Abstracts

WUWHS Consensus and Clinical Recommendations on Wound Balance

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INTRODUCING WORLD UNION OF WOUND HEALING SOCIETIES CONSENSUS ON IMPLEMENTING WOUND BALANCE: OUTCOMES AND RECOMMENDATIONS

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Abstract

There is a significant need to proactively address the projected rise of non-healing wounds by earlier intervention, resource optimisation and patient-centred care.

The concept of 'Wound Balance' is addressing these unmet needs and aims to create a holistic picture of the patient and their wound so clinicians can achieve a balance between the many facets of wound care planning and achievable goals. Most people with chronic wounds receive their treatment in either community or nursing/home-care settings.

Following the findings from a global network of wound care clinicians who have implemented Wound Balance in their clinical settings for a variety of wound etiologies, WUWHS Consensus Document aims to provide practical tips and actionable insights for wound care clinicians around the world in implementing and achieving Wound Balance outcomes for their patients. The WUWHS recommendations are equally applicable to all wound care practitioners in all clinical settings, including podiatrists, vascular specialists, general physicians and acute care clinicians.

TRANSLATING THE SCIENCE OF UNBALANCED WOUND BIOMARKERS INTO VISIBLE CLINICAL SIGNS TO RECOGNIZE THE RED FLAGS IN NON-HEALING WOUNDS

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Abstract

Healthcare professionals are confronted with challenges in predicting the wound healing trajectory and in identifying patients at risk to develop non-healing wounds. An understanding of wound healing biomarkers can help achieve Wound Balance by combining molecular-level information with the clinicians' experience and their ability to recognize red flags for non-progressive healing, guiding treatment decisions, and promoting early treatment measures.

Despite the lack of simple methods to directly quantify the biomarkers in the daily practice, clinicians can effectively evaluate the local signs implying disbalance of biomarkers through assessments of wound bed, levels of exudate, slough, pain, malodour, etc. An excess or a lack of wound biomarkers often manifest as persistent inflammation, elevated protease activity, reduced growth factor activity, and impaired cellular proliferation and migration.

These imbalances contribute to the local signs of non-healing, including prolonged inflammation, excessive breakdown of tissue, and an inability to form new tissue. Through these, clinicians can diagnose a stagnated wound healing and implement a shift to the healing trajectory by rebalancing wound biomarkers.

Wound Balance explain early intervention solutions to reverse the negative effects of wound inhibitors and prevent the wound to become chronic.

CLINICAL PREVENTION OF INFECTIOUS RISK IN WOUND MANAGEMENT: A GERIATRIC PERSPECTIVE

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Abstract

Advancing age increases the prevalence of wounds.

The concept of wound balance is a reminder of the need for a global and exhaustive vision of the patient and his or her wound, in all circumstances, for our patients, particularly the elderly or very old, with the aim of reducing the prevalence of wound occurrence, as well as proposing, once the wound is present, the earliest possible global management to optimize the chances of healing.

Prevention is a key word in geriatrics. Prevention rather than cure...

In a context of frailty, or even dependence, linked to the polypathology presented by the patient, the time for prevention retains all its meaning, while wounds may nevertheless occur, requiring the earliest possible care.

The concept of Wound Balance proposes a strategy based on preventing or reducing the risk of infection in patients who are more vulnerable to these complications, which are obviously a source of delayed healing.

Clinical diagnosis is the cornerstone of wound management, involving a comprehensive, in-depth assessment of both the patient (comorbidities, degree of loss of autonomy, psychological and social status, etc.) and the wound (tissue quality, degree of exudate, presence of signs of local inflammation, condition of the periwound skin, etc.).

SAP dressings offer an interesting, targeted therapeutic approach, absorbing excess exudate, sequestering wound healing inhibitors, promoting autolytic debridement and restoring a microenvironment favorable to wound healing.

Their use is therefore particularly relevant in frail or dependent elderly patients.

This presentation will be illustrated by clinical cases demonstrating the impact of an intervention aimed at reducing the risk of wound infection and optimizing healing capacity, on both acute and chronic wounds.

WOUND BALANCE: YOU CAN DO IT, PUT AN SAP ONTO IT!

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Introduction
Chronic wounds represent a significant healthcare burden, impacting patient quality of life and imposing substantial economic costs. Effective wound management is crucial for promoting healing and preventing complications. Superabsorbent polymers (SAPs) have emerged as a promising technology in wound care, offering unique properties that contribute to a balanced wound environment. This session explores the application of SAPs in complex wound management, connecting their mechanisms of action to associated clinical implications.

Methods
This presentation will feature a clinical exemplar demonstrating the efficacy of achieving "Wound Balance" through strategic exudate management with SAPs, guided by the BIOMES screening tool. In this case, a patient presenting with a heavily exudating chronic venous leg ulcer, initially challenging to manage due to periwound maceration and persistent inflammation (high moisture and oedema scores on BIOMES), showed remarkable improvement. The consistent use of SAP dressings allowed for undisturbed wound healing, inflammation mitigation, healthy periwound skin, and most importantly patient comfort and safety.

Results
SAPs are highly effective in managing wound exudate by rapidly absorbing and retaining large volumes of fluid, even under compression. This capability helps prevent periwound maceration, reduces the risk of infection, and maintains an optimal moist wound healing environment. Studies indicate that dressings incorporating SAPs contribute to reduced dressing change frequency, improved patient comfort, and accelerated wound closure rates compared to conventional dressings.

Discussion
The ability of SAPs to precisely manage wound exudate is paramount for achieving "wound balance." By preventing both excessive dryness and oversaturation, SAPs facilitate the natural processes of cell proliferation and migration essential for tissue repair. Their role in mitigating bacterial growth through exudate sequestration further supports an environment conducive to healing, potentially reducing the need for systemic antibiotics.

Clinical Relevance
The integration of SAPs into wound care protocols including the BIOMES tool offers a clinically relevant approach to improving outcomes via early advanced treatment and referral for patients with complex wounds. Their effectiveness in exudate management, coupled with benefits such as extended wear time and enhanced patient comfort, makes them a valuable tool for clinicians. Utilizing SAPs can lead to more efficient wound care, reduced healthcare expenditures, and ultimately, a better quality of life for affected individuals.

FROM EPIDEMIOLOGY TO COLLECTIVE RESPONSIBILITY: THE CHALLENGE OF PREVENTING PRESSURE ULCERS

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Abstract
Pressure ulcers are chronic wounds with severe consequences, both physically and emotionally. They can also conduct to death. Patients often perceive them as signs of decay while caregivers may see them as a failure in care, even feeling guilty. They typically result from immobility or aging and significantly limit patients 'autonomy and increase care needs. Avoiding stage 3 is very important because in the literature beyond that the consequences are significantly higher. Updated international evidence-based medicine shows that daily treatments are time-consuming, painful, and costly. Epidemiological studies show a prevalence of around 8% on average in care facilities in France, with large variations depending on the type of population received. Moreover, some patients are discharged with pressure ulcers still present and complex cases demand coordinated pathways across hospital and outpatient care. Ultimately the human cost and the economic cost is very high. Indeed, pressure ulcers can significantly affect quality of life for months and even years.

Yet, in many cases, they can be prevented with early and appropriate care. Many care settings have adopted "zero preventable pressure ulcer" protocols. These wounds are now recognized as avoidable adverse events linked to care quality. Management must be preventive, diagnostic, and therapeutic.

Well-known predictive risk factors include immobility, malnutrition, incontinence. These patients require systematic risk assessment and prevention strategies. Pressure ulcer prevention is focused primarily on the management of external loading on the skin and soft tissues through the use of pressure-redistributing surfaces (adapted mattresses, cushions) and manual repositioning of people at risk of developing pressure ulcers. Additional aspects of pressure ulcer prevention include the management of risk factors that may make skin more vulnerable to tissue-loading microclimate, including preventing contact with urine and feces nutritional support, empowerment of the patient (good skin care).

The use of multi-layer dressings could play a significant role in prevention, particularly for patients at high risk—such as those with severe general health deterioration, fever, or during acute episodes—and for patients with a history of pressure ulcers (recurrent cases). Silicone multi-layer foam dressings have been shown to reduce the incidence of new ulcers by providing cushioning, redistributing pressure, managing microclimate, and protecting fragile skin. (Beekmann 2021,2024). Their prophylactic use on vulnerable anatomical sites (e.g., sacrum, heels) is now recommended in several clinical guidelines, especially during hospitalization or emergency care episodes. The use of SAP dressings for prophylaxis of skin damage was also explored. A US survey of wound nurses specialists (n=12) assessed how clinicians view the performance of multi-layer SAP dressings in wound prophylaxis.The clinicians believed that the SAP dressings were 'helpful', 'worthwhile' and 'protective' for wound prophylaxis (Swoboda, 2024)

IMPLEMENTATION OF WOUND BALANCE THROUGH THE BIOMES℠ FRAMEWORK AND SUPERABSORBENT DRESSINGS TO IMPROVE LOWER EXTREMITY WOUND OUTCOME

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Introduction
A diabetic foot ulcer develops globally every 1.2 seconds, with a limb lost to diabetes-related complications every 20 seconds. Healing barriers such as impaired perfusion, infection, mechanical overloading, excessive exudate, and unmet social needs are red flags to healing, and some of these are frequently overlooked. The Wound Balance framework was created to address these complex healing trajectories by integrating physiological, patient-centered, and clinical practice factors. At its core is the need for early intervention after identifying these red flags of chronicity, and targeted therapy—including protease modulation—to restore the healing trajectory. The BIOMES tool was implemented to operationalize this framework from the point of triage all the way through healing at each point of care.

Methods
The BIOMES℠ Tool is a structured clinical framework assessing:

B— Bloodflow, I— infection, O— Offloading / overloading, M— Metabolic / morbidities, E— Exudate / edema, and S— Social / Economic risk factors. The tool was introduced in hospitals, emergency rooms, and outpatient clinics. Its simplicity allowed use by both providers and caregivers, enhancing cross-setting communication. Following implementation, superabsorbent polymer (SAP) dressings (Zetuvit® Plus and Zetuvit Plus Silicone Border) were adopted to manage moderate-to-high exudate levels, reduce bioburden, and minimize dressing change frequency.

Results
After implementation, a notable improvement in timely wound care referrals and a decrease in lower extremity amputations was observed. Use of SAP dressings supported wound healing through improved exudate management and bioburden sequestration, particularly benefiting patients with limited access to care. The local wound clinics have now adopted these dressings, using these almost exclusively, with their practices having seen the dramatic difference it makes when implementing these dressings in combination with the BIOMES tool. Patient adherence and satisfaction also improved due to ease of use and reduced dressing change burden.

Abstracts

Restoring Wound Healing Trajectory

IN VITRO INVESTIGATION OF HOW A SILICONE SAP DRESSING MODULATES PRO-INFLAMMATORY CYTOKINES

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(Based on Christopher Ball, Colby Taylor, Breno Salgado, Erzsébet Szabóné Révész, Clemens Heller (2025) In vitro evaluation of the capability of a silicone superabsorbent polymer (SAP) dressing to modulate pro-inflammatory cytokines. Wounds International. 16(1): 12-23)

Study/Clinical case series
The right balance of cytokines is essential in the wound healing process. If imbalanced, wound healing is stuck in the inflammatory phase.

Aim
In this study, we compared the protease-modulating activity of a self-adhesive superabsorbent polymer (silicone SAP) silicone dressing with 6 other silicone dressings in vitro.

Medhods
Among the pro-inflammatory cytokines, metalloproteinase (MMP), human neutrophil elastase (HNE) and human calprotein (HCP) were investigated. The dressings were cut into 1x1 cm caterpillars and sprayed with 5 ng/ml MMP, 10000pg/ml HNE or 7000 pg/ml HCP. After 24 h incubation, the dressing was removed, the protein remaining in the test wells was extracted and quantified by enzyme-linked immunosorbent assay (ELISA).

Results
The silicone SAP dressing was able to modulate MMP 100%, HNE 99.99% and HCP 85.43%. For the other 6 dressings, this ratio was much weaker for the target proteins.

Conclusion
In this study, it was shown that the silicone SAP dressing has a greater protein modulating effect compared to the group of alternative dressings currently available.

TREATMENT OF PATIENTS WITH MODERATELY TO HIGHLY EXUDATING NON HEALING WOUNDS USING RESPOSORB SILICONE / SILICONE BORDER: A SINGLE CENTER OBSERVATIONAL STUDY

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Aim
The aim of this study was to obtain data regarding the use of Resposorb Silicone/Border in the treatment of patients with non-healing wounds with moderate to high exudate.

Methods
This study was a single center observational study. The patients included in the study were selected according to whether they required the use of Resposorb Silicone /Border. They were chosen in order to manage moderately to highly exuding non healing wounds.

Results
The primary aim of this study was the evaluation of exudation management in patients with chronic non healing wounds. We assessed a 100% response regarding this particular aspect. Resposorb Silicone /Border improved the wound edge and perilesional skin in over 90% of the cases, also promoting wound contraction. The pain related to the exudate and perilesional skin condition decreased with at least two points on visual analogue pain assessment scale. The dressing was changed every two or three days, but there was a shift to extended wear time, as the exudate control and wound contraction appeared.

Discussion/Conclusion
Resposorb Silicone/Border dressing was successfully used in managing wounds with low healing tendency, with moderate to high exudate. We obtained a beneficial impact on the wound edge, wound bed and perilesional skin. The healing response was positive and progressive.

EXUDATE MANAGEMENT IN WOUND CARE – FROM GUIDELINES TO CLINICAL PRACTIC

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Abstract
Effective exudate management is a critical prerequisite for rapid wound healing. This becomes particularly challenging in highly exuding wounds, especially when located in anatomically difficult areas. A typical example is the diabetic foot ulcer — a common wound type characterized by significant exudate production and a location that places high demands on the quality of wound dressings. These dressings must provide sufficient support for healing, offloading, and at the same time ensure efficient exudate control.

Successful treatment requires accurate assessment of the quantity and quality of exudate, as well as the implementation of international guidelines when selecting appropriate wound dressings.

A superabsorbent dressing with a silicone layer can offer a promising solution in such complex cases and may represent an optimal clinical approach.

THE CRITICAL ROLE OF WOUND CLEANSING: A REFRAMED CLINICAL IMPERATIVE

CONCLUSIONS AND RECOMMENDATIONS OF IIWI CONSENSUS DOCUMENT

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Abstract
Effective wound cleansing remains a key foundation of wound bed preparation, yet there remains variability in practice. The 2025 International Wound Infection Institute (IWII) consensus document reframes cleansing as a therapeutic intervention, emphasising its role in infection prevention, healing optimisation, and holistic patient care.

Focusing on the *2025 IWII* guidance, this session will highlight the importance of cleansing all anatomical zones including wound bed, edge, peri-wound, and surrounding skin using appropriate techniques and solutions.

Hydro Responsive Wound Dressings (HRWDs) will be considered as a practical adjunct to therapeutic cleansing, with discussion on their hydromechanical action, biofilm disruption, and capacity to support Wound Balance. The session will also explore how consistent, effective cleansing strategies contribute to antimicrobial stewardship (AMS) and help mitigate the risks of antimicrobial resistance (AMR) through reduced reliance on systemic and topical antimicrobials.

Learning Outcomes
By the end of this session, participants will:

- Be familiar with key recommendations from the IWII (2025) consensus document
- Understand the role of wound cleansing within the wound healing continuum
- Be able to discuss HRWD application strategies, patient outcomes, and cost-effectiveness
- Explore antimicrobial stewardship and pain management considerations in cleansing protocols

A CASE REPORT TO DEMONSTRATE THE EFFECTIVENESS OF A SAP CONTAINING SILICONE DRESSING IN MANAGING EXUDATE AND HELPING TO IMPROVE OUTCOMES OF CRONIC VENOUS LEG ULCERATION

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Introduction
This case study focuses on venous leg ulceration, the impact on quality of life and implementing evidence-based practice.

Case description
The patient has been known to the vascular service for 2 years with a history of lymphoedema, diabetes and chronic venous leg ulcers.
Following a new episode of venous leg ulceration the patient was reviewed; high exudate levels were noted with maceration and excoriation causing pain. The patient commenced daily dressings of RespoSorb® Silicone and a compression bandage system.
By week 3 significant improvement was demonstrated through reduction in maceration - dressing changes reduced.
By week 7 healing was demonstrated with 100% granulation tissue, dressing changes were further reduced.
At week 11 the wound had almost healed, a compression wrap system commenced while continuing to use RespoSorb® Silicone
The patient reported throughout how comfortable the dressing was, how effective it was at managing exudate and reducing maceration.

Discussion/Conclusion
Lower limb wounds can have a significant impact on quality of life with pain and exudate being highlighted as distressing for patients with chronic leg ulcers (Cunha et al, 2017). Dressings are recognised as the mainstay treatment to manage exudate (WUWHS, 2019) - this study has demonstrated the versatility of using RespoSorb® Silicone under various forms of compression whilst effectively managing exudate.

References
Cunha N, Campos S, Cabete J (2017) Chronic leg ulcers disrupt patients' lives: A study of leg ulcer-related life changes and quality of life. Available from: https://doi.org/10.12968/bjcn.2017.22.Sup9.S30

World Union of Wound Healing Societies (WUWHS) Consensus Document. *Wound exudate: effective assessment and management* Wounds International, 2019. Available from: www.woundsinternational.com

ADVANCING WOUND CARE THROUGH WOUND BALANCE: A COMBINED CLINICAL ANALYSIS OF HydroClean® AND Zetuvit® Plus Silicone Border

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Introduction
Chronic and acute wounds pose major challenges to healthcare systems, affecting clinical outcomes and patient quality of life. Early and effective intervention is crucial to restoring and maintaining a normal healing trajectory. This article series explores the Wound Balance concept, highlighting the use of HydroClean® for wound bed preparation and infection management, and Zetuvit® Plus Silicone Border for maintaining wound balance through exudate and biomarker control.

Aim
To evaluate the clinical effectiveness of HydroClean® in promoting wound bed preparation and the role of Zetuvit® Plus Silicone Border in sustaining wound balance, improving healing outcomes, and enhancing patient quality of life across acute and chronic wound types.

Methods
A qualitative real-world evidence approach was used, reviewing clinical cases from the Middle East involving acute and chronic wounds. Cases included open fractures, ischemic ulcers, Stevens-Johnson syndrome, carbuncles, pediatric burns, and donor site wounds. Outcomes were assessed based on wound progression, infection control, exudate management, biomarker modulation, patient comfort, and quality of life.

Results
HydroClean® facilitated autolytic debridement, infection control, and moisture regulation, enabling transition from chronicity to acute healing. Following wound bed preparation, Zetuvit® Plus Silicone Border effectively maintained wound balance by managing exudate, sequestering harmful proteases (e.g., MMP-2, MMP-9), and protecting periwound skin. Patients reported reduced pain, improved comfort, faster healing, and enhanced mobility. In selected cases, mild pressure application of Zetuvit® Plus Silicone Border controlled hypergranulation.

Conclusion
Combining HydroClean® for early wound bed preparation and Zetuvit® Plus Silicone Border for wound maintenance offers a comprehensive approach to achieving and sustaining wound balance. This strategy optimizes healing trajectories, reduces complications, and improves patient-centred outcomes in both acute and chronic wounds.

Clinical Relevance
The integration of HydroClean® and Zetuvit® Plus Silicone Border into wound care practice supports antimicrobial stewardship, enhances patient engagement, and promotes faster, less traumatic healing, ultimately improving clinical efficiency and patient quality of life.

References
References as per the original articles, available in the main document.

EARLY INTERVENTION OF LEG ULCERS UTILISING WOUND BALANCE, DRESSINGS CONTAINING SUPERABSORBENT POLYACRYLATE POLYMERS & HOSIERY

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Introduction
The increasing burden of hard-to-heal wounds requires early intervention to enhance healing and improve patient quality of life. The 'Wound Balance' framework optimizes healing potential by supporting wound assessment, care planning, and quality of life. Effective lower limb wound management can be achieved with dressings containing superabsorbent polyacrylate polymers (SAPs), such as RespoSorb® Silicone Border, combined with compression hosiery.

Methods
The effectiveness of Wound Balance, RespoSorb®, and compression hosiery was evaluated in 10 patients. Key factors assessed included prior treatment, dressing change frequency, surrounding skin condition, pain, and exudate levels. After treatment implementation, these factors were reassessed to determine the dressing's effectiveness in achieving clinical goals.

Results
Two patients healed within 3 weeks using the Wound Balance framework and RespoSorb® Silicone Border.

- **Patient 1** had Pemphigoid and healed in 7 days with RespoSorb® and Class 2 RAL compression hosiery, reporting improved quality of life and reduced dependency.
- **Patient 2**, with a longstanding venous ulcer, healed by the third week using RespoSorb® and Class 1 RAL compression hosiery, experiencing comfort and confidence in personal care.

Discussion
Early assessment and management of barriers to healing enhance patient outcomes and reduce the risk of stalled wound progression (Garten et al., 2023). Factors inhibiting healing, such as systemic conditions, elevated MMPs, and inactivated growth factors, should be identified and addressed promptly. Timely treatment decisions and care planning facilitate normal wound healing phases, including angiogenesis and epithelial migration (Garten et al., 2023). A holistic and adaptive approach to assessment and care planning is crucial (National Wound Care Strategy Programme [NWCSP], 2023a; 2023b).

Clinical Relevance:
A structured, holistic wound care approach with RespoSorb® and compression hosiery enhances healing, reduces dressing changes, and improves patient autonomy. Early intervention and individualized care optimize healing and patient quality of life.

EARLY IDENTIFICATION AND INTERVENTION IN LOWER EXTREMITY WOUNDS: APPLYING BIOMES℠ AND THE WOUND BALANCE FRAMEWORK TO GUIDE USE OF SAP DRESSINGS

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Aim
To demonstrate how early identification of healing barriers using the BIOMES℠ screening tool (developed by Dr. Brookshier), combined with the principles of the Wound Balance framework, can support timely intervention and optimize dressing strategies—specifically through the use of superabsorbent polymer (SAP) dressings in complex lower extremity wounds.

Case Description
Three patients with highly exudative lower extremity wounds—stemming from venous stasis, graft-versus-host disease, and scleroderma—were retrospectively evaluated. All presented with clinical features consistent with moderate to high BIOMES℠ scores, including infection, metabolic comorbidities, edema, and social limitations. Upon recognition of these risk factors, care plans were adapted to incorporate SAP dressings (Zetuvit® Plus and Zetuvit® Plus Silicone Border), aimed at addressing exudate management, supporting wound bed preparation, and aligning with the patient's broader healing trajectory.

Discussion/Conclusion
The BIOMES℠ tool and Wound Balance framework offer a complementary approach to proactively identify wounds at risk for delayed healing and initiate meaningful early interventions. Across the three cases, SAP dressings reduced dressing change frequency, improved wound conditions, and supported timely progression toward closure. These findings underscore the importance of structured screening and physiologic rebalancing as essential components of wound care, shifting the focus from managing chronic wounds to healing them.

References:
Wounds International. (2022). *Consensus document: Implementing the Wound Balance concept into routine practice worldwide* (XLIT-2989 Rev. 1). World Union of Wound Healing Societies.

Brookshier, T., Swoboda, L., & Rogers, C. (2025). The BIOMES℠ tool: An approach to recognizing wound severity for early intervention and referral to a specialist. Cureus, 17(8), e89352. https://doi.org/10.7759/cureus.89352

OPTIMISING OUTCOMES WITH WOUND BALANCE AND DRESSINGS CONTAINING SUPERABSORBENT POLYACRYLATE POLYMERS IN A CLINICAL SETTING

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Introduction
Hard-to-heal wounds are a growing concern in primary care settings, especially in GP nurse clinics, where early intervention is essential for improving healing outcomes and patient quality of life. The 'Wound Balance' framework supports wound healing by focusing on wound assessment, care planning, and quality of life considerations. This holistic approach can be enhanced with dressings containing superabsorbent polyacrylate polymers (SAPs), like RespoSorb®, which absorb exudate and bind harmful wound inhibitors, such as proteases and microorganisms, creating a healing environment similar to an acute wound and reversing factors that hinder healing.

Methods
The effectiveness of the Wound Balance approach, combined with RespoSorb® dressings, was evaluated in 2 patients within the GP nurse clinic. Key factors assessed included prior treatment history, dressing change frequency, surrounding skin condition, pain levels, and exudate management.

Results
Patient 1: incision and drainage of abscess wound to the mid back to heal by secondary intention. Healed in 2 weeks, reduction in slough, reduction in dressings, wound size and nursing appointments, patient satisfaction.

Patient 2: Dehisced surgical wound to the lower leg post removal of suspected skin cancer. Healed in 3 weeks. Improved wound bed granulation, reduction in slough, adequate exudate management, improved peri wound. Patient satisfaction "really pleased with the results".

Discussion
Early identification and management of barriers to healing are crucial for improving patient outcomes and preventing stalled wound progression (Garten et al., 2023). Barriers such as systemic conditions, elevated MMPs, and inactivated growth factors should be promptly addressed. Timely treatment and care planning facilitate normal wound healing phases, including angiogenesis and epithelial migration (Garten et al., 2023). A holistic and adaptive approach is essential for optimal outcomes (NWCSP, 2023).

Clinical Relevance
In the GP nurse clinic, a structured and holistic approach to wound care using the Wound Balance framework, combined with RespoSorb® dressings, can significantly enhance healing outcomes, reduce dressing changes, and promote patient autonomy in managing their wounds. Early intervention and personalized care are key to optimizing healing and improving patient quality of life.

Abstracts

NPWT Session

SSI AND THEIR TREATMENT: A COMPREHENSIVE APPROACH

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Introduction
Surgical site infections (SSI) are a significant complication in oncological patients due to immunosuppression, malnutrition, and the effects of cancer treatments such as chemotherapy and radiotherapy. These factors impair wound healing, increasing the risk of infections. Oncological patients often undergo major surgeries, which further complicates recovery. The study aimed to assess the incidence of SSI in oncological patients and identify associated risk factors.

Methods
A retrospective analysis was conducted using data from 38,596 hospitalizations at the First Surgical Clinic of FN USA in Brno between 2013 and 2024. Among these, 2,425 patients underwent surgery for oncological diagnoses under general anesthesia. SSI cases were identified and analyzed. Data was extracted from the clinical information system NISstat, and statistical analysis was performed using R software. Hypothesis testing was carried out using Welch's t-test and Pearson's Chi-squared test.

Results
SSI occurred in 201 out of 2,425 oncological surgeries (8.3%). Statistical analysis revealed that an oncological diagnosis was a significant risk factor for the development of SSI ($p < 0.001$). The median length of hospitalization for patients with SSI was 7 days, while the presence of an oncological diagnosis did not significantly impact hospitalization duration. Negative pressure wound therapy (NPWT) was used in 137 patients and was associated with shorter treatment and hospitalization durations.

Discussion/Conclusion
Oncological patients are at higher risk for SSI, and their treatment requires a comprehensive approach, including advanced wound management methods like NPWT. Early detection and appropriate intervention are essential to improving patient outcomes and minimizing healthcare costs

ISSUES IN THE NEGATIVE PRESSURE TREATMENT OF NECROTIZING FASCIITIS

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Aims
Necrotizing fasciitis (FN) is a rare, severe septic soft tissue infection. It most commonly affects the limbs and trunk. It can be caused by monobacterial, polymicrobial, or even fungal infections. The authors describe their experiences with negative pressure treatment of necrotizing fasciitis of the limbs and trunk, and describe the key points of the treatment.

Methods
Four male patients were treated. The average age of the patients was 57.3 years. In two patients, the infection developed in the upper extremities and in two patients in the trunk, lumbar and above the iliac spine. Following the diagnosis, urgent surgical exploration, wide necrosectomy, and fasciotomy were performed. The surgery was supplemented with NPWT. The treatment included broad-spectrum antibiotic therapy. In addition to careful monitoring of the patient (general condition, laboratory tests, secretion management), the sponge was changed every 2-3 days at first and then every 3-5 days. The wounds were gradually narrowed with stitches during the sponge changes.

Results
All patients recovered. In all patients the wound was possible to close primarily, and plastic surgery was not required.

Discussion
Negative pressure therapy is a successful method for the treatment of FN. It is important to carefully monitor the patient's condition during treatment and to gradually reduce the wounds.

STRATEGY FOR MANAGEMENT OF FOOT SOFT TISSUE DEFECT IN CHILDREN

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Introduction
Severe foot trauma in children is often a therapeutic challenge, with many traumas being caused by lawnmowers or crush incidents. Resulting injuries concern soft tissue with soiled wounds and devitalized tissue.
The principal problem is reconstruction and strategy of coverage procedures.
With an experience of more than 20 years, we develop and evaluate an algorithm for strategy of treatment.

Methods
Retrospective study
Main inclusion criteria: severe foot and ankle trauma with soft tissue defect 2001-2023
Minimum follow-up : 2 years
Injury evaluation:
- mechanism
- site of injury
- presence of amputation
- size of soft tissue defect
- tissue exposed (tendon, bone, joint, cartilage)

Surgical treatment: methods of coverage

Results
Surgical treatment on emergency
- Surgical debridement
- Wound wash
- Bone osteosynthesis with wire
- Antibiotic prophylactic
- Primary closure whenever possible
- Negative pressure wound therapy (NPWT)

Discussion/ Conclusions
Application of NPWT early prepare and optimize soft tissue defect.
The indications of secondary coverage are guided by our protocol based on size of the defect, localization, tissue exposed.
Methods of coverage used different plastic procedures such as flaps, artificial dermis, skin graft. Choice of coverage procedure for reconstruction depends of the surgeon preference and the department habit’s.

USE OF NEGATIVE PRESSURE WOUND THERAPY VIVANO TEC IN ACUTE PERITONITIS IN A NEONATE. CASE PRESENTATION AND REVIEW OF THE LITERATURE

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Introduction
Gastro-intestinal malformations is representing a consistent chapter in pediatric surgery, many of them being diagnosed prenatally of immediately after birth. In some cases, they produce early acute complications, like intestinal perforation complicated with septic shock, requiring prompt surgical intervention and intensive care management.

Methods
The authors are presenting the case of a newborn, male, gestational age 39 weeks, birthweight 3100 grams. In the first 24 hours after birth there was a delay in eliminating meconium, being suspected for Hirschsprung's disease. Initial measures of nursing were started but in the 12th day after birth presented signs of acute abdomen and septic shock. He was operated in the same day for extended necrosis of the left colon, with multiple perforations. 72 hours after initial surgery spontaneous opening of the abdominal wound was encountered with evisceration, requiring reintervention. After redo surgery, the decision to use Negative Pressure Wound Therapy Vivano Tec was made. During the first 7 days after redo surgery the negative pressure therapy was used, followed by complete closure of the abdomen.

Results
After the use of two step pressure wound therapy excellent cleaning of the abdominal cavity was obtained, allowing final closure and uneventful outcome of the patient. Six months after closure of the abdominal wall, a pull through of the remnant colon technique was used, to reestablish the intestinal transit.

Discussion
There is still small experience with negative wound therapy in children (1), in treatment of any kind of lesions. In some reports in only 12,4% of patients the NWPT was used for abdominal surgery (2), but in all pediatric population almost 40% were in the 0-1 age group2. Since the first use of VAC system in pediatric population in 2000 (3), there is no protocol in using the NWPT from the initial surgical procedure in treating an acute peritonitis of any kind in newborn. In our case we choose NWPT for a complication of the disease and of the initial surgery.

Clinical relevance
According to the literature review, there is still small experience in using NWPT in newborn and small babies, concerning the negative pressure values and the duration of therapy. More cases are needed to establish a clinical protocol.

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MANAGEMENT OF A YOUNG WOMAN WITH OPEN BILATERAL LOWER LEG AND LUMBOSACRAL FRACTURES FOLLOWING SUICIDE ATTEMPT: A CASE REPORT

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Abstract
A 26-year-old female was transferred from the ICU following a high-energy suicide attempt with resultant open, comminuted bilateral tibia and fibula fractures and lumbosacral spine fracture. Referred initially for bilateral lower limb amputation, she was re-evaluated and met criteria for limb-salvage therapy on the basis of young age and overall stabilization. Surgical management involved radical debridement with excision of dead tissue, intramedullary nailing for fracture stabilization, and application of vacuum-assisted closure (VAC) therapy. Reconstructive flap surgery, as planned, was postponed due to ongoing psychosis and lack of transfer of the patient to psychiatric services. VAC therapy became the mainstay of wound management.

The patient was treated with 6 weeks of hospitalization, with VAC dressing changes and wound care on broad-spectrum antibiotic coverage and protein supplementation on a weekly basis. There was notable granulation and epithelialization. Near complete healing, she was discharged to psychiatric services for ongoing treatment.

Discussion/Conclusion
This case demonstrates the challenge of managing complex orthopedic trauma in the setting of profound psychiatric comorbidity. It emphasizes the value of a multidisciplinary approach between trauma, orthopedic, plastic, and psychiatric services. The decision not to amputate and to pursue functional reconstruction was successful and indicated.

VAC therapy played a crucial role in promoting granulation, controlling infection, and as a temporizing wound modality when definitive surgical procedures were delayed. Its application in the treatment of large contaminated wounds with the additional benefit of psychiatric stabilization is a valuable adjunct in the staged management of these injuries. This case supports the use of VAC therapy in the multidisciplinary management of open bilateral lower limb fractures in psychiatrialy compromised patients.

THE USE OF NPWT IN COMPLICATIONS AFTER RECONSTRUCTIONS WITH THE USE OF SKIN FLAP

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Abstract
Skin flap is a unit of tissue that is transferred from one site of the body (donor site) to another (recipient site) while maintaining its own blood supply. Flap surgery is a subspecialty of plastic and reconstructive surgery. Various types of flaps are performed, and the indications for them are even more diverse. Despite precise surgical technique, various complications of flaps can occur, the treatment of which is very complicated and often long-term. The most common complication of the flap is necrosis and dehiscence with secondary infection. The treatment of these complications requires repeated wound care with debridement, elimination of infection and subsequent secondary closure. The authors present individual cases of the therapeutic use of NPWT for complications after skin flap reconstruction in breast surgery and spondylosurgery. They demonstrate the use of this therapy, tips and tricks, as well as the most common problems that a surgeon may encounter when treating complications of flap surgery.

Keywords
breast cancer surgery; spondylosurgery; musculocutaneous flap, negative-pressure wound therapy; radiointerventional embolization

INTEGRATING NPWT MODALITIES AND MODERN WOUND CARE IN A COMPLEX CASE

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Introduction
This case report presents a complex scenario where multiple types of Negative Pressure Wound Therapy (NPWT), and modern wound dressings were applied. The aim is to highlight the clinical considerations in dressing selection based on wound status.

Case Presentation
The patient, with a history of Crohn's disease and ileocecal resection, developed an abdominal wall hernia. He presented with an incarcerated hernia, resulting extensive soft tissue infection and sepsis. Emergency surgery revealed bowel perforation, extensive infection, and necrosis of the abdominal skin and subcutaneous tissue. Bowel resection with ileoileostomy, hernia repair, and abdominal necrosectomy were performed, and NPWT was initiated due to concerns about skin flap perfusion.

On following dressing changes, wound edge necrosis was observed, leading to further necrosectomy. A week later the patient developed abdominal distension and elevating inflammatory markers, prompting conservative therapy.

On postoperative day 11, enteric leakage from the wound was noted. However, as the patient's condition already improved, we opted for NPWT-assisted management of the low-output enteroatmospheric fistula. Later, a decision was made to operate, as the enteric leakage was deemed an absolute surgical indication. During reoperation, severe adhesions and tissue inflammation prevented bowel mobilization, leading to lavage, drainage, and catheter jejunostomy placement.

The patient was managed in the ICU, continuing NPWT with regular debridement. The abdominal defect gradually epithelialized. HydroTac foam dressing was applied for a month, followed by RespoSorb Silicone for increased exudate. The jejunostomy catheter was removed, and the patient returned to work, using preventive dressing for irritation under the binder.

Conclusion
This case demonstrates the decision-making processes in evolving patient conditions. It suggests the effectiveness of NPWT in managing traditionally surgical indications in subacute settings. It also underscores the importance of proper wound bed preparation and adapting dressing changes to the evolving wound status.

TREATMENT OF A SEVERE CRUSH INJURY OF THE FOOT WITH SKIN AVULSION, MULTIPLE FOOT BONE FRACTURES, USING NEGATIVE PRESSURE WOUND THERAPY, DERMAL MATRIX, AND A PEDICLED FLAP

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Introduction
This case describes a 9-year-old (pedestrian) patient who sustained a severe crush injury to her foot after being hit by a truck. Severe foot injuries pose a therapeutic challenge, often requiring complex reconstructive interventions to preserve limb function and prevent amputation.

Case Description
The patient was admitted with a extensive crush injury to the foot, including soft tissue defects, multiple foot bone fractures, and complete degloving of the foot. In the initial phase of treatment, negative pressure wound therapy was applied to prepare the soft tissues. Subsequently, the soft tissue and skin defect was covered with a pedicled flap from the contralateral lower leg. A dermal matrix was used for the dorsum and lateral aspect of the foot. After successful engraftment, the flap was detached, and an intermediate-thickness skin graft was placed on the dorsum and lateral aspect of the foot.

Discussion/Conclusion
This case highlights the significant challenges in treating severe crush injuries of the foot in children, necessitating a multi-stage reconstructive approach. The strategic application of dermal matrix and skin grafts provided robust skin coverage, crucial for successful limb salvage. This complex pathway underscores the importance of staged, well-planned interventions to preserve function and prevent amputation in such devastating injuries.

NPWT USE IN LOWER LEG SURGERY

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Abstract

NPWT is primarily used for preventing surgical site infections and promoting wound healing in complex wounds, particularly those resulting from lower limb revascularization procedures. In endovascular surgery NPWT supports healing of venous ulcers as the applied vacuum system helps remove excess fluid and debris and stimulates tissue growth.

In our clinic we are constantly using NPWT with the VivanoTec Pro and this presentation will demonstrate the application on awkwardly located areas, such as ulcerations caused by vascular disease or diabetic foot syndrome, and, as well, how surgical therapies, such as mesh graft transplantation, can be supported by vacuum therapy.

Two critical clinical cases, one of a 65-year-old male patient with a first-time infection of diabetic foot syndrome and deep plantar resection and a second case of an 85-year-old male patient with persistent ulceration of the dorsum of the foot and mesh graft transplantation will confirm the effectiveness of NPWT with VivanoTec Pro.

Conclusion

NPWT improved wound healing and it is considered as optimal treatment for complex leg ulcers and diabetic foot ulcers addressed in vascular surgery departments.

Keywords

Negative pressure wound therapy, diabetic foot ulcer, graft transplantation.

Poster Presentations Overview

› Comparison of different culture results after mesh abdominal wall reconstruction in NPWT treatment

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› Treatment of a retroperitoneal abscess at the site of a pressure ulcer with NPWT

Szabóné Erzsébet Révész[1], Áron Altorjay[1], Valéria Montskó[2], László Hangody[3,4]

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› Negative pressure wound therapy in case of pediatric patients

Gergo Jozsa, Eniko Molnar, Tibor Molnar, Anna Lamberti

Division of Pediatric Surgery, Traumatology and Otorhinolaryngology, Department of Pediatrics, Clinical Complex, University of Pécs, Pécs, Hungary

› Wound Balance concept: A Partnership-based therapy of chronic wounds, with the patient

Britta Steenfatt *Wundzentrum Hamburg e.V, Germany*

› Management of Complications After Abdominal Wall Reconstruction Using Negative Pressure Wound Therapy: A Single-Center, Retrospective Pilot Study

Nóra Suszták[1,2], Gábor Ordasi[1], Gáborné Szabó[1], György Herczeg[1], Miklós Máté PhD[1]

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› Optimizing Wound Healing in Complex Plastic Surgery: A Case Report on the Role of Negative Pressure Wound Therapy in the Treatment of Fournier's Gangrene

Zoltan Klarik *Semmelweis University, Department for Surgery, Transplantation and Gastroenterology*

› Usage of NPWT in obstetric complications – Case Report

Dr. Gábor Tóth-Várady, Dr. Tamás Csabai

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› NPWT therapy options in diabetic food treatment in Hungary. „How to swim against the flood"

Dániel Ádám, Barabás Loránd *Hungary, Észak-budai Szent János Centrumkórház Surgery*

› Managing Gynecological Oncological Postoperative Wounds with Negative Pressure Therapy – Clinical Case Studies

Dr. Judit Kerepesi, Dr. Zoltán Novák *National Institute of Oncology, Hungary*

› Application of NPWT in Severe Fasciitis of Rare Etiology

Gábor Ditrói, Dávid Kovács, Gergely Zádori, Péter Kolozsi, Zsolt Varga, Klaudia Balog, Tamás Felföldi, Csaba Ötvös, Gergely Kóder, Ferenc Győry, Dezső Tóth, Zsolt Szentkereszty

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› Diverse Wound Management in Rehabilitation Practice – Results and Lessons Learnt

M. Fehér, E. Boros, M. Fórián-Szabó, D. Szabó, A. Markotics, P. Farkas, Á. Jancsó, I. Hernáth, P. Cserháti

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COMPARISON OF DIFFERENT CULTURE RESULTS AFTER MESH ABDOMINAL WALL RECONSTRUCTION IN NPWT TREATMENT

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INTRODUCTION

Repair of grade 3 and 4 abdominal hernias is particularly challenging given the potential for infection and the comorbid nature of the patient population. The incorporation of foreign material always carries the potential for infection and hernia recurrence. In the case of suppuration, the chance of hernia recurrence is 6%, whereas if the mesh must be removed, the probability of recurrence is over 30%. In contrast to open wound management, negative pressure therapy is more effective in promoting wound healing and mesh ingrowth.

MATERIAL AND METHODS

In our study, a total of 30 patients underwent mesh abdominal hernia surgery with wound healing between 2015 and 2023. In all cases, wound culture and negative pressure wound treatment were performed. In 15 patients, stick sampling was performed, while in the other 15, stick, sponge and tissue cylinder sampling were performed.

RESULTS

Sponge and tissue roller cultures provided additional information on bacterial load. The negative pressure wound treatment did not require mesh removal.

CONCLUSION

Multi-slide cultures during negative pressure wound treatment also helped in antibiotic selection. Vacuum treatment for mesh removal reduced bacterial load and accelerated the rate of granulation. Hernia recurrence and mesh removal are significantly reduced.

TREATMENT OF A RETROPERITONEAL ABSCESS AT THE SITE OF A PRESSURE ULCER WITH NPWT

Individual Case Report – Poster

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INTRODUCTION

Sacral decubitus ulcers are also associated with ascending infection, which may spread through the sacroiliac fissure to the thoracic cavity. Decubitus ulcers that develop during prolonged bed rest may cause complications months later, regardless of whether the patient has possibly recovered but the sacral wound has not yet healed. The proximity of the anal area, the high degree of mobility restriction, obesity and a weakened immune system are major contributors to the spread of infections.

CASE DESCRIPTION

Case of a 48-year-old, 150 kg male patient admitted to the intensive care unit (ICU) 2 months earlier with advanced pneumonia causing acute respiratory failure. He developed sacral decubitus with prolonged mechanical ventilation and successfully treated pneumonia. He was admitted to surgery two months later with a clinical presentation of acute abdomen. Abdominal CT scan confirmed an ascending infection from sacral decubitus retroperitoneally, which was in transit with m. iliopsoas. Its size vertically extended from the diaphragm to the inguinal flexure, horizontally from the vertebra to the retrocaecal space. After exploration, the wound bed and sacral decubitus were treated with NPWT together, and after 5x treatment the wound was closed. The sacral wound was completely closed.

DISCUSSION

NPWT treatment of retroperitoneal abscess caused by sacral decubitus is highly effective even in extremely obese patients. It helps to eliminate infection, close fistula tracts, heal wounds and reduce the possibility of bacterial infection.

NEGATIVE PRESSURE WOUND THERAPY IN CASE OF PEDIATRIC PATIENTS

Individual Case Report – Poster

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INTRODUCTION

The treatment of complex soft tissue defects, which have different etiologies and occur in various anatomical regions, remains a challenge and requires complex management to this day. In current pediatric surgery and pediatric traumatology, Negative Pressure Wound Therapy (NPWT) is widely used.

CASE DESCRIPTION

(1) A seven-month-old infant who developed extensive skin necrosis on both lower limbs as a result of Meningococcal sepsis. After necrectomy, NPWT was initiated, because of the treatment, a well-granulating wound bed was achieved, and split-thickness skin grafting (STSG) was performed.
(2) The 7-year-old boy with an old burn injury on his right tibia. After necrectomy the NPWT was initiated, and satisfactory granulation of the wound was observed during dressing changes. Following this, STSG was performed.
(3) A 6-year-old girl was injured in a car accident. She was treated for an open fracture of the left tibia, classified as a Grade III injury. The fixation of long bone fractures complicated by soft tissue injuries can be performed using an external fixator and NPWT. The simultaneous use of both methods presents several challenges.
(4) A 12-year-old boy was attacked by a dog and was treated for severe, large soft tissue injuries affecting all four limbs. NPWT can help promote wound closure and granulation of the wound bed.

DISCUSSION / CONCLUSION

NPWT can be effectively used in pediatric wound care with good results. It has numerous indications, playing a significant role both in the surgical preparation of traumatic and pediatric soft tissue defects and in the acceleration of healing for pressure ulcers arising from immobilization.

WOUND BALANCE CONCEPT: A PARTNERSHIP-BASED THERAPY OF CHRONIC WOUNDS, WITH THE PATIENT

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Knowing the patient's wishes and limitations is crucial to achieve a goal and to be successful in the care of people with chronic wounds. Their care is improved when a formulated goal is targeted and pursued through a predetermined and well thought-out path. Wound care professionals walk this path together with the patient.

This is important, hence the patient's personal goal may differ from that of the carer. The focus is not always on healing a wound, rather unpleasant odours and pain are often much more stressful for the patient than the fact that they have a chronic wound. Carers need to be sensitised to this and should support them:
One successful tool for this is the systematic recording of quality of life, for example by using the Wound QoL questionnaire. By asking about various categories, the carer's understanding of the patient's needs and limitations is strengthened.

The path can then be equally walked together and in partnership. This promises success for all, on the one hand for the wound and the patient and on the other for the carer: people with chronic wounds accept the carer's actions better if they know why the actions are necessary. Experience on both sides means that incorrect care can be recognised more quickly and therefore more easily avoided.

A path with clear milestones as sub-goals has the advantage that the patient-care team can continuously review the track and adjust it if necessary. Even on a straightforward and seemingly simple path, there can be unforeseen stumbling blocks that can get wound care off balance. Heavy exudation of the wound, infections or other illnesses of the patient, for example, can lead to setbacks in wound healing.
A review can make it easier to adjust measures and redefine goals.

TAKE-HOME MESSAGES

A clear goal and defined measures are a good basis for keeping the patient-care team and therefore the wound in balance. However, if disruptive factors and delayed wound healing occur, they are quickly recognised and balanced with suitable measures.

MANAGEMENT OF COMPLICATIONS AFTER ABDOMINAL WALL RECONSTRUCTION USING NEGATIVE PRESSURE WOUND THERAPY: A SINGLE-CENTER, RETROSPECTIVE PILOT STUDY

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INTRODUCTION
Serious complications of mesh-based abdominal wall reconstruction include surgical site infection and mesh infection, with reported incidences ranging from 1% to 10%, depending on mesh type, surgical technique, and patient comorbidities. Negative pressure wound therapy (NPWT) is increasingly being utilized as a strategy to preserve the implanted mesh following infection.

METHODS
We conducted a single-center, retrospective pilot study at the Department of General Surgery, South Buda Center Hospital – St. Imre University Teaching Hospital, between 2020 and 2024. The study population included patients who had undergone abdominal wall reconstruction and were readmitted due to wound suppuration or mesh infection. Patient comorbidities, details of the primary surgical procedure, and mesh characteristics were analyzed in relation to NPWT outcomes. Primary endpoints included the number of NPWT dressing changes, length of hospital stay, and wound status at discharge and during follow-up. Secondary endpoints were recurrent wound suppuration or mesh infection, and hernia recurrence.

RESULTS
During the study period, 11 patients were included. The cohort consisted mainly of elderly, obese women. The mean number of NPWT dressing changes was 3.0±1.7. In all cases, meshes had initially been implanted in the onlay position. Following wound infection, more than half of the meshes were completely salvaged. After a median hospital stay of 1 month, all patients were discharged with granulating wounds. During follow-up, the majority of patients achieved complete wound healing. One patient required reoperation due to recurrent hernia.

DISCUSSION
Despite the limitation of small sample size, our findings, in line with existing literature, suggest that NPWT may represent an effective salvage strategy for managing wound suppuration and mesh infection after abdominal wall reconstruction, with the potential to preserve the implanted mesh. Larger prospective randomized studies with long-term follow-up are required to confirm these results.

CLINICAL RELEVANCE
We aim to evaluate the use of negative pressure wound therapy (NPWT) as a strategy to preserve implanted mesh following infection.

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OPTIMIZING WOUND HEALING IN COMPLEX PLASTIC SURGERY: A CASE REPORT ON THE ROLE OF NEGATIVE PRESSURE WOUND THERAPY IN THE TREATMENT OF FOURNIER'S GANGRENE

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INTRODUCTION
Fournier's gangrene is a rare but life-threatening necrotizing soft tissue infection that requires prompt surgical debridement and advanced wound management. Negative Pressure Wound Therapy (NPWT) plays a critical role in optimizing wound healing and reducing complications in extensive soft tissue defects. This case report highlights the use of NPWT in the post-debridement management of a patient with Fournier's gangrene.

CASE DESCRIPTION
A 68-year-old male with no known chronic illnesses was admitted on an emergency department due to septic shock secondary to perianal necrotizing soft tissue infection, which extended to the right scrotum and inguinal region. Urgent surgical intervention was performed with extensive necrectomy and the placement of a deviating sigmoideostomy. Initial postoperative management included intensive care support, infection control, and regular wound debridement. Despite serial debridements and standard wound care (irrigation, alginate dressings), the wound showed slow granulation. A plastic surgery consultation recommended the use of NPWT to optimize wound bed preparation before definitive closure. NPWT was applied, resulting in significant granulation tissue formation and improved wound conditions. Following appropriate surgical preparation, defect coverage was achieved using an anterolateral thigh (ALT) musculocutaneous flap, with the donor site closed primarily. Postoperatively, minimal wound edge necrosis was observed, but no major complications occurred. The patient remained afebrile and was mobilized with physiotherapy support. Notably, newly diagnosed diabetes mellitus was identified during hospitalization, requiring medical management.

DISCUSSION / CONCLUSION
NPWT proved to be a valuable adjunct in the management of extensive soft tissue loss following Fournier's gangrene, enhancing granulation tissue formation and expediting wound closure. This case underscores the importance of multimodal treatment approaches, including early surgical debridement, NPWT, and reconstructive plastic surgery, in optimizing outcomes for patients with severe necrotizing infections. Additionally, this case highlights the need for vigilance in identifying underlying conditions, such as diabetes, that may impact wound healing and overall prognosis.

USAGE OF NPWT IN OBSTETRIC COMPLICATIONS – CASE REPORT

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INTRODUCTION

In our department – Borsod-Abaúj-Zemplén County Central Hospital and University Teaching Hospital, Obstetrics and Gynecology Department- everyday usage of NPWT (negative pressure wound therapy) started 4 years ago. The treatment is applied for postoperative infected wounds and increasingly better results have been achieved with it.

CASE DESCRIPTION

In this presentation, the case of a 24-year-old female patient is introduced. Three days after caesarean section, the patient was emitted. On the fifth postoperative day, surgical site inflammation, necrosis and febrile state was detected, which necessitated hospital admission. The surgical consultation recommended conservative surgical treatment. Despite of that, necrectomy and NPWT placement were performed on the next day of admission.
As a result of our treatment, the wound could be closed 10 days after necrectomy, no further follow-up was required. This rapid recovery - considering the extent of surgical site and infection – could not be achieved with conservative treatment.

DISCUSSION / CONCLUSION

Since this case, several successful treatments were performed in our department.
Therefore, the extension of our wound therapy repertoire has started.

NPWT THERAPY OPTIONS IN DIABETIC FOOD TREATMENT IN HUNGARY. „HOW TO SWIM AGAINST THE FLOOD“

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INTRODUCTION

The use of NPWT therapy in the treatment of diabetic foot has become routine. Numerous studies have been conducted on its effectiveness. In Hungary, this therapeutic option is being used more frequently; however, it is still not state-funded, which poses multiple challenges. Its use in primary care largely depends on the persistence of the applicant, the goodwill of senior management, and the generosity of the funding company. In clinical practice in Hungary, approximately one-third of diabetic patients are expected to develop diabetic foot syndrome. According to data from the National Health Insurance Fund, around 15,000 diabetic foot amputations were performed in 2023, while NPWT therapy was applied to less than 10% of affected patients. A Hungarian study suggests that the use of NPWT could reduce the healing time of ulcerative wounds by 40% and decrease the need for amputation by 30%. In this patient population, the use of NPWT could save 120 daily dressing changes nationwide.

METHODS

Presentation of NPWT data in diabetic foot therapy in Hungary,
along with our surgical department‘s experiences and possible solutions.

DISCUSSION / CLINICAL RELEVANCE

According to Hungarian wound care guidelines, NPWT therapy is only applied in hospital care, whereas in Western Europe, outpatient treatment is also available, reducing the length of hospital stays. Home care is not feasible, and NPWT devices are either unavailable or can only be provided to patients with great difficulty. The main obstacles include the high cost (daily use of an NPWT device costs between 15,000–25,000 HUF), funding limitations, inadequate training of healthcare professionals, and regional inequalities in the availability of necessary equipment and care capacity.

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MANAGING GYNECOLOGICAL ONCOLOGICAL POSTOPERATIVE WOUNDS WITH NEGATIVE PRESSURE THERAPY – CLINICAL CASE STUDIES

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INTRODUCTION

Negative pressure wound therapy (NPWT) is crucial for managing complex wounds by promoting blood circulation and tissue oxygenation. This presentation discusses three cases of NPWT use: two following pubic tumor resections and one after inguinal wound healing disturbances following inguino-femoral lymphadenectomy.

METHODS

NPWT was applied in three cases:

1. Case 1

A large pubic tumor resection with V-Y flap led to a rectovaginal fistula and sepsis.
A diverting stoma was placed, and NPWT was initiated.

2. Case 2

After a vulvar excision for Paget's disease, a Singapore flap was used,
and NPWT was applied due to wound healing complications.

3. Case 3

A patient who underwent surgery for a pubic tumor and bilateral inguino-femoral lymphadenectomy experienced significant wound healing complications in the inguinal area. NPWT was applied to promote wound healing and manage the complications.

RESULTS

In **Case 1**, NPWT stabilized the patient and promoted spontaneous fistula closure. **Case 2** showed successful wound healing after NPWT application. In **Case 3**, NPWT facilitated the healing of the inguinal wound and helped resolve the complications following the lymphadenectomy.

DISCUSSION

NPWT effectively managed complications in all three cases. It promoted healing in oncological wounds, including fistulas and tissue defects. Proper NPWT application was key to achieving wound closure and resolving complications.

CLINICAL RELEVANCE

NPWT may accelerate recovery, reduce infection risk, and improve outcomes in oncological wound management, particularly in cases involving complex fistulas, healing disturbances, and inguinal wound complications following lymphadenectomy.

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APPLICATION OF NPWT IN SEVERE FASCIITIS OF RARE ETIOLOGY

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INTRODUCTION

Negative pressure wound therapy (NPWT) offers significant advantages in managing severe infections and complex wounds by reducing bacterial load and promoting granulation. We report a rare case of necrotizing fasciitis secondary to septic microembolization, successfully treated with NPWT.

CASE DESCRIPTION

A 41-year-old male developed right-sided abscessing pneumonia complicated by septic microembolization, causing compartment syndrome in the right lower limb. This led to extensive deep vein thrombosis and pulmonary embolism. The infection extended from the inguinal region to the chest wall. Emergency fasciotomy was performed, followed by NPWT. Postoperatively, the patient was managed in intensive care with antibiotics, antifungal agents, and therapeutic anticoagulation. CT imaging ruled out cranial complications. Multiple bronchoalveolar lavages were required. Inflammatory markers gradually decreased, and anemia was corrected with transfusions. NPWT maintained clean wounds and accelerated granulation. After stabilization, low-molecular-weight heparin was replaced with aspirin. When adequate granulation was achieved, NPWT was discontinued, and primary closure was possible. After complete wound healing physiotherapy was applied. Follow-up chest CT confirmed regression of the pulmonary abscess, and Doppler ultrasound showed venous recanalization. After one year, post-thrombotic syndrome persisted but improved with rehabilitation.

DISCUSSION / CONCLUSION

NPWT proved essential in this multi-morbid patient, facilitating infection control and wound closure while reducing the risk of complications. This case underscores the value of NPWT as part of a multimodal strategy for necrotizing fasciitis, even in rare and complex presentations.

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DIVERSE WOUND MANAGEMENT IN REHABILITATION PRACTICE – RESULTS AND LESSONS LEARNT

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INTRODUCTION

Wound management is a crucial aspect of rehabilitation as wounds often hinder movement therapy. Advances from traditional wound care are essential for rehabilitation professionals, who regularly encounter complex cases.

METHODS

A specialized training programme on smart bandages was conducted at the Semmelweis University Rehabilitation Clinic in collaboration with the Hungarian Rehabilitation Society and Hartmann-Rico Hungary Ltd. Five departments participated each presenting typical patient cases such as:

- **Multi-causal leg ulcer in a lymphoedema patient**
- **Amputation stump healing disorder**
- **Diabetic foot ulcer**
- **Sacral pressure ulcer due to sensory impairment**
- **Septic spinal complication with multiple pressure sores**

The programme included theoretical sessions, bedside observations over five weeks and interdisciplinary discussions.

RESULTS

Participants gained hands-on experience in advanced wound management techniques. The use of smart bandages was found to be beneficial in wound healing, reducing complications and improving patient outcomes. The interdisciplinary approach fostered the exchange of knowledge between professionals. Findings were presented in a scientific forum, reinforcing the importance of continuous education in rehabilitation wound care.

DISCUSSION

The programme enhanced the understanding of modern wound care strategies and facilitated interdisciplinary learning. The practical application of smart bandages improved treatment efficiency and patient care.

CLINICAL RELEVANCE

Modern wound care improves patient outcomes and quality of life. Rehabilitation professionals must keep up to date with advanced techniques to manage complex wounds effectively thus optimizing rehabilitation success.