over 2 cohorts, all who were patients at the Wound Healing Centre (WHC), Eastbourne. The evaluations took place over a 2 week period in the 1st cohort and a 4 week period in the 2nd cohort.

Results / Discussion: The dressing successfully absorbed and retained excess exudate to promote an optimal wound healing environment, even when used beneath compression bandaging. One Subject was removed early from the study as the wound had made significant progress. There was a pronounced benefit for the peri-wound condition when using the dressing. Several Subjects using the dressing with hosiery, were able to have showers with the dressing in situ and reported very good results.

Conclusion: The superabsorbent foam silicone adhesive dressing exhibited characteristics to promote an optimal wound healing environment, even when used beneath compression bandaging.

Aim: This case study demonstrates the effectiveness of collaborative working throughout a patient’s journey

Method: Mrs X was an 89 year old lady with a fungating breast tumour. In acute care she developed a Grade III pressure ulcer (EPUAP) on her left heel. Mrs X was discharged to a nursing home as she was not capable to go home. A referral was made to TVN for wound assessment. Assessment was undertaken, realisation that healing was not an option, care planning was patient-focused and concentrated on the patient’s quality of life. Considerations of the patients concerns were identified. Namely extreme pain in her heel and the restrictions this placed on mobility. A collaborative treatment plan was established between TVN, Podiatry and Patient. Intensive treatment occurred using an appropriate wound dressing and a heel cast manufactured. The patient was reviewed weekly and monitored by care home staff between visits.

Results / Discussion: After 1 week in the heel cast there was significant improvement in pain. Mobilising without discomfort, promoting independence in the final stages of her life. Wound remained unchanged until she passed.

Conclusion: Collaborative working during this patient’s journey improved quality of life as pain was significantly reduced. Working as a close team and understanding other’s skills as a TVN and podiatrist was paramount to this patient’s care. Although healing of the wound was not achieved this was a successful outcome for this individual. She stated the relief she felt since application of the heel cast. After taking the patients concerns and medical condition into account, it was not about healing the wound but optimising the wellbeing of the patient at that time.
Aim: This abstract will demonstrate how incorporating a new antimicrobial dressing has greatly enhanced quality of life for an 84 year old female with static ulceration due to Pyoderma Gangrenosum.

As the underlying pyoderma couldn’t be treated systemically initially due to diagnostics for suspected osteomyelitis, emphasis was on managing the wound symptoms rather than healing.

Method: A case study approach was used with the following identified as the key clinical issues;

- Very heavy exudate requiring once to twice daily dressing changes
- Blistering to peri-wound skin
- High levels of malodour
- Extreme pain at dressing changes

Biofilm was suspected due to an unhealthy dull wound with a “sheen” on the surface, copious slough and culture negative wound swabs. A care plan was commenced to address the clinical issues, with the overriding aim being improving quality of life, as the patient had become increasingly withdrawn and depressed.

Results / Discussion: No strikethrough was observed 24 hours after the dressing was first applied, within 4 days dressing changes were reduced to alternate days. This was further reduced to three times weekly two weeks later. Pain levels had reduced significantly so dressing changes were no longer feared. Reduction in malodour allowed the patient to feel confident about having visitors again.

Conclusion: Identifying a suspected biofilm within this wound and treating accordingly greatly improved this patient’s sense of wellbeing in a complex challenging wound. Systemic treatment has now been able to commence and this together with the anti-biofilm Hydrofiber dressing is moving this wound towards healing.
[EPS46] IMPROVING HEALING OUTCOMES AND QUALITY OF LIFE WITH A NEW ANTI-BIOFILM, ANTIMICROBIAL DRESSING

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E-poster session: Case Studies

Aim: This abstract will demonstrate how an effective management plan incorporating a new antimicrobial Hydrofiber dressing with components effective against biofilm helped to improve quality of life as well as healing outcomes for a 78 year old man living with recurrent bilateral leg ulceration for 32 years.

Method: A case study method was used with the following issues identified:

- Excessive exudate
- Excoriated peri-wound skin
- Static ulceration failing to progress

Biofilm was suspected due to a shiny film over the wound bed and the static nature of the ulcers. Multiple antibiotic courses had failed to have a significant impact.

A plan of care was commenced with the aims of managing exudate, improving peri-wound skin and reducing the bioburden at the wound bed.

Results / Discussion:

- From three–four times weekly dressing changes to twice weekly
- Exudate fully managed within the dressing, super-absorbents as a secondary dressing were discontinued two weeks after commencing treatment
- Dressing changes reduced from three–four times weekly to twice weekly
- A move towards healthy peri-wound skin
- Reduction in size and extent of open areas of ulceration

Conclusion: This gentleman felt his leg ulcers were taking over his life as he faced a constant battle with exudate; he had resigned himself to spending the rest of his life with ulceration. By addressing the suspected biofilm, these chronic wounds have moved towards healing.
[EP547] BURNS DUE TO VIOLENCE AGAINST WOMEN: PRESENTATION OF THREE CASES

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E-poster session: Case Studies

**Aim:** In order to draw attention to violence against women, we want to present our three cases, who we have treated in our burn intensive care unit.

**Method:** Data of all female patients, who exposed to attack with caustic agents between January 2013-October 2014, were retrospectively investigated. Age, caustic agents, localization and degree of burns, treatment information, outcomes and psychological status of the patients were analyzed.

**Results/Discussion:** Three patients were included in this study.  
**Case 1** (35-years-old) was burned with gasoline by her husband. She had second- and third-degree burns about 10% TBSA in her face, scalp, both hands and fingers. Following a series of operation including aesthetic surgery, she was discharged after about one month of treatment. Unfortunately, despite all efforts, she has severe burn scars in her face. She lost her job during this period and continues the psychological treatment.  
**Case 2** (26-year-old) was burned with gasoline by her uncle. She had second- and third-degree burns about 45% TBSA in her face, neck, anterior-posterior trunk, both arms and hands. Unfortunately, despite all treatment, she died on day 32 of hospitalization.  
**Case 3** (43-years-old), who was a Syrian refugees, was burned with heated oil by her husband. She had second- and third-degree burns about 12% TBSA in her face, scalp, anterior trunk, both arms and hands. She was discharged after about one month of treatment. Following a series of operation including aesthetic surgery, she was discharged after about one and half month of treatment. She is now in deep depression and continues the psychological treatment.

**Conclusion:** Attack made with caustic agents is one of the most horrible types of violence against women. Although, usually, faces of victims expose caustic agents and they are admitted to the hospital with severe burns on their faces, sometimes, these attacks can be fatal.
Aim: Diabetic Foot Ulcers (DFU) are complex wounds which can affect morbidity, mortality and life quality. The multi-factorial nature of DFU makes them particularly prone to non-healing and infection. Provision of an optimal wound healing environment through effective wound bed preparation (WBP) is vital to achieve wound closure and minimise complications. Maintenance debridement is also required to help sustain the wound in a healing mode. This multi-centre evaluation appraised the ability of a Hydroconductive Debridement Dressing* (HDD) to optimise wound bed conditions of DFU to achieve maintenance debridement and support epithelialisation.

Method: Four patients with sloughy, moderately to highly exuding, non-healing DFU were evaluated. The HDD was applied in 2-3 layers with suitable secondary dressings and appropriate offloading. Wounds were assessed for up to 4 weeks or until the wound bed was adequately prepared.

Results / Discussion: All DFU showed evidence of increased granulation tissue and epithelialisation, demonstrating removal of devitalised tissue and reduction in size. Exudate levels were well-controlled, maintaining integrity of surrounding skin, with no recorded infections. The HDD was reported as comfortable, versatile and easy to use. Growing evidence demonstrates the adverse effects of necrotic, cellular and bacterial burden on the ability of wounds to heal and on the link between effective debridement and healing. HDD provides a straightforward way for all clinicians to address these burdens.

Conclusion: HDD technology is an efficient and simple method of maintaining debridement of DFU, removing barriers to healing, minimising infection risk and encouraging progression through the normal stages of healing.

*Drawtex Hydroconductive Debridement Dressings, Martindale Pharma, UK
Aim: Showing the treatment of the 76 year old patient, with diabetes as well as chronic arterial insufficiency (Fontaine IV), arterial ulcers of the distal third of the right lower leg that are not healing and are progressing over the period of two months prior to the first exam by vascular surgeon.

Method: Following the initial examination of the patient by vascular surgeon MSCT peripheral angiography of the legs was performed. Patient was advised to undertake the operating procedure in order to revascularize the right leg with the goal of healing of the wounds and preservation of the limbs. Following the pre operative treatment, distal femoropopliteal bypass with autogenous ipsilateral GSV was performed. The wounds are dressed with antiseptic* bandages at the clinic. The patient is relieved for home care after 11 days of post operative treatment with recommendation to take oral anticoagulant therapy with regular dressing of the wounds as instructed.

Results / Discussion: After the release from the hospital in September 2013, the wound was treated with a Hydrogel Dressing** and a hydrofibre dressing with silver***. From September of 2013 chronic wound of the right lower leg was, in addition to regular checks by vascular surgeon, dressed with aforementioned products 3 times per week. The result is a complete healing of the wound in April of 2014.

Conclusion: Shown method and treatment flow has proved successful in mentioned patient as confirmed by complete healing of the wounds of the right lower leg and a display of tidy functionality of the completed bypass and functionality of the right leg as well as the absence of wounds of mentioned limb 15 months following the operating procedure.

* Betadin
** Granugel
*** Aquacel Ag
Aim: Care homes are responsible for nursing vulnerable adults at high risk of pressure ulcers (PU). Heel PU are complex wounds which often deteriorate quickly despite intervention, and the decision to debride depends on multiple factors. Current recommendations suggest keeping dry, adherent heel eschar intact, but debridement of wet eschar with slough and tissue fluctuance may be required for wound progression. Clinicians in care homes are rarely trained in sharp debridement and require alternative methods.

Method: Resident with a history of diabetes and stroke developed a highly exuding heel PU during hospital admission with thick devitalised tissue to the wound bed and macerated peri-ulcer skin. The patient reported wound pain which caused aggression during dressing changes. Hydroconductive Debridement Dressings* (HDD) were commenced after 4 months to manage exudate, debride devitalised tissue and decrease wound pain.

Results / Discussion: Necrotic tissue was completely debrided after two days and peri-ulcer skin was improved with no signs of infection. The patient was calm and uncomplaining of pain. HDD continued on alternate days for further debridement and exudate management.

HDD successfully debrided necrotic tissue from a complex heel PU quickly and easily. Other methods of autolytic debridement are generally slow and can increase wound moisture and skin maceration. High exudate levels were effectively managed to promote peri-ulcer skin integrity and wound progression. Pain was reduced, improving patient comfort and well-being.

Conclusion: Hydroconductive debridement is an effective method of debriding necrotic heel PU easily utilised by non-specialist clinicians in environments caring for high risk patients.

*Drawtex Hydroconductive Debridement Dressings, Martindale Pharma, UK
Aim: Effective Wound Bed Preparation (WBP) is the cornerstone of successful wound management\(^1\). Removing barriers to healing provides a wound environment more conducive to healing and addresses patient-centred issues\(^2,3\). Chronic wounds are costly\(^4\) - cost-effective, widely available methods of efficient WBP are paramount to balance healthcare resources with need.

Hydroconductive Debridement Dressings (HDD)* address the four main barriers to healing – devitalised tissue, excess exudate, raised bioburden and harmful proteases\(^1\). Hydroconductive debridement is an efficient method of WBP without the need for specially trained clinicians and/or combination of multiple dressing types\(^1\).

Method: Six patients with moderate to highly exuding lower limb wounds requiring debridement of devitalised tissue were evaluated for 4 weeks, or until sufficient WBP was achieved.

HDD were applied in layers with secondary dressings and compression bandaging when appropriate to secure. Frequency of dressing changes depended on wound condition and exudate levels.

Results / Discussion: All wound beds were quickly debrided of devitalised tissue and exhibited evidence of epithelialisation, with an average reduction in wound size of 46%. Exudate levels and dressing change frequency reduced, and surrounding skin integrity improved. Only one incidence of infection was recorded in an otherwise progressing wound.

WBP was rapidly achieved and healing promoted with HDD. Reduction in dressing change frequency decreases actual dressing cost and nursing time, demonstrating potential cost-effectiveness in times of finite resources.

Conclusion: HDD are a simple and efficient method of achieving rapid WBP through removal of the barriers to healing and promoting epithelialisation of complex lower limb wounds.

*Drawtex Hydroconductive Debridement Dressings, Martindale Pharma, UK
Aim: Braeside House specialises in caring for blind and partially sighted elderly residents. Working within a care home setting brings its own challenges. It is therefore important that wound care dressings are carefully selected to provide a long wear time to minimise the frequency of dressing changes, reduce costs and nursing time and improve patient compliance.

Method: This case study reports on the treatment of a leg ulcer and a skin tear on two partially sighted elderly patients using a thin hydrocolloid dressing. Both patients had a number of co-morbidities and were non-compliant to care. In addition, one had behavioural problems.

Results / Discussion: Case 1 reports the progress of a large skin tear on a patient’s hand. With weekly dressing changes, using a thin hydrocolloid dressing, the wound was fully healed after eight days. Case 2 reports on a long standing hypergranulating leg ulcer treated with a thin hydrocolloid dressing as well as on the patient’s experience. 100% granulation tissue was present after 18 days with two weekly dressing changes.

Conclusion: The patient experience, patient and staff welfare are a crucial part of quality healthcare provision. Having a dressing that was discreet, comfortable and secure with a long wear time allowed higher compliance to care, and fewer changes leading to less distress for the resident and staff along with reduced dressings costs. The dressing proved clinically effective and wounds showed good progression or healing.
[EP553] USING WOUND BED PREPARATION TO MANAGEMENT SERIOUS PEMPHIGUS VULGARIS WOUND: THREE CASE STUDIES

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E-poster session: Case Studies

Aim: We present three patients with serious pemphigus vulgaris (PV) wound. All of them had typical clinical symptoms. Full improving was achieved within two weeks in PV treated using the principles of the wound bed preparation -TIME paradigm. This concept appears to provide a structured and systematic approach for managing hard to heal wounds.

Method: The study will involve research in three case study each of which was successful heal serious PV wound. Tissue management: The wound bed was cleansed with 0.9% warm saline before dressing application. Gauze was directly applied to absorb the saline on the periwound. Infection and inflammation control - metronidazole gel, applied directly to the wound surface, and a soft silicone foam dressing* as the primary dressing. Moisture balance: A soft silicone foam dressing* was therefore applied as a primary dressing that to absorb the exudate and maintain a reasonable moisture level on the wound surface during the initial care period. Protect wound edges- we washed the unclean surrounding skin, followed by a barrier film.

Results / Discussion: Over two weeks, reduce the wound exudates, malodour, improve wound bed granular tissue and the patient’s physical well-being improved greatly.

Conclusion: The case study contributes to nursing knowledge for professionals who care for patients with PV.

*Safetac
Objectives

• Healing of ulcers.
• Prevention of emergence of new ulcers.

Methodology

We report the case of a woman of 87 years old, that was admitted in our unit in March 2014 for heel pressure ulcer on left foot and outer lateral area Category IV, and two months duration.

Medical history: hypertension, diabetes mellitus type II and primary disorder of gait freezing rate of about 5 years of evolution and immobility syndrome set for 2 months.

Postural changes, hygiene and skin hydration, dietary supplements and use of special surfaces pressure management: prevention measures are taken.

Results

UPP heel:
Dimensions 8x10cm. Presents with slough and necrotic tissue by enzymatic debridement which requires dressing ointment + hydro-desloughing fibers every 48 hours. After 30 days, she presents slough tissue and serious exudate. After 60 days, it has decreased slough tissue and appearance of granulation tissue. We began healing with polyurethane foam dressing. After 5 months the ulcer is healed.

External lateral UPP:
Dimensions 3x12cm. Presents necrotic tissue and slough tissue. We started with enzymatic debriding ointment + dressing hydro-desloughing fibers every 48 hours. After 30 days Signs and symptoms of infection, we conducted crop. The result is positive for MRSA. Treatment with intravenous Amoxi-clavulanic + Ciprofloxacin. We began healing with silver dressings. At 30 days signs of infection have disappeared. Enzymatic applied a dressing ointment +
polyurethane foam every 2 days. At 7 months was almost healed. Follow-risk factors associated with the intervention team.

**Conclusions**

- Periodic assessment of the ulcer for nursing was key to determining the evolutionary changes and the adaptation to these changes cures.
- Conducting crops to significant changes and written and photographic record of ulcers were an ideal instrument for treating, monitoring and evaluation of results.
- For the good performance of the UPP was necessary the teamwork.