Translating Wound Care Pathways into Practice

A European Perspective on Lower Extremity Chronic Ulcers

Mölnlycke®

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Contents

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PhD

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Introduction

Chronic wounds impose a considerable financial burden on healthcare systems and pose significant challenges to those healthcare professionals (HCPs) who are tasked with managing them.[1] They also impose a psychological and social burden on patients.[2] With an aging population and the prevalence of diabetes (and other comorbidities) continuing to escalate, the number of patients with chronic wounds looks set to rise substantially. To further compound the problem, there are other factors that impact the burden of chronic wounds including staff shortages (translating to increased patient caseloads for HCPs), the increasing cost of care, and patient access-related challenges (e.g. remote locations, reduced access to care homes, and care facilities with limited access to advanced wound care products and services). Addressing these challenges requires a combination of innovative solutions, interdisciplinary collaboration, and a focus on patient-centred care.

Many chronic lower limb ulcers are associated with excess levels of exudate, with venous leg ulcers (VLUs) often presenting with high levels of exudate. If not managed properly, exudate can leak onto the peri-wound region causing maceration which, in turn, can lead to protracted healing, increased risk of infection and additional demands on health care resources.[3] Exudate leakage and the associated malodour can impact negatively on the well-being of patients and their carers.[4,5] High exudation typically results in the need for frequent dressing changes, which can be stressful for patients.[6] Another issue that impacts negatively on patients with chronic wounds is pain. A large international survey of patients identified pain as one of the most devastating aspects of living with chronic wounds.[7]

This compendium consists of two parts: the first focuses on diabetes-related foot ulcers (DFUs); the second focuses on VLUs. Each part presents a pathway, with reference to clinical guidelines, before offering a guide to selecting appropriate management solutions, and finally presenting case studies.

Patient pathways basically map out who does what, when, and why from the moment a patient develops a medical condition through assessment, treatment, review, escalation and prevention of recurrence. They are widely accepted in the field of wound management because they bring structure, consistency and accountability to a type of care that can otherwise become fragmented and protracted. If chronic wounds such as DFUs and VLUs are not managed in a coordinated matter, then healing is delayed, the risk of complications increases, treatment costs escalate and the quality of life of patients decreases. Adherence to well-designed, evidence-based patient pathways prevents these unwanted consequences from arising.

Mölnlycke partners with HCPs across many care settings to ensure that they have the resources and education they need to feel comfortable when managing wounds. We are united by a common goal to enhance the quality of wound care for patients. Education around best practice is a powerful vehicle to reach this goal. We, therefore, embrace partnership with clinicians and their facilities to shine a spotlight on best practice stories, healing journeys, quality improvements, educational efforts, and other real-world initiatives.

This compendium embraces the value of peer-to-peer sharing and focuses on disseminating real-world evidence (RWE) which has been created by HCPs and includes their experiences and clinical insights on the use of Mepilex® Up. This innovative, highly conformable dressing is intended for use on a wide range of low-to-highly exuding wound types to absorb exudate of both low and high viscosity, while maintaining a moist wound environment and minimising dressing-related trauma and pain at dressing changes.[8] We are delighted that the HCPs agreed to partnering with Mölnlycke to provide this valuable information. The sharing of knowledge and insight in this manner can lead to a better understanding of clinicians' needs and the availability of innovative solutions that can make a difference to patients, HCPs and service providers.

Adopting a RWE approach offers numerous benefits across the healthcare ecosystem, given that not all health care-related evidence has to be driven by large scale randomised controlled trials (or equivalent). RWE can improve the efficiency of wound dressing development by providing insights into the real-world effectiveness and safety of treatments, helping us to create or refine the dressings of the future. By analysing data or user experiences from everyday clinical practice, RWE helps identify which treatments work best for specific patient populations. This personalised approach can lead to better patient outcomes and more effective healthcare interventions. RWE can help healthcare providers and payers better understand the cost-effectiveness of different treatments. This information is crucial for making informed decisions about resource allocation and optimising healthcare spending. Lastly, clinicians can use RWE to make more informed decisions about patient care, tailoring treatments based on real-world data and improving overall healthcare quality.

As an outcome of reading this compendium, we hope to motivate readers to take part in evidence-generating projects and undertake case studies, thus promoting knowledge sharing, to help readers understand the importance of RWE in shaping patient-centred wound care and to encourage readers to reach out to industry partners for educational support.

Paul Chadwick, PhD
Global Medical Affairs Director - Wound Care,
Mölnlycke Health Care

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2. Palomar-Albert, D., Zamora-Ortiz, J., Palomar-Llatas, F., et al. Longitudinal observational study on quality of life in patients with chronic wounds using DLQI and EQ-5D. Medicina (Kaunas) 2025;61(5):907.
3. Mervis, J. The impact of chronic wound exudate on the patient, clinician and payer: addressing the challenges with foam dressings. International Wound Journal 2025;22(Supplement 1):e70369.
4. Jones, J., Robinson, J., Barr, W., Carlisle, C. Impact of exudate and odour from chronic venous leg ulceration. Nursing Standard 2008;22(45):53-54.
5. Gethin, G., Murphy, L., Sezgin, D., et al. Resigning oneself to a life of wound-related odour – a thematic analysis of patient experiences. Journal of Tissue Viability 2023;32(4):460-464.
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8. Lev-Tov, H., Serena, T., Sigal, F., Nygren, E. Bench to bedside evaluation of an innovative, non-bordered foam dressing for use in exudating chronic wounds. International Wound Journal 2025;22(S1):e70414.

Details of the Contributors

Christoph Schicker

PhD

Specialist in General Medicine, Surgery and Emergency Medicine, Medical Centre, Bad Konig, Germany

After working in various renowned clinics across Germany for about 10 years, Dr Schicker decided to work in private practice, using his gained experience to improve patients' lives.

Jane Todhunter

BSc(Hons), MSc

Advanced Vascular Nurse Practitioner and Lead Vascular Nurse, North Cumbria Integrated Care NHS Foundation Trust, Carlisle, United Kingdom

Jane is Lead Vascular Nurse in an acute NHS Trust, running vascular clinics dealing with venous, arterial, lymphatic and complex wound issues. She is passionate in improving leg ulcer care and developed the lower limb pathway for the region. She provides training and education updates in lower limb management for community nurses, practice nurses and the wider team. She is active in vascular research and is principal investigator for portfolio studies. She has authored and co-authored research articles on lower limb issues. Jane is past President of the Society of Vascular Nurses and collaborates with government agencies, academia and industry on projects aimed at driving excellence in peripheral vascular disease.

Jose Luis Lazaro Martinez

DPM, MSc, PhD, FFPM, RCPS (Glasg)

Tenured Professor / Clinical Director / Head of Diabetic Foot Unit / Director of the Diabetic Foot Research Group, Complutense University and Health Research Institute at San Carlos Teaching Hospital, Madrid, Spain

Jose is Full Time Professor at Universidad Complutense de Madrid (UCM), Spain. He is Director of the Diabetic Foot Unit at UCM and leads research groups on diabetic foot at both UCM and the San Carlos Clinical Hospital Research Institute. He holds a Fellowship in Podiatric Surgery from the New York College of Podiatric Medicine and an MSc in Health Research. He serves as Vice-Chairperson of the Diabetic Foot Study Group, Chair of the Diabetic Foot Committee of the European Wound Management Association, and Honorary President of D-Foot International. He is former coordinator of the Diabetic Foot Group of the Spanish Diabetes Society and sits on the editorial boards of *Journal of Clinical Medicine, Frontiers Endocrinology and Diabetic Foot & Ankle*. He has delivered over 400 lectures at national and international congresses and has published more than 205 JCR-indexed articles, supervising 21 PhD theses.

Kerstin Protz

RGN, degree in social and healthcare management (MSG, HWP)

Nurse, lecturer and professional author, healthcare researcher in compression therapy and chronic wounds at the Institute for Health Services Research in Dermatology and Nursing (IVDP), University Medical Center Hamburg-Eppendorf (UKE), Germany

Kerstin is a qualified nurse and worked in a hospital setting for 12 years in the fields of trauma and reconstructive surgery, as well as abdominal and vascular surgery. She then spent seven years working in the home care and medical supplies sector, specialising in chronic wounds. Kerstin has been working as a specialist author in the fields of chronic wounds and compression therapy for over 25 years. In addition to authoring her own specialist book (Modern Wound Care, 11th edition, 2026), she has contributed to numerous educational and specialist books. She has also published numerous articles and scientific papers and has contributed to national and international guidelines. Kerstin currently works as a project manager for wound research at the IVDP, University Medical Center Hamburg-Eppendorf, Germany. She is a board member of the Wundzentrum Hamburg and on the advisory board of the Initiative Chronische Wunden (ICW) and WundDACH as well as on the editorial board of several scientific magazines. Her work currently focuses on the quality of life of people with chronic wounds, those receiving compression therapy, as well as on training specialists in this field.

Kim Whitlock

BSc Adult Nursing, PGDip Wound Healing

Tissue Viability Matron, North Bristol NHS Trust, Bristol, United Kingdom

Kim's nursing career spans both public and private sectors, enriching her leadership with a deep understanding of care provision across diverse settings. From her roles as Community Nurse Lead and Regional Complex Care Nurse to managing a nursing home and a Tissue Viability Matron, she brings a holistic, person-centred approach to clinical practice. Since joining the team at North Bristol NHS Trust, Kim has implemented several pathways to ensure continuity of care for patients across the whole health care system of which this is her passion. This has included the introduction of compression bandaging for inpatients with venous/mixed diseased ulceration. Her previous experience within the social care sector has allowed Kim to forge new pathways to ensure continuity into rehabilitation facilities. This breadth of experience enables her to identify and address inequalities in wound care, champion system wide wound care pathways and continuity across care providers. Kim is currently a member of the editorial board of Wounds UK, Stop the Pressure #4Nations Team, and a council member of The Outstanding Society – South West.

Kirsi Sund

Wound Care Nurse, Wellbeing in South-Karelia, Honkaharju Wellbeing Centre, Imatra, Finland

Kirsi has been a qualified nurse for 29 years. She completed her specialisation studies in wound care in 2021 from LAB University of Applied Sciences. Kirsi has been working with wound care patients since 2016. She has run an independent wound clinic as part of her daily work for 9 years. Kirsi is a member of a local wound care group. She is a wound care expert working in a unit where she is responsible for wound care consultations.

Leanne Atkin

PhD, MHSc (ANP), RGN

Vascular Nurse Consultant / Associate Professor at University of Huddersfield (Huddersfield, United Kingdom) and Mid Yorkshire NHS Teaching Trust (Wakefield, United Kingdom)

Leanne is a Vascular Nurse Consultant and Associate Professor with a joint clinical academic role at the University of Huddersfield and Mid Yorkshire NHS Teaching Trust. She holds a Master's in Advanced Nursing Practice and a PhD focused on peripheral arterial disease. Her clinical and research interests include leg ulcer management, advanced wound care, and vascular disease. Leanne has authored over 120 publications, contributing significantly to evidence-based practice. As a chief and principal investigator, she leads key research studies while advocating for improved lower limb care. She is a core member of the 'Legs Matter' campaign, promoting public awareness, early detection, and better outcomes for patients with lower limb conditions.

Manuel Cruz

Nurse, Masters in Rehabilitation

Coordinator of the Advanced Center for Prevention and Treatment of Leg Ulcers, Policlinica Sanat Columba, Portugal; Guest Professor at the Viseu Higher School of Nursing and Aveiro Higher School of Nursing and Coimbra Higher School of Nursing, Portugal; Independent Consultant in Compression Systems

Manuel has dedicated 20 years of his working life to the prevention and treatment of leg ulcers. He has a particular interest in compression therapy, with a specific focus on the use of compression in patients with arterial pathology. Manuel has authored several national and international publications on the theme of compression. He is President of the Compression Club Board, a non-profit organisation dedicated to the study and promotion of compression therapy and complex wounds, namely leg ulcers.

Details of the Contributors

Peter Kurz

RN, MD

Managing Director, WPM Wund Pflege Management GmbH, Bad Pirawarth, Austria
Secretary General AWA – Austrian Wound Association

Peter is a registered nurse and founder and managing director of WPM Wund Pflege Management GmbH, based in Bad Pirawarth, Austria. Founded in 2009, WPM is a specialised service provider for holistic, evidence-based wound management. The company offers structured wound assessment, therapy planning and care for people with chronic and hard to heal wounds. Care is provided both in specialised wound centres at multiple locations and through home based services. WPM has a strongly practice oriented organisational structure and works with a team of registered nurses holding advanced qualifications in wound management. Modern wound therapy approaches, structured documentation and quality management systems, as well as patient education, are integral components of the care concept. A particular professional focus is placed on person centred wound management, ensuring that individual life circumstances, resources, goals and preferences of patients are systematically integrated into care planning and delivery. The high quality of services is supported by external certifications, including the ICW seal for specialised wound treatment centres. In addition to his entrepreneurial activities, Peter has been actively involved in wound management at national and international level for many years. Since 2023, he has served as Secretary General of the AWA – Austrian Wound Association. He is also active as a speaker, author and lecturer, including within university continuing education programmes and international conferences. His professional focus includes evidence-based, person centred wound care, interdisciplinary care models and the structured implementation of quality and documentation systems in wound management.

Pia Putto

Wound Care Nurse, Wellbeing in South-Karelia, Honkaharju Wellbeing Centre, Imatra, Finland

Pia has been a qualified nurse for 33 years. She completed her specialisation studies in wound care in 2012 from Mikkeli University of Applied Sciences. She has been working with wound care patients since 1992. She has run an independent wound clinic as part of her daily work for 13 years. Pia is a member of a local wound care group. She is a wound care expert working in a unit where she is responsible for wound care consultations.

Prof Paul Chadwick

PhD, MSc (Research), BSc (Hons), FFPM RCPS (glasg), FRCPod (med)

Global Medical Affairs Director, Mölnlycke Health Care, Mölndal, Sweden
Visiting Professor, Birmingham City University, Birmingham, United Kingdom

Paul was appointed Global Medical Affairs Director for Molnlycke Health Care in 2025. He has had a long career as a podiatrist, working as a Consultant in the National Health Service and then latterly as National Clinical Director and subsequent Chief Executive of the Royal College of Podiatry in the United Kingdom. He maintains a clinical role as an honorary consultant podiatrist. He has presented nationally and internationally and published widely in many peer reviewed journals. Previously, Paul was the Chair of Foot in Diabetes U.K. He is on the editorial board of a range of journals and has been appointed associate editor of the Diabetic Foot Journal. He has a Fellowship from the Royal College of Podiatry and was awarded the meritorious award in 2014 for services to the profession. He has also received a Fellowship from the Royal College of Physicians and Surgeons of Glasgow.

Paulo Ramos

CNS, MSc

Nurse Specialist at ULS Póvoa de Varzim/ Vila do Conde – USF Corino de Andrade
Invited Professor at Escola Superior de Enfermagem de Coimbra, Cooperativa de Ensino Superior Politécnico e Universitário, CRL, Universidade Católica Portuguesa, Escola Superior de Saude da Universidade de Aveiro and Escola Superior de Saude de Viseu. Independent wound care consultant.

Specialising in community care, Paulo has over 20 years' experience of working in health care organisations. He started working in the hospital setting and, in the last 14 years, he has been working in community care. His key research interests include: epidemiology, quality of life and burden of wounds. Paulo has authored and co-authored consensus papers and research articles in peer-reviewed journals and presented at numerous national and international conferences. Paulo is currently the Vice-President of the Portuguese Wound Care Association (APTFeridas) and a European Wound Management Association (EWMA) council member and the current Chair of the Education Committee of EWMA. He is also an external consultant to the wound care commission of ULS Póvoa de Varzim/ Via do Conde.

Tracy Bond

RGN

Practice Nurse, Shakespeare Road Medical Practice, Basingstoke, United Kingdom

Tracy is a dedicated and experienced nurse with 42 years of service in healthcare, committed to providing high-quality patient care across a wide range of clinical settings. Throughout her career, Tracy has developed a strong foundation in nursing practice, guided by compassion, professionalism, and a patient-centred approach. For the past 20 years, she has specialised in leg ulcer management and assessment, gaining extensive expertise in wound care, treatment planning, and long-term patient support. Her role has involved working closely with patients to promote healing, improve quality of life, and prevent recurrence, while also collaborating with multidisciplinary teams to ensure the best possible outcomes. Tracy's career reflects a deep commitment to continuous learning, clinical excellence, and supporting both patients and colleagues. She takes prides in making a meaningful difference in people's lives through skilled care, empathy, and dedication to her profession.

Featured Products

Absorbent foam dressings - non-bordered

Mepilex® Up

Composition: Safetac wound contact layer; a dimpled, flexible absorbent pad (compressed polyurethane foam) which helps to spread exudate across its structure in all directions, even working against gravitational forces by means of its capillary action; and a vapour-permeable backing film (polyurethane).

Uses: Highly conformable dressing for use on a wide range of low-to-highly exuding wound types to absorb excess exudate of both low and high viscosity (reducing the risk of maceration), while maintaining a moist wound environment and minimising dressing-related trauma and pain at dressing changes. It can be left in place for several days (depending on the nature and condition of the wound).

Reference: Lev-Tov, H., Serena, T., Sigal, F., Nygren, E. Bench to bedside evaluation of an innovative, non-bordered foam dressing for use in exudating chronic wounds. International Wound Journal 2025;22(S1):e70414.

Mepilex® Ag

Composition: Safetac wound contact layer; a flexible absorbent pad (polyurethane foam) containing silver sulphate and coloured with activated carbon; and a vapour-permeable backing film (polyurethane).

Uses: Highly conformable silver-containing dressing for use on a wide range of low-to-moderately exuding wound types when topical antimicrobial therapy is indicated. The dressing is designed to absorb excess exudate (reducing the risk of maceration), while maintaining a moist wound environment and minimising dressing-related trauma and pain at dressing changes. In the presence of exudate, silver ions are released, inactivating wound-related pathogens. By reducing the number of microorganisms, the dressing may also reduce malodour. It can be left in place for up to seven days, depending on the nature and condition of the wound.

Reference: Truchetet, F., Guibon, O., Meaume, S. Clinicians' rationale for using a sliver dressing: the French OMAg+E observational study. Journal of Wound Care 2012;21(12): 620-625. Durante, CM. Chronic wounds and local malpractice: an antimicrobial silver soft silicone foam can help in solving the problem. Poster presentation at the 3rd Congress of the World Union of Wound Healing Societies, Toronto, Canada, 2008.

Mepilex® Lite

Composition: Safetac wound contact layer; a thin, flexible absorbent pad (polyurethane foam); and a vapour-permeable backing film (polyurethane).

Uses: Highly conformable dressing for use on a wide range of non-to-low exuding wound types to absorb excess exudate (reducing the risk of maceration), while maintaining a moist wound environment and minimising dressing-related trauma and pain at dressing changes. It can be left in place for several days (depending on the nature and condition of the wound). Can also be used to protect compromised/ fragile skin and to prevent skin damage under medical devices.

Reference: Zhang, Y., Xing, S.Z. Treatment of diabetic foot ulcers using Mepilex Lite dressings: a pilot study. Experimental and Clinical Endocrinology and Diabetes 2014;122(4):227-230. White, R. A multinational survey of the assessment of pain when removing dressings. Wounds UK 2008;4(1):14-22.

Mepilex® Border Flex (sold as Mepilex® Border Comfort in the United Kingdom)

Composition: Safetac wound contact layer with a film carrier; a flexible absorbent pad consisting of three layers (polyurethane foam, non-woven spreading layer, and layer with superabsorbent fibres) and a vapour-permeable backing film (polyurethane). The absorbent pad is partly perforated with Flex cut technology (y-shaped cuts) that evenly distribute forces to the dressing's borders which, in turn, supports adherence and conformability while allowing the dressing to stretch (particularly beneficial when applying to joints and other highly mobile areas). The outermost backing film layer includes a pattern of dots that allow the spread of exudate to be tracked without disturbing the wound.

Uses: Highly conformable, self-adhesive dressing for use on a wide range of exuding wound types to absorb excess exudate (reducing the risk of maceration), while maintaining a moist wound environment and minimising dressing-related trauma and pain at dressing changes. It can be left in place for up to seven days (depending on the nature and condition of the wound). Also used as part of a prophylactic regime to help prevent skin damage, e.g. pressure injury, and reduce post-operative bleeding.

Reference: Alvarez, O.M., Granick, M.S., Reyzelman, A., Serena, T. A prospective, randomized, controlled, crossover study comparing three multilayered foam dressings for the management of chronic wounds. Journal of Comparative Effectiveness Research 2021;10(6):481-493. Roldan Valenzuela, A., Galindo Cantillo, V., de Borja Lopez Casanova, F., et al. A wound dressing shows its value: clinical and economic effects of a dressing regime change for primary and home care chronic wound management. Poster presentation at European Wound Management Association Conference, Barcelona, Spain, 2025.

Mepilex® Border Ag

Composition: Safetac wound contact layer; a flexible absorbent pad consisting of three layers (polyurethane foam containing silver sulphate and coloured with activated carbon; non-woven spreading layer, and layer with superabsorbent fibres); and a vapour-permeable backing film (polyurethane).

Uses: Self-adhesive, silver-containing dressing for use on a wide range of medium-to-highly exuding wound types when topical antimicrobial therapy is indicated. The dressing is designed to absorb excess exudate (reducing the risk of maceration), while maintaining a moist wound environment and minimising dressing-related trauma and pain at dressing changes. In the presence of exudate, silver ions are released, inactivating wound-related pathogens. By reducing the number of microorganisms, the dressing may also reduce malodour. It can be left in place for up to seven days (depending on the nature and condition of the wound).

Reference: McCarty, S., Davies, P., Rippon, M. Mepilex Border Ag: an in-market evaluation. Poster presentation at the Wounds UK Conference, Harrogate, United Kingdom, 2013. Philbin, S. Simple solutions for complex wounds of multiple types. Poster presentation at the Annual Symposium on Advanced Wound Care and the Wound Healing Society Meeting, Atlanta, Georgia, United States of America, 2012.

Mepilex® Border Flex Lite (sold as Mepilex® Border Comfort Lite in the United Kingdom)

Composition: Safetac wound contact layer with a film carrier; a flexible absorbent pad consisting of two layers (polyurethane foam and non-woven spreading layer); and a vapour-permeable film (polyurethane) backing. Like Mepilex Border Flex, the absorbent pad is partly perforated with Flex cut technology and the outermost backing film layer includes a pattern of dots for exudate tracking.

Uses: Highly conformable, self-adhesive dressing for use on a wide range of non-to-moderately exuding wound types to absorb excess exudate (reducing the risk of maceration), while maintaining a moist wound environment and minimising dressing-related trauma and pain at dressing changes. It can be left in place for several days (depending on the nature and condition of the wound). Can also be used to protect compromised/fragile skin.

Reference: see Mepilex Border Flex

Featured Products

Gelling fibre dressings

Exufiber®

Composition: Highly absorbent polyvinyl alcohol (PVA) fibres that transform into a gel upon contact with fluid, facilitating moist wound healing and ease of removal. The dressing is based on Hydrolock® technology which enables it to efficiently transfer exudate from the wound bed to a secondary dressing, while locking in exudate to prevent leakage and minimise the risk of maceration. Available both as pad and ribbon dressings.

Uses: Nonwoven dressing for use on a wide range of moderately-to-highly exuding wound types to absorb excess exudate, while maintaining a moist wound environment. It can be left in place for up to seven days (depending on the nature and condition of the wound).

Reference: Chadwick, P., McCardle, J. Exudate management using a gelling fibre dressing. Diabetic Foot Journal 2015;18(1):43-48. Lustig, A., Alves, P., Call, E., Santamaria, N., Gefen, A. The sorptivity and durability of gelling fiber dressings tested in a simulated sacral pressure ulcer system. International Wound Journal 2021;18(2):194-208. Joergensen, B., Blaise, S., Svensson, A-S. A randomised, open label, multicentre, comparative study to compare the efficacy and safety of Exufiber with Aquacel Extra dressings in exuding venous and mixed aetiology leg ulcers. International Wound Journal 2022;19(Supplement 1):22-38.

Exufiber® Ag+

Composition: A variant of Exufiber in which the highly absorbent polyvinyl alcohol (PVA) fibres are coated on both sides with silver sulphate. When in contact with fluid, Exufiber Ag+ releases silver ions which inactivate a variety of wound-related pathogens such as bacteria, fungi and moulds (in vitro studies). By reducing the number of microorganisms, Exufiber Ag+ can prevent and reduce the formation of bacterial biofilm (in vitro and in vivo studies).

Uses: Silver-containing, nonwoven dressing for use on a wide range of moderately-to-highly exuding wound types when topical antimicrobial therapy is indicated. The dressing is designed to absorb excess exudate, while maintaining a moist wound environment. It can be left in place for up to seven days (depending on the nature and condition of the wound).

Reference : Davis, S.C., Li, J., Gil, J., et al. A novel dressing with silver to treat meticillin-resistant Staphylococcus aureus biofilm infection in a pig model. Journal of Wound Care 2019;31(2 North American Supplement):S42-S48. Davis, S.C., Li, J., Gil, J., et al. Preclinical evaluation of a novel silver gelling fiber dressing on Pseudomonas aeruginosa in a porcine wound infection model. Wound Repair and Regeneration 2019;27:360-365.

Superabsorbent dressings

Mextra®

Composition: Nonwoven wound contact layer; an absorbent pad with superabsorbent particles; and a fluid-repellent nonwoven backing material.

Uses: Highly absorbent dressing for use on a wide range of moderately-to-highly exuding wound types. The dressing is designed to absorb and retain exudate (reducing the risk of maceration). The fluid-repellent backing acts as a barrier and prevents exudate strikethrough.

Reference: Davies, P., Fredriksson, J., Wellner, E., et al. International case studies. Management of highly exuding venous leg ulcers: a focus on Mextra Superabsorbent. Wounds International 2021; Supplement:1-17.

Exudate transfer dressings and wound contact layers

Mepilex® Transfer

Composition: Safetac wound contact layer; a flexible absorbent pad (polyurethane foam).

Uses: Highly conformable dressing for use on a wide range of exuding wound types to transfer exudate to secondary absorbent dressings (reducing the risk of maceration), while maintaining a moist wound environment and minimising dressing-related trauma and pain at dressing changes. It can be left in place for several days (depending on the nature and condition of the wound). Can also be used to protect compromised/fragile skin.

Reference: Cunningham, D. Treating venous insufficiency ulcers with a soft silicone dressing. Ostomy Wound Management 2004;50(10):8-10. Meuleneire, F. Management of diabetic foot ulcers using dressings with Safetac: a review of case studies. Wounds UK 2008;4(4):16-30.

Mepilex® Transfer Ag

Composition: Safetac wound contact layer; a flexible absorbent pad (polyurethane foam) containing silver sulphate and coloured with activated carbon.

Uses: Highly conformable silver-containing dressing for use on a wide range of low-to-highly exuding wound types when topical antimicrobial therapy is indicated. It can be left in place for up to 14 days (depending on the nature and condition of the wound). The dressing is designed to transfer exudate to secondary absorbent dressings (reducing the risk of maceration), while maintaining a moist wound environment and minimising dressing-related trauma and pain at dressing changes. In the presence of exudate, silver ions are released, inactivating wound-related pathogens. By reducing the number of microorganisms, the dressing may also reduce malodour.

Reference: Dhatariya, K., Gooday, C., Franke, B., Pilling, T., Flanagan, A., Zeidan, L. An open, non-comparative, multi-centre evaluation of performance and safety using an antimicrobial exudate transfer dressing on diabetic foot ulcers: a case series. Journal of Wound Care 2016;25(5):256-265. Arnold-Long, M. Initial patient outcomes with use of an absorbent antimicrobial soft silicone exudate transfer foam dressing: a case series. Poster presentation at 47th Annual Conference of the Wound Ostomy and Continence Nurses' Society, San Antonio, Texas, United States of America, 2015.

Mepitel® One

Composition: Transparent and flexible polyamide net coated on only one side (wound contact surface) with Safetac.

Uses: Wound contact layer for use on a wide range of exuding wounds. It can be left in place for up to 14 days (depending on the nature and condition of the wound), during which its open mesh structure allows exudate to pass into secondary absorbent dressings that can be changed as required, thereby minimising disturbance to the wound. The open structure also enables topical preparations to be delivered to the wound with Mepitel in place.

Reference: Sanches-Pinto, D.C., Eriksson, E., Gomez, D.S., Nunes, M.P.T., Gemperli, R., Soriano, F.G. Minced skin grafts for chronic wounds compared to conventional mesh grafts. Health Science Report 2023;6(6):e1353. Atkin, L., Fletcher, J., Tickle, J. Managing patients with large, shallow, complex wounds: a case series. Wounds UK; EWMA Special: 2017;42-46.

Featured Products

Wound cleansers and debriders

Granudacyn® Wound Irrigation Solution

Composition: Neutral pH, hypotonic solution containing water, sodium chloride and low concentrations of preservative agents (hypochlorous acid and sodium hypochlorite).

Uses: Facilitates the removal of debris and microorganisms from a wound by the mechanical effect of rinsing. It can also be used to moisten the wound tissue.

Reference: Kramer, A., Dissemond, J., Cuzic, D., et al. Powerful wound cleanser and gel that aid healing. Clinical benefits of Granudacyn. Journal of Wound Care 2020;29 (10 Supplement): S1-S19.

Granudacyn® Wound Gel

Composition: Amorphous gel containing colloidal silicate, water, sodium chloride and low concentrations of preservative agents (hypochlorous acid and sodium hypochlorite).

Uses: For moistening wounds and dressings.

Reference: Kramer, A., Dissemond, J., Cuzic, D., et al. Powerful wound cleanser and gel that aid healing. Clinical benefits of Granudacyn. Journal of Wound Care 2020;29 (10 Supplement): S1-S19.

Mepi™ Debripad

Composition: Microfibre pad

Uses: For the debridement of superficial, chronic, and acute wounds, as well as the surrounding skin. It helps remove devitalised tissue from the wound bed while absorbing exudate and debris during the process. Suitable for use on dry, parchment-like, hyperkeratotic, seborrhoeic, oily healthy or damaged skin.

Topical oxygen therapy

Granulox®

Composition: Aqueous solution containing haemoglobin, phenoxyethanol, sodium chloride and N-acetylcysteine.

Uses: Topically applied spray that is designed to improve oxygen supply to hypoxic wounds through simplified diffusion, so helping to stimulate wound healing. When the spray is applied to the wound bed, the haemoglobin binds oxygen from the surrounding air and transports it to the wound bed where it diffuses into the cells.

Reference: Elg, F., Bothma, G. Cost-effectiveness of adjunct haemoglobin spray in the treatment of hard-to-heal wounds in a UK NHS primary care setting. Journal of Wound Care 2019;28(12):844-849.

Emollients

Epaderm® Cream

Composition: Aqueous cream containing yellow soft paraffin, liquid paraffin, cetomacrogol emulsifying wax (contains cetostearyl alcohol and macrogol cetostearyl ether 20-22), chlorocresol, glycerine, and purified water.

Uses: Emollient / skin cleanser for the management of dry skin conditions, eczema and psoriasis.

Reference: August, S., Granier, S., Tighe, M.P., et al. A clinical investigation of the performance and safety of Epaderm, an emollient cream. Clinical, Cosmetic and Investigational Dermatology 2021;14:909-920.

Epaderm® Ointment

Composition: Ointment containing yellow soft paraffin, liquid paraffin, and cetomacrogol emulsifying wax (contains cetostearyl alcohol and macrogol cetostearyl ether 20-22).

Uses: Emollient / skin cleanser / bath additive for the management of dry skin conditions, eczema and psoriasis.

Reference: Ferre, M., Navntoft, F. Performance and safety of a three-in-one emollient in the management of dry skin conditions: a survey of clinicians. Poster presentation at European Wound Management Association Conference, Barcelona, Spain, 2025.

Bandages

Mepi™ Press 2 / Mepi™ Press 2 Lite

Composition: Compression system, consisting of a padding bandage and a cohesive compression bandage (incorporating a visual application guide).

Uses: Provides compression therapy for venous disease and oedema. Mepi Press 2 delivers approximately 40 mmHg of resting pressure, whereas Mepi Press 2 Lite delivers approximately 30 mmHg of resting pressure.

Tubifast®

Composition: Bandage composed of viscose, nylon and elastane.

Uses: Two-way stretch tubular bandage for dressing retention.

Negative Pressure Wound Therapy

Avance® Solo

Composition: Pump (which delivers regulated pressure (-125 mmHg) to the wound for up to 14 days and has audible/visible notifications and alarms which are activated when at risk of loss of therapy), 50 ml canister, 'quick' connector featuring Controlled Fluid Management technology (provides controlled inflow of air which allows transportation of excess exudate to the canister from a bordered dressing (Avance Solo Border, with Safetac wound contact layer to minimise trauma and pain on removal), and a foam-based wound filler.

Uses: Portable, single-use negative pressure wound therapy system intended for use on a variety of open wound types and closed surgical incision sites to remove low-to-moderate levels of exudate.

Reference: Beele, H., Amann, B., Carnall, M. et al Evaluation of a novel, canister-based , portable negative pressure wound therapy system in the management of low-to-moderately exuding acute and sub-acute wounds. Poster presentation at European Wound Management Association Conference, Barcelona, Spain, 2025.

Translating Wound Care Pathways into Practice

Diabetes-related Foot Ulcers (DFUs)

Expert opinion and case studies

Patient pathway and clinical guidelines

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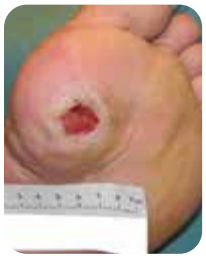
Globally, 18.6 million people are affected by a diabetes-related foot ulcer (DFU) annually.[1] Between 50% and 60% of DFUs become infected and approximately 20% of those with moderate-to-severe infections result in lower extremity amputations.[1]

The three main types of DFUs are neuropathic (resulting from nerve damage caused by peripheral neuropathy and associated sensory loss); ischaemic (resulting from peripheral artery disease (PAD) which restricts blood flow to the lower limbs) and neuroischaemic (has a causal relationship to peripheral neuropathy and PAD) (Figure 1).[2,3]



Neuropathic ulcer

Cause: peripheral neuropathy (autonomic, motor, sensor)

Locations: mostly on weight-bearing areas of the foot, e.g. metatarsal head, heel, and over the dorsum of clawed toes

Foot: typically warm with good blood low and palpable pedal pulses

Ulcer beds: generally exhibit vitalised tissue (granulation) and surrounded by callus

Ischaemic ulcer

Cause: dysfunction of large vessels (macroangiopathy) and/or small vessels (microangiopathy) resulting from peripheral arterial disease

Location: mostly at the tips of toes, nail edges, between the toes and lateral borders of the foot

Foot: typically cool with absent pulses

Ulcer beds: often sloughy or necrotic with poor granulation

Neuroischaemic ulcer

Cause: combination of neuropathy and ischaemia

Locations: can occur anywhere depending on the level of ischaemia and neuropathy

Foot: typically cooler with +/- pulses

Ulcer beds: generally exhibit poor granulation

Figure 1: Diabetes-related foot ulcer types

The care pathway for a patient with a DFU varies across Europe. The differences tend to relate to how quickly patients access specialist care, who provides care, and the availability of advanced therapies. However, most countries in Europe follow internationally accepted guidance, such as that published by the International Working Group on the Diabetic Foot (IWGDF).[4] This means that the typical patient pathway progresses through the following phases: clinical assessment (neurological, vascular, infection) management (local and systemic treatment), monitoring and escalation, and finally healing and the prevention of recurrence.

Initial presentation and triage

In Europe, most patients with a new DFU present in primary care (e.g. general practice, community or diabetes clinics).[5] Some patients might initially approach emergency departments, particularly if mild-to-severe infection or acute ischaemia is evident. HCPs who do not have specific expertise on diabetes-related foot disease should refer patients who present with a DFU to a specialist foot service without delay.[6]

One of the major findings of an audit of foot care in the United Kingdom (UK) was that ulcers referred for specialist assessment within 14 days are associated with significantly less severity and a greater likelihood of healing within 12 weeks. The audit also found that time to referral and ulcer severity are related to other outcomes such as hospital admission and amputation.[7] Other studies have demonstrated that multidisciplinary specialist care significantly reduces the rate of infections, the time to healing and amputation rates.[8,9]

The United Kingdom's National Institute for Health and Care Excellence (NICE) recommends that foot protection services (led by a podiatrist and supported by HCPs with skills in diabetology, biomechanics, orthotics (especially in offloading) and wound care) should be available for preventing and managing diabetes-related foot problems in the community. NICE also recommends that multidisciplinary foot care services (MFCSs) incorporating expertise in diabetology, podiatry, surgery (orthopaedics and vascular), microbiology, biomechanics, orthotics, interventional radiology, casting and wound care, should be available for managing diabetes-related foot problems in hospital and in the community that cannot be managed by foot protection services.[10] The NICE guidelines recommend immediate referral of patients with limb-threatening or life-threatening foot problems to acute services, alongside informing the multidisciplinary foot care services (Box 1). The guidelines recommend that all other active diabetes-related foot problems are referred within one working day to a multidisciplinary foot care service or foot protection service (according to local protocols).[10]

Box 1: Diabetes-related foot problem requiring immediate referral.[10]

- Ulceration with fever or any signs of sepsis
- Ulceration with limb ischaemia
- Suspected deep-seated soft tissue or bone infection (with or without ulceration)
- Gangrene (with or without ulceration)

Comprehensive assessment and diagnosis

A detailed medical history should be elicited from the patient.[11] The ulcer should be assessed and classified using a validated system (Table 1). The SINBAD system,[12] recommended by the IWGDF, facilitates an exploration of the causes of the ulceration and patient-related factors that could affect its healing (Table 2).[4] Early identification of peripheral arterial disease (PAD) and foot infection (soft tissue or bone) is critical to limb salvage.[13] Differential diagnoses (e.g. vasculitis, malignancy and pressure injury) and foot infection (soft tissue or bone) should also be considered.

Table 1: Examples of diabetes-related foot ulcer grading systems commonly used in clinical practice

System	Focus areas	Scoring method	Primary purpose
SINBAD[12]	Ulcer location / area / depth, ischaemia, neuropathy, infection	Binary score (0/1) across 6 categories (total 0-6)	Collating audit and population-based data. Recommended by the IWGDF for international comparability[4]
University of Texas[14]	Ulcer depth, infection, ischaemia	4x4 matrix (grades 0-3; stages A-D)	Predicting healing and amputation risk
Wagner[15]	Ulcer depth, gangrene	0-5 numerical scale	Predicting amputation risk
WIfI[16]	Wound, ischaemia, infection	0-3 scale for 3 parameters	Undertaking precise vascular assessments

Table 2: Focus areas for assessment and diagnosis[2,4,12]

Focus area	Considerations • Scoring method • Primary purpose
Ulcer	Classify according to **SINBAD:** **Site:** Document the anatomical location **Ischaemia:** • Assess if pedal blood flow is intact (≥ palpable pulse) • Look for evidence of reduced blood flow • Examine arterial pedal wave forms (Doppler) • Measure ankle and toe pressures and calculate ABPI/TBPI ([ABPI >1.3 or < 0.9 and TBPI < 0.7 are indicative of PAD). • Determine transcutaneous pressure of oxygen (TcpO2) **Neuropathy:** • Use a 10g monofilament to detect loss of protective sensation • Use a standard 128Hz tuning fork to detect loss of vibratory sensation **Bacterial infection:** • Document presence of clinical signs or symptoms of inflammation (erythema, warmth, induration, pain/tenderness) or purulent secretions (≥2 signs is indicative of clinical infection) • Classify severity of infection using the IWGDF/IDSA grading – mild (superficial ulcer with minimal cellulitis); moderate (ulcer deeper than skin or more extensive cellulitis, with or without abscess*); severe (accompanied by systemic signs of sepsis*) [*with or without osteomyelitis] • Assess inflammatory serum biomarkers (e.g. C-reactive protein, erythrocyte sedimentation rate) • Obtain a tissue specimen to determine causative pathogens and antimicrobial sensitivities in the case of clinically infected wounds • Use a probe-to-bone test and imaging techniques (X-rays, magnetic resonance imaging) to confirm osteomyelitis **Area:** Measure ulcer area* **Depth:** Assess ulcer depth and classify as: confined to skin and sub-cutaneous tissue; reaching muscle or tendon or reaching bone*
Causes of ulceration)	• Look for abnormal walking patters, deformities (e.g. Charcot neuropathic osteoarthropathy), bony prominence or other foot abnormalities • Examine shoes and footwear behaviours (outdoors and indoors)
Patient-related factors	Consider renal function (e.g. ESRD), cardiovascular disease, oedema, malnutrition, poor metabolic control, depression, other psycho-social problems, frailty, smoking status

*Other considerations: ulcer bed condition (i.e. necrosis, slough, granulation, epithelialisation), local pain (type, cause, severity, duration), exudation (quantity, appearance, consistency), ulcer edge condition (undermined, raised, presence of callus, maceration, erythema, oedema, undermining/tracks/sinuses), and surrounding skin condition (maceration, excoriation, erythema, oedema)
Abbreviations: ABPI = ankle-brachial pressure index; DFU = diabetes-related foot ulcer; ESRD = end-stage renal disease; PAD = peripheral arterial disease; TcpO2 = transcutaneous pressure of oxygen; TBPI = toe-brachial pressure index

Management

The management of the DFU typically focuses on the following interventions: treatment of infection, revascularisation, pressure offloading, local wound care and patient-centred care in addition to the metabolic control of the diabetes and its comorbidities.

Treatment of infection

Foot infection in patients with diabetes poses a serious threat to the affected foot and limb. Prompt diagnosis and treatment is key to reducing complications and the need for amputation.[17] A patient with a severe foot infection or a moderate infection associated with relevant morbidities may require hospitalisation. In the case of moderate-to-severe infection, surgery may be necessary to remove necrotic tissue (and infected bone), release compartment pressure and drain abscesses. Parentally administered antibiotics are generally used to treat moderate-to-severe infections. For mild infections, DFUs (and surrounding callous) are generally cleansed and debrided, and empirical oral antibiotics prescribed.

Dressings and other topically applied products containing antimicrobial agents (e.g. silver, iodine) are often used as an adjunct to (but not a replacement for) systemic antibiotics in the management of infection in DFUs.[18]

Revascularisation

If ischaemia has been diagnosed, then a revascularisation technique may be employed to restore blood flow to one or more of the foot arteries. For patients with DFUs, optimisation of their diabetes control and the use of medicines to modify the risk of disease progression is also advised, so the use of medication to lower cholesterol and hypertension and access to smoking cessation programmes should be considered.[19,20]

Pressure offloading

Offloading is widely recognised as the cornerstone of DFU management and clinical outcomes are highly dependent on its appropriate and consistent application. For a neuropathic plantar DFU, offloading is normally achieved using a non-removable knee-high total contact cast (TCC) or a removable walker. When a knee-high appliance is not appropriate, a removable knee-high or ankle-high offloading can be used. For a non-plantar DFU, a removable device, footwear modifications, toe spacers, orthoses and digital flexor tenotomy are viable options for providing offloading.[4]

Local wound care

Non-viable tissue and any callus around the DFU should be removed. preferably by sharp debridement. Although described by the IWGDF as a 'standard of care', surgical/sharp debridement is not always a feasible option due to patient-related factors (e.g. poor perfusion, surgical fitness, bleeding disorders) or environmental constraints (e.g. lack of specialised equipment and personnel). In these situations, other recognised forms of debridement (i.e. autolytic, biological, ultrasound, enzymatic and mechanical) have to be considered.[21] Wound cleansing solutions, such as those containing stabilised hypochlorous acid (HOCl) and sodium hypochlorite (NaOCl), can be used to assist debridement (e.g. mechanical debridement with pads) by softening devitalised tissue, mechanically disturbing it during irrigation.[21]

It is important to note that debridement is not appropriate for the removal of dry necrotic tissue or gangrene without infection from DFUs when significant ischaemia is present. Instead, the devitalised tissue is typically left to dry to the point at which it separates from the ulcer. If, however, the tissue is wet or there is evidence of periwound autolysis, then debridement may be used with caution.[22]

A variety of different dressing types are used in the management of DFUs, primarily for moisture management (i.e. removing excess exudate while maintaining a moist environment conducive to healing), ulcer protection, and patient comfort. For exuding DFUs, absorbent dressings based on alginate, fibre, foam and superabsorbent polymer technologies are commonly used. [4,23,24] The ability to protect the ulcer against physical trauma and infection is an important consideration when selecting dressings. For example, a non-adherent dressing (e.g. wound contact layer) can be applied to dry, necrotic DFUs for protection. Some dressings incorporate topical antimicrobial agents (e.g. sliver, iodine) as a means of reducing the risk of infection.[18] Focussing on patient comfort is important, therefore the use of dressings that are associated with atraumatic dressing changes (e.g. those coated with silicone-based adhesives) and, therefore, do not cause damage to the healing ulcer and surrounding skin during removal should be considered.[25]

Patient-centred care

Other concomitant treatment should be considered to achieve glycaemic control (e.g. insulin) and to address malnutrition, oedema, cardiovascular disease, depression and psycho-social issues.[26-30]

Monitoring and escalation

Regular reviews should be undertaken to assess the ulcer, underlying pathologies and patient-related factors listed in Table 2. Consequently, dressing changes should be undertaken at appropriate intervals to enable the ulcer to be monitored in terms of microbiome, exudation, and healing progression. A less-than-expected improvement over a defined period should prompt a re-evaluation of the diagnosis and the treatment plan, and to determine if escalation is necessary (Box 2). A failure to achieve at least 50% reduction in wound area over a four-week period is widely accepted as a prognostic indicator of the need to consider referral to a specialist and a change in the treatment plan.[31]

Box 2. Escalation considerations

- Non healing/deteriorating ulcer despite optimal offloading and infection management
- Progressive ischaemia or failure of previous revascularisation.
- Recurrent or deep infection, osteomyelitis, or systemic deterioration.
- Complex deformity or biomechanical issues requiring surgical correction.
- Poor patient adherence, especially when using removable offloading devices.

Advanced therapies, such as negative pressure wound therapy (NPWT) and oxygen therapy (topical or systemic hyperbaric oxygen therapy), may be considered if the ulcer healing is slower than expected. Surgery (e.g. Achilles tendon lengthening, metatarsal ostectomy, metatarsal head resection for metatarsal DFUs and joint arthroplasty for hallux DFUs) may be necessary if non-surgical offloading techniques do not achieve the desired effect.[4]

Healing and prevention

Approximately 30% to 40% of DFUs heal at 12 weeks, with recurrence rates estimated to be 42% at 1 year and 65% at 5 years.[1]

A variety of different strategies are used to mitigate against recurrent ulceration. These include risk stratification and regular foot screening (based on neuropathy, PAD, deformity, and ulcer history), therapeutic footwear and insoles (to reduce plantar pressure and prevent new ulcers), ongoing education (on daily foot inspection, skin care (e.g. emollients to lubricate dry skin), prompt reporting of problems, and adherence to footwear and offloading advice), and continued optimisation of diabetes and cardiovascular risk factors (to reduce future complications).[4]

Patients are usually followed in diabetes or foot clinics with defined review intervals according to risk level.

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Mölnlycke solutions to clinical challenges in the management of diabetes-related foot ulcers (DFUs) a product selection guide

Cleanse

Consider using water, saline or antiseptic-containing solutions to cleanse the wound and soften devitalised tissue[1]

Granudacyn Wound Irrigation Solution: for cleansing/irrigation and softening devitalised tissue

Debride

Surgical (sharp) debridement regarded as standard of care but, if not appropriate, consider other methods to remove devitalised tissue[2]

Mepi Debripad: for fast, low-pain mechanical wound debridement

Oxygenate

Consider topical oxygen therapy / hyperbaric oxygen therapy if hypoxia suspected[3]

Granulox: topical haemoglobin spray for improving wound oxygenation

Manage infection

Active spreading infection must be referred to a multidisciplinary specialist team without delay[4]

For infected DFUs, systemic antibiotics are normally recommended. If adjunctive topical antimicrobial therapy is indicated, consider short-term use (i.e. up to 4 weeks) of silver-containing dressings[4]

Balance moisture

Offloading

Offloading is generally considered as the cornerstone of DFU management. For a neuropathic plantar DFU, consider using a non-removable knee-high total contact cast (TCC) or a removable walker. For a non-plantar DFU, consider using a removable device, footwear modifications, toe spacers, orthoses and digital flexor tenotomy.[4]

Monitoring and escalation

Ulceration with fever or signs of sepsis, ulceration with limb ischaemia, suspected deep-seated soft tissue or bone infection (with or without ulceration), or gangrene (with or without ulceration) should be urgently referred to a multidisciplinary specialist foot care service, in accordance with local guidance.[4]

If ulcer size has not reduced by more than 50% within 4 weeks, re-assess and refer to a multidisciplinary specialist team and consider other/advanced technologies.[3]

Patient comfort

All the Mepilex and Mepitel dressings mentioned in this guide have soft silicone (Safetac)–coated wound contact surfaces that minimise dressing-related trauma and pain to the patient on removal[5,6]

Skin stripping caused by traditional dressings with aggressive adhesive

Atraumatic removal of dressings with Safetac

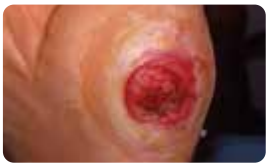
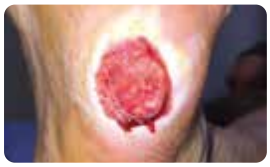
Exuding ulcer

Superficial

Cavity

extending to subdermal layers and structures - e.g. fascia, tendon, muscle, bone)[7]

Topical antimicrobial indicated?

	Superficial		Cavity	
	NO	YES	NO	YES
				
Low - moderate exudate	**Mepilex Lite:** thin foam Or **Mepilex Border Flex (Comfort) Lite:** thin bordered foam Or **Mepilex Up:** dimpled foam	**Mepilex Ag:** silver-containing foam Or **Mepilex Border Ag:** silver-containing bordered foam	**Exufiber:** gelling fibre (primary) Plus **Mepilex Lite:** thin bordered foam (secondary) Or **Mepilex Border Flex (Comfort) Lite:** thin bordered foam (secondary)	**Exufiber Ag+:** silver-containing gelling fibre (primary) Plus **Mepilex Lite:** thin bordered foam (secondary) Or **Mepilex Border Flex (Comfort) Lite:** thin bordered foam (secondary)
Moderate - high exudate	**Mepilex Up:** dimpled foam Or **Mepilex Border Flex (Comfort):** bordered foam	**Mepilex Border Ag:** silver-containing bordered foam	**Exufiber:** gelling fibre (primary) Plus **Mepilex Up:** dimpled foam (secondary) Or **Mepilex Border Flex (Comfort):** bordered foam (secondary)	**Exufiber Ag+:** silver-containing gelling fibre (primary) Plus **Mepilex Up:** dimpled foam (secondary) Or **Mepilex Border Flex (Comfort):** bordered foam (secondary)
Copious exudate	**Mextra:** superabsorbent	**Exufiber Ag+:** silver-containing gelling fibre (primary) Plus **Mextra:** superabsorbent	**Exufiber:** gelling fibre (primary) Plus **Mextra:** superabsorbent (secondary)	**Exufiber Ag+:** silver-containing gelling fibre (primary) Plus **Mextra:** superabsorbent (secondary)

Dry, necrotic ulcer

Tubifast: tubular retention bandage

Bordered or non-bordered foam dressings?
Bordered: Best for ease of use ('all-in-one dressings that don't require fixation) and for areas where good adhesion is required.
Non-bordered: Best for patients with extremely fragile/sensitive skin (intolerance to adhesives) and customisation (can be cut to size making them versatile for awkward, deep or oddly shaped wounds. Need to be secured in place with fixation tapes or bandages.

Debridement not recommended for removal of dry necrotic tissue or gangrene without infection when ischaemia is present. Instead, the devitalised tissue is typically left to dry to the point at which it separates from the ulcer. If the tissue is wet or there is evidence of periwound autolysis, then debridement may be used with caution[8]

Consider using a dressing to protect the wound margins such as a wound contact layer

Mepitel One: wound contact layer for protection (secondary)

All products referred to in this guide should be used according to the instructions for use supplied with them. Product availability and intended uses can vary across regions. Please consult your local Mölnlycke representative for guidance.

References

1. International Wound Infection Institute. Therapeutic wound and skin cleansing: clinical evidence and recommendations. Wounds International, London, UK, 2025. 2. Mayer, D.O., et al. International Consensus Document. Best practice for wound debridement. J Wound Care 2024;33(6 Suppl C): S1-S32. 3. Chen, P., et al. Diabetes Metab Res Rev 2024;40(3):e3644. 4. National Institute for Health and Care Excellence. Diabetic foot problems: prevention and management. NICE guideline NG19, 2023. 5. Zillmer, R. et al. J Wound Care 2006;15(5):187-91. 6. Woo, K., et al. Adv Skin Wound Care 2009;22(7):304-10. 7. Fletcher, J., et al. Best Practice Statement. Management of cavity wounds in practice. Wounds UK, London, UK, 2025. 8. Teot, L., et al. Skin Necrosis, 2nd Edition. Springer, Princeton, NJ, USA, 2024.

Case 1

Kirsi Sund and Pia Putto,
Wound Care Nurses, Wellbeing in South-Karelia, Honkaharju Wellbeing Centre, Finland.

Granudacyn® Wound Irrigation Solution / Mepilex® Up
Diabetes-related foot ulcer

Clinical challenge:

To promote wound healing and to manage wound exudation.

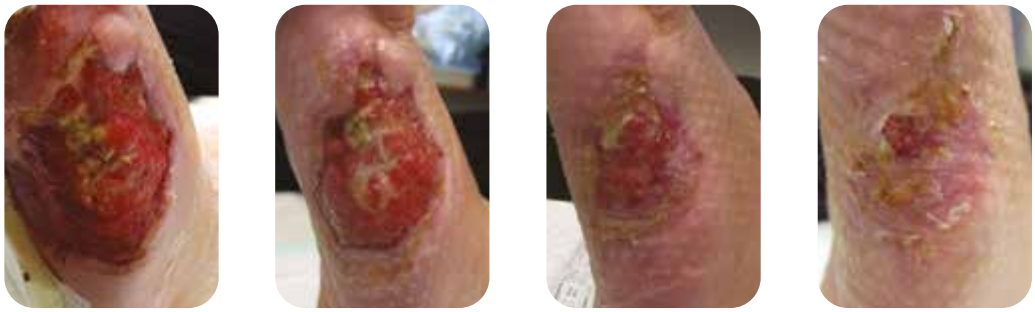
Patient and Wound History

- 71-year-old female.
- Medical history: hypertension, peripheral arterial disease, heart disease, hypercholesteremia.
- Surgical history: amputation of 5th toe on left foot (1 month previous).
- **Diabetes-related foot ulcer**, developed following trauma, located on the outer edge of the left foot: present for 7 weeks.
- Previous treatments: negative pressure wound therapy.

Intervention and Treatment Regime

- Granudacyn Wound Irrigation Solution, a hypochlorous acid solution, was chosen to cleanse the wound and reduce the risk of infection. Mepilex Up, a dimpled non-bordered foam dressing, was selected for its ability to manage exudate (preventing maceration) and maintain a moist wound environment.
- At each dressing change, sharp debridement of the wound was performed (curette). During each wound treatment, dry scabs were removed from around the wound edges. At each dressing change, the wound was cleansed with Granudacyn.
- The wound was dressed with Mepilex Up (primary dressing) and covered with a padding bandage and a tube sock; a heel boot provided off-loading.
- The median interval between dressing change was 2 days (range 2 – 7 days).

Wound Progression



	Day 1 (initial study intervention)	Day 14	Day 40	Day 71
Wound area	36 cm^2	17.5 cm^2 (↓51%)	6.3 cm^2 (↓83%)	0.4 cm^2 (↓99%)
Wound depth	Superficial	0 cm	0 cm	0 cm
Signs of infection	None	None	None	None
Viable tissue	70%	75%	90%	100%
Peri-wound	Moderate dryness	Mild dryness, induration of wound edge	Moderate dryness, scabs at wound edge	Moderate dryness, scabs at wound edge
Exudate	Moderate, viscous, brown/blood	Moderate, viscous, brown/blood	Moderate, viscous, brown/blood	Low, viscous, , brown/blood
Pain*	0, 0, 5, 0	0, 0, 5, 0	0, 0, 0, 0	0, 0, 0, 0

*Pain prior to dressing change, on dressing removal, during wound cleansing and on re-application (scale 0-10)

Perspective

At the final study evaluation, the ulcer had almost healed; after a further 64 days of Mepilex Up treatment, the ulcer had healed. Mepilex Up effectively managed wound exudate and was comfortable for the patient during wear. No maceration at any point was observed during the study period.

Case 2

Manuel Antonio Alves Duarte da Cruz,
Chief Nurse, Leg Ulcer Treatment Center, Santa Comba Dao, Portugal.

Granudacyn® Wound Irrigation Solution / Mepilex® Up
Diabetes-related foot ulcer

Clinical challenge:

To promote wound healing and to manage wound exudation in a patient with multiple comorbidities.

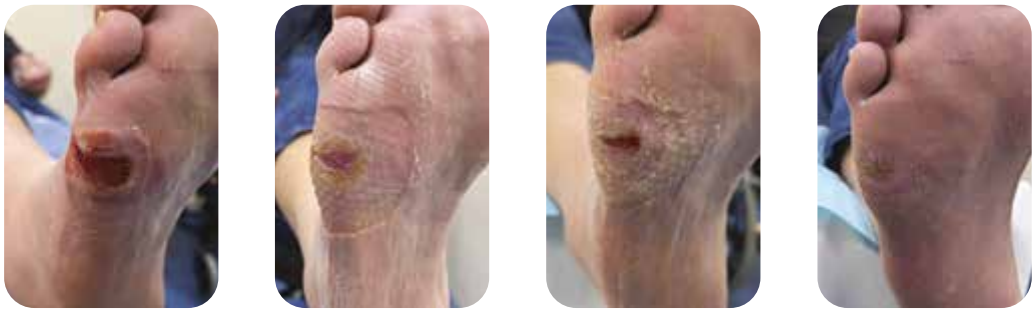
Patient and Wound History

- 75-year-old male.
- Medical history: type 2 diabetes mellitus, hypertension, chronic venous insufficiency, neuropathy and obesity.
- Surgical history: none relevant.
- **Neuropathic diabetes-related foot ulcer**, located on the lateral side of the right foot: present for 2 months.
- Previous treatments: two cycles (4 weeks) of antibiotics with no response; hydrofibre dressing

Intervention and Treatment Regime

- Granudacyn Wound Irrigation Solution, a hypochlorous acid solution, was chosen to cleanse the wound and reduce the risk of infection. Mepilex Up, a dimpled non-bordered foam dressing, was selected for its ability to manage exudate (preventing maceration) and maintain a moist wound environment.
- At the initial study assessment, sharp wound debridement was performed. At all dressing changes, the wound was cleansed with Granudacyn.
- The wound was dressed with Mepilex Up and tape was used for additional dressing fixation.
- The median interval between dressing change was 4 days (range 3 – 11 days).

Wound Progression



	Day 1 (initial study intervention)	Day 11	Day 25	Day 36
Wound area	7.5 cm^2	2.0 cm^2 (↓73%)	0.4 cm^2 (↓95%)	Healed
Wound depth	0.2 cm	0.1 cm	0.1 cm	Healed
Signs of infection	Increased exudation, erythema, oedema	None	None	None
Viable tissue	40%	100%	100%	100%
Peri-wound	Erythema, dryness	Healthy	Healthy	Healthy
Exudate	High, non-viscous, serosanguinous	Moderate, viscous, clear/serous	Low, non-viscous, clear/serous	-
Pain*	3, 3, 3, 2	2, 0, 0, 0	0, 0, 0, 0	0, 0, 0, 0

*Pain prior to dressing change, on dressing removal, during wound cleansing and on re-application (scale 0-10)

Perspective

Mepilex Up proved to be an excellent treatment option for a patient with a diabetes-related ulcer that required off-loading. It successfully managed exudate and provided comfort to the patient during wear.

Case 3

Tracy Bond,
Practice Nurse, Shakespeare Road Medical Practice, Basingstoke, United Kingdom.

Mepi™ Debripad
Diabetes-related foot ulcer

Clinical challenge:

To afford thorough debridement of non-viable tissue from the wound bed and manage wound odour and wound exudate whilst concomitantly minimising wound care-related pain and maintaining patient comfort.

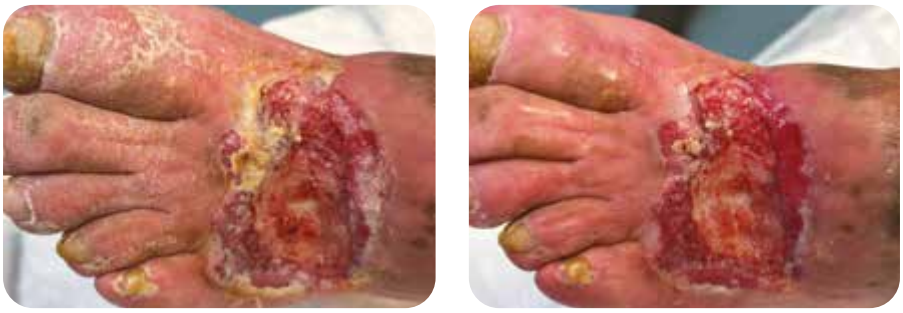
Patient and Wound History

- 67-year-old male.
- Medical history: hypertension, chronic obstructive pulmonary disease and reflux.
- Recurrent **foot ulcer** on top of the right foot (possible origin of burn wound); present for 5 months.
- Wound area measured 35 cm^2 with a depth of 0.5 cm. Wound exudation was low, non-viscous and clear/serous in appearance. Moderate increases in wound warmth, pain, and wound exudation alongside erythema were indicative of infection. The periwound skin exhibited areas of moderate dryness and maceration with mild to moderate erythema.
- The patient had a low tolerance to mechanical debridement. Anxiety around debridement procedures and anticipatory pain therefore limited the extent of treatment that could be performed in a single session.

Intervention and Treatment Regime

- Mepi Debripad, a microfibre pad, was selected for its fast, safe, and low-pain debridement of devitalised tissue from the wound bed while absorbing exudate and debris.
- The wound area was cleansed with warm water and Mepi Debripad was used to mechanically debride the wound and periwound areas.
- Enzyme alginate gel was applied to the wound and barrier cream was applied to the periwound before being dressed with an activated charcoal absorbent dressing; tape and a tubular retention bandage provided fixation.
- Dressing change was twice weekly.

Debirdement procedure



	Before	After
Viable tissue	80% - hyperkeratosis on toes	95%
Peri-wound	Moderate dryness and maceration	Mild maceration and erythema
Pain severity (scale 0-10)	Prior to dressing change: 3 During wound cleansing: 4 During wound debridement: 4	

Perspective

Mepi Debripad was soft and comfortable, and the patient was able to tolerate its use thereby allowing for a more extensive debridement of the wound than had previously been possible. In addition, the pad's flexibility enabled access to difficult areas. Overall, Mepi Debripad facilitated a smooth and effective procedure for both patient and clinician.

Case 4

Peter Kurz,
Managing Director, WPM Wund Pflege Management GmbH, Bad Pirawarth, Austria

Granudacyn® Wound Irrigation Solution / Gel
Avance® Solo NPWT System
Mepilex® Border Flex
Diabetes-related foot ulcer

Clinical challenge:

To promote wound healing and avoid limb amputation.

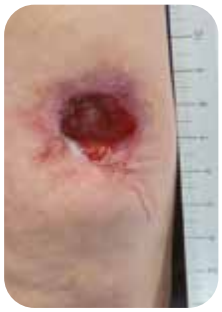
Patient and Wound History

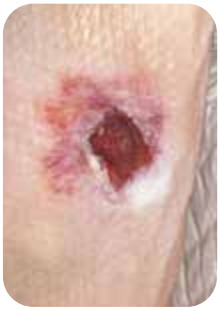
- 74-year-old male.
- Medical history: type 2 diabetes mellitus, cerebrovascular disease, chronic venous insufficiency, kidney disease and Crohn's disease.
- **Diabetes-related foot ulcer** located on the lateral border of the right foot; present for 6 months.
- Few weeks prior to study, patient suffered severe sepsis and amputation of the right limb was considered.
- Previous treatment: regular debridement, antimicrobial barrier dressing, Mepilex Border Flex

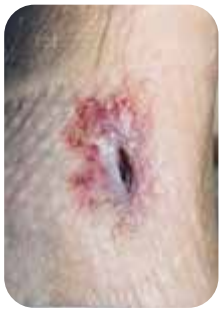
Intervention and Treatment Regime

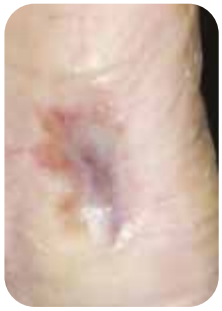
- Avance Solo, a portable single use negative pressure wound therapy (NPWT), was chosen to provide exudate management and promote healing of a wound in a difficult-to-dress area. Granudacyn Wound Irrigation Solution / Granudacyn Wound Gel, a hypochlorous acid solution / gel, was chosen to cleanse / moisturise the wound. Mepilex Border Flex (intervention), a foam dressing, was chosen for exudate management.
- Sharp debridement (curette) was undertaken at the initial study assessment. At each dressing change, the wound was cleansed with Granudacyn Wound Irrigation Solution.
- A foam-based wound filler (shaped to size) was inserted into the wound cavity. Avance Solo Border dressing (foam) was placed over the wound and the NPWT pump/canister attached. At day 18, NPWT was discontinued, and Granudacyn Wound Gel and Mepilex Border Flex were used from that point onwards.
- The Avance Solo dressing system was changed at day 4 and day 18.

Wound Progression


Day 1
(initial study intervention)


Day 4


Day 18


Day 52

	Day 1 (initial study intervention)	Day 4	Day 18	Day 52
Wound area	4.0 cm^2	3.0 cm^2 (↓25%)	0.2 cm^2 (↓95%)	Healed
Wound depth	2 cm	1.5 cm (↓25%)	0.2 cm (↓90%)	Healed
Signs of infection	Mild malodour (antibiotics prescribed)	None (antibiotics prescribed)	None	Healed
Viable tissue	90%	100%	100%	100%
Peri-wound	Mild dryness, erythema, excoriation; moderate maceration	Deteriorated	Improved	Healthy
Exudate	Moderate, viscous, clear/serous	Moderate, viscous, clear/serous	Low, viscous, clear/serous	-
Pain*	3, 3, 3, 2	2, 0, 0, 0	0, 0, 0, 0	0, 0, 0, 0

*Pain prior to dressing change, on dressing removal, during wound cleansing and on re-application (scale 0-10)

Perspective

At the end of the study, the chronic diabetes-related foot ulcer had healed. Avance Solo successfully 'kick-started' the healing process, negating the need for limb amputation.

Case 5

Jane Todhunter,
Advanced Vascular Nurse Practitioner and Lead Vascular Nurse, North Cumbria Integrated Care NHS Foundation Trust, Carlisle, United Kingdom.

Mepilex® Up
Diabetes-related foot ulcer

Clinical challenge:

To manage exudate and promote healing of a wound in a difficult-to-dress location.

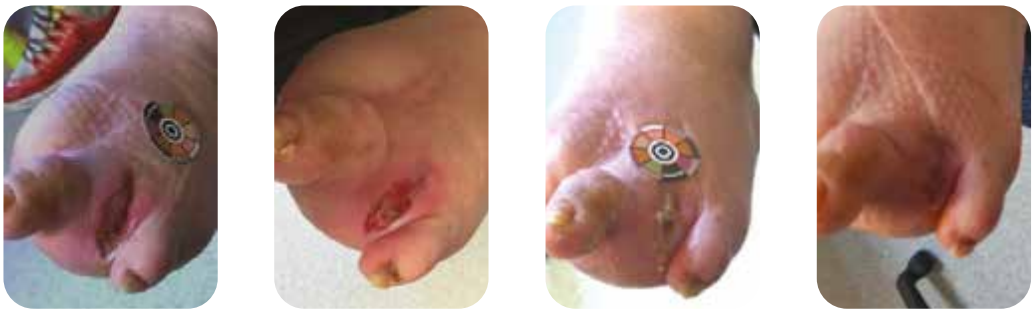
Patient and Wound History

- 51-year-old female.
- Medical history: type 2 diabetes mellitus, hypertension, peripheral arterial disease, heart disease, and kidney disease.
- Previous surgical history: amputation of left hallux; amputation of 4th toe of the left foot (4 weeks prior to study).
- **Diabetes-related foot ulcer** at the 4th toe amputation site; present for 4 weeks.
- Previous treatment: superabsorbent dressing, wool and crepe bandages, off-loading boot.

Intervention and Treatment Regime

- Mepilex Up, a dimpled non-bordered foam dressing, was selected for its ability to manage exudate (preventing maceration) and maintain a moist wound environment.
- At each dressing change, the wound was cleansed with a wound irrigation solution.
- The wound was dressed with an antimicrobial (copper) wound dressing (primary dressing), Mepilex Up (secondary dressing), wool and crepe bandage, and a tubular bandage. At day 28, for 11 days, a nanocrystalline silver antimicrobial was used as the primary dressing. The patient experienced no pain during the study.
- Initially dressing change was 4-5 days; from day 21 onwards, dressings were changed weekly.

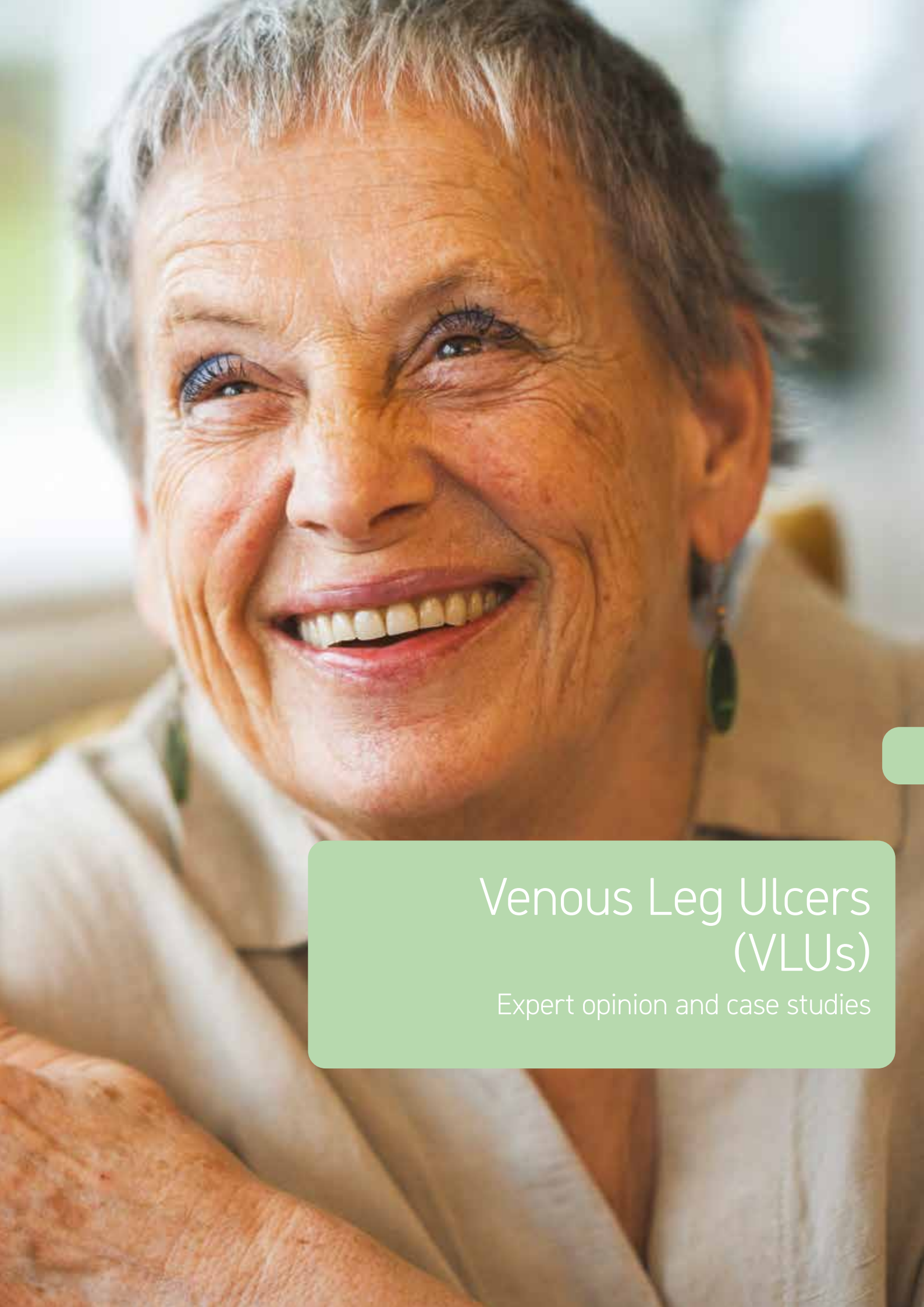
Wound Progression



	Day 1 (initial study intervention)	Day 21	Day 45	Day 59
Wound area	2.6 cm^2	2.2 cm^2 (↓15%)	0.5 cm^2 (↓81%)	0.4 cm^2 (↓81%)
Wound depth	0.8 cm	0.3 cm (↓63%)	0.1 cm (↓88%)	0.1 cm
Signs of infection	Mild malodour (antibiotics prescribed)	None	None	None
Viable tissue	90%	100%	100%	100%
Peri-wound	Mild erythema and maceration	Healthy	Healthy	Healthy
Exudate	Moderate, non-viscous, serosanguinous	Moderate, non-viscous, serosanguinous	Low, non-viscous, yellow/green	Low, non-viscous, yellow/green

Perspective

At the final study evaluation, the ulcer had almost healed. Mepilex Up successfully conformed well to the shape of the foot and absent toes, remaining in place between dressing changes, and it effectively managed wound exudation without gravitational seepage. The patient found Mepilex Up comfortable to wear. She was pleased when dressing change frequency was reduced and delighted with the lack of dressing leakage, especially whilst on holiday.



Venous Leg Ulcers (VLUs)

Expert opinion and case studies

Patient pathway and clinical guidelines

Prof Leanne Atkin

PhD, MHSc (ANP), RGN

Vascular Nurse Consultant / Associate Professor at University of Huddersfield (Huddersfield, United Kingdom) and Mid Yorkshire NHS Teaching Trust (Wakefield, United Kingdom)

The majority of leg ulcers are associated with venous insufficiency (venous leg ulcer, VLU), arterial insufficiency (arterial leg ulcer, ALU) or a combination of arterial and venous insufficiency (CAVI).[1,2] VLU is the most common type of leg ulcer, accounting for 60-80% of cases.[3] The prevalence of active VLUs in adults has been reported to be 3%, increasing to 4-5% in those aged 65 years and over.[4] Up to 2 million people in Europe are affected by VLUs.[5]

The underlying cause of VLUs is chronic venous insufficiency (CVI) arising from damage to the venous 'non-return' valves which, when healthy, prevent retrograde blood flow back into the legs. The subsequent pooling of blood and raised pressure within the venous system cause damage to the walls of the veins, thus allowing fluid and proteins to leak into the surrounding tissues which, in turn, results in oedema. In addition, waste metabolites accumulate in the tissues, such as haemosiderin (Figure 1) which stimulates melanin production and, consequently, results in skin hyperpigmentation. Varicose eczema generally develops in the affected area (typically in the medial gator region of the leg) which is at risk for infection and ulceration.[6]

As the venous and lymphatic systems are very closely linked, the resultant back flow in the tissues can also damage or overwhelm the lymphatic flow within the lower limb. This would suggest that many patients with oedema secondary to venous disease also have concurrent lymphatic dysfunction, a condition sometimes referred to as lymphovenous disease.[7]

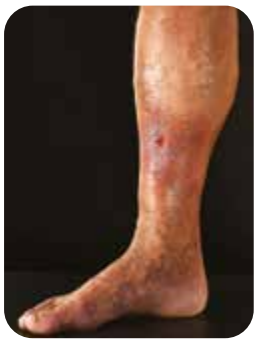


Figure 1: Venous leg ulcer with visible varicose veins and haemosiderin staining (photograph kindly supplied by Mid Yorkshire NHS Teaching Trust with written consent from the patient)

An earlier section of this publication highlights how differences in relation to speed of access to specialist care, who provides care and the availability of advances therapies account for variances in the care pathways for patients with diabetes-related foot ulcers across Europe. This is also true for patients with VLUs. However, the VLU patient care pathway is strongly shaped by internationally recognised consensus documents, such as the best practice document published by the European Wound Management Association (EWMA),[8] and evidence-based guidance issued by other authoritative sources such as the National Institute for Health and Care Excellence (NICE) in the United Kingdom,[9] and the German Society of Phlebology and Lymphology.[10] In view of this, the typical patient pathway begins with comprehensive assessment and diagnosis and then progresses through the following phases: management (local and systemic treatment), monitoring and escalation, and finally healing and the prevention of recurrence.

Initial presentation and triage

Most patients with a new VLU present to HCPs based in primary care settings (e.g. general medical practitioners, practice nurses). They will then continue to be managed in the primary care setting (e.g. by community-based nursing teams, leg ulcer clinics, private carers), unless urgent referral for specialist care is indicated (e.g. suspected deep vein thrombosis (DVT), acute limb ischaemia, spreading infection, sepsis, or malignancy (Table 1).

Table 1: Guidance on when the VLU patient should be referred for specialist care

Scenario	Suggested referral
Active or healed ulcer	Vascular speciality for further investigation and interventions to address superficial venous insufficiency[9]
Diagnostic uncertainty:	
Arterial or mixed venous/arterial disease suspected (ankle brachial pressure index is outside of normal range)	Leg ulcer clinic, tissue viability / wound care centre, vascular or dermatology specialist for vascular assessment[9]
Malignancy suspected	Dermatology unit (urgent suspected cancer pathway)[9]
Diabetes suspected	Diabetes-related foot ulcer specialist[9]
Rheumatoid arthritis / systemic vasculitis suspected	Rheumatology specialist[9]
Deep venous obstruction suspected	Vascular specialist for investigation, e.g. venous duplex scan (ultrasound) and computed tomography venography (CTV)[11]
Difficulties controlling underlying pathologies	Leg ulcer clinic, tissue viability / wound care centre, vascular or dermatology specialist for vascular assessment[12]
Poor ankle mobility / reduced joint function / history of falls	Physiotherapy (for physical assessment, balance assessment, exercise/ movement advice) or podiatry (for lower limb biomedical assessment) services[13]
Rapidly deteriorating ulcer / atypical ulcer location (outside of gaiter area) and/or appearance	Dermatology unit for possible skin biopsy[9]
Treatment-related ulcer complication:	
Osteomyelitis / sepsis / necrotising fasciitis	Urgent hospitalisation for intravenous antibiotic therapy[9]
Contact dermatitis suspected	Refer to dermatology unit for possible patch testing[9]
Uncontrolled pain	Pain specialist[9]
Delayed or no healing after 2 weeks of compression therapy	Vascular specialist or dermatology unit[9]

Comprehensive assessment and diagnosis

A timely differential diagnosis of the underlying pathology is essential when assessing patients presenting with a suspected VLU as it guides appropriate treatment selection.[14] Although compression therapy is widely recognised as the cornerstone of VLU management, it is generally contraindicated in patients with advanced peripheral arterial disease (PAD) because it may further compromise arterial perfusion and cutaneous microcirculation.[15] Establishing an accurate diagnosis also ensures that patients with alternative causes of ulceration are appropriately identified and referred. For example, ALUs require vascular assessment and possible revascularisation, vasculitic ulcers require immunosuppressive therapy, and malignant ulcers require oncological management. Differential diagnosis also helps identify contributory systemic conditions such as diabetes or rheumatoid arthritis, which may influence both treatment and healing outcomes.[14]

A thorough assessment of the patient, the legs and the ulcer must be undertaken at the earliest opportunity in order to establish an appropriate management regime (Table 2). Follow-up assessments should also be undertaken at regular intervals along the patient pathway to monitor ulcer progression and the need to modify treatment.

Table 2: Focus areas for assessment and diagnosis[8,9]

Focus area	Considerations
Patient-related factors	Explore VLU risk factors (e.g. immobility, history of DVT, previous ulceration, varicose veins) Check joint mobility, particularly that of the ankle (component of calf muscle pump function) Explore known allergies (relevant to subsequent selection of wound care products) Consider the need for additional investigations, e.g: • Full blood count (anaemia may delay healing; high white blood cell / platelet counts may indicate infection) • ESR / CRP (markers for inflammation / infection) • Urea / creatinine (high urea levels may indicate dehydration, which may impair healing) • Albumin (low albumin may be associated with protein loss and malnutrition, which may delay healing) • HbA1c (to assess for diabetes mellitus) Determine the impact that the ulcer is having on the patient's quality of life, daily functioning and overall health
Cause of ulceration	Assess symptoms to ensure no history of PAD or suspicion of intermittent claudication: • Look for hair loss, pallor, coldness on palpation, dusky appearance on lowering the leg • Assess capillary refill • Check peripheral pulses (femoral, popliteal, pedal) • Arrange Doppler assessment of both legs to determine ABPI to exclude arterial insufficiency Assess for venous insufficiency: • Document symptoms (e.g. pain, heaviness, aching, swelling, itching) of the affected limb • Examine both legs for pitting oedema (to rule out non-venous causes of oedema such as heart failure and chronic renal disease) • Look for skin changes: hyperpigmentation (brown-red discolouration caused by haemosiderin deposition), venous eczema (itchy, red, scaly, and/or flaky skin which may have blisters and crusts on the surface), lipo-dermatosclerosis (painful, hardened, tight skin), and atrophie blanche (star-shaped, ivory-white, depressed, atrophic scars with surrounding pigmentation) Explore other causes of ulceration / delayed healing (e.g. diabetes) and medications (e.g. corticosteroids)
Ulcer	Document the following: • Location (VLUs typically occur in the ankle to mid-calf region) • Duration • Size (area / depth) • Ulcer edge appearance (VLUs typically have gently sloping, irregular edges) • Wound bed appearance (necrosis, slough, granulation, epithelialisation) • Exudation (quantity, appearance, consistency) • Signs of infection (e.g. cellulitis (characterised by pain, warmth, swelling and erythema), fever, increased pain, rapid extension of ulceration, malodour, increased exudation • Bacterial swabbing when there is evidence of infection • Local pain (type, cause, severity, duration) • Surrounding skin condition (maceration, excoriation, erythema, oedema)

Abbreviations: ABPI = ankle brachial pressure index; CRP = C-reactive protein; DVT = deep vein thrombosis; ESR = erythrocyte sedimentation rate; HbA1c = glycated haemoglobin; PAD = peripheral arterial disease; VLU venous leg ulcer

Management

The management of the VLU typically focuses on the following interventions: venous assessment, superficial vein ablation, compression therapy, treatment of infection, local wound care, treatment of pain and patient-centred care.

Venous assessment

As VLUs often persist or recur without addressing their root cause, comprehensive venous assessment of patients is essential in order to identify underlying haemodynamic abnormalities and determine appropriate treatment. For example, venous duplex scanning (ultrasound) is considered the gold standard for diagnosing reflux or obstruction in the superficial, deep or perforator systems.[16] A thorough assessment, including the measurement of the patient's ankle brachial pressure index (ABPI) to exclude concomitant PAD, is crucial in determining whether compression therapy can be safely applied.[17]

Superficial vein ablation

Superficial vein ablation (endovenous ablation) is a minimally invasive procedure, typically performed in an outpatient setting, that uses heat (via laser or radiofrequency energy) to close diseased or varicose veins in legs. Combined superficial vein ablation and compression therapy, or compression therapy with deferred superficial vein ablation, is associated with faster healing of VLUs, compared to compression therapy alone.[18]

Compression therapy

Compression therapy promotes VLU healing primarily through its anti-inflammatory effects, including the reduction of inflammatory cells and mediators within the wound environment. In addition, compression reduces oedema, reshapes the limb, decreases capillary filtration from vessels into tissues, and improves lymphatic drainage.[19]

Compression therapy is widely regarded as the cornerstone of VLU management, with strong compression (> 40 mmHg) typically required to address the underlying venous hypertension for patients with chronic venous insufficiency without arterial involvement (ABPI >0.8). However, safe application depends on careful assessment of the patient's vascular status and overall clinical condition. For example, in patients with combined arterial and venous insufficiency (ABPI in the range 0.6-0.8), moderate compression (20-40 mmHg) is normally indicated. For patients with severe PAD or decompensated heart failure (ABPI <0.6), compression is contra-indicated, although the application of mild compression (<20 mmHg) under strict surveillance of clinicians with considerable experience and competence in compression application, may be considered in exceptional circumstances (e.g. problematic oedema).[2]

Compression therapy is most commonly administered using bandages.[2] The two main types are inelastic (short-stretch) and elastic (long-stretch) bandages; they are often used in combination as multi-layer bandage systems. Other devices used to provide compression therapy include hosiery and adjustable wraps.[2] The selection of compression device is based on numerous factors, including limb shape, oedema and exudate levels, patient mobility, clinical skillset, and patient preference.[20]

Local wound care

Before dressings and compression therapy are applied, the patient's leg should be washed in tap water and carefully dried.[9] Debridement should also be performed to remove non-viable tissue or foreign material from the ulcer. Numerous forms of debridement are used: surgical, sharp, autolytic, biological, enzymatic and mechanical.[21] Wound cleansing solutions, such as those containing stabilised hypochlorous acid (HOCl) and sodium hypochlorite (NaOCl), can be used to assist debridement (e.g. mechanical debridement with pads) by softening devitalised tissue, mechanically disturbing it during irrigation.[22] The selection of a wound cleansing solution should be based on: the type of wound dressing procedure and cleansing technique, wound characteristics, wound microbiome, cytotoxicity, pH and allergenicity of the solution, care goals, local policies, resources and availability.[23]

A variety of different dressing types are used in the management of VLUs, primarily for moisture management (i.e. removing excess exudate while maintaining a moist environment conducive to healing), autolytic debridement, ulcer protection, and patient comfort. For exuding VLUs, absorbent dressings based on alginates, gelling fibres, foams and superabsorbent polymer technologies are commonly used. As the ulcer healing progresses, the level of exudate may reduce, enabling less absorbent dressings to be used. The ability to protect the ulcer against physical trauma and infection is an important consideration when selecting dressings. Some dressings incorporate topical antimicrobial agents (such as silver, iodine and polyhexamethylene biguanide) as a means of controlling bioburden.[24] Focussing on patient comfort is important, therefore the use of dressings that are associated with atraumatic dressing changes (e.g. those coated with silicone-based adhesives) and, therefore, do not cause damage to the healing ulcer and surrounding skin, and minimise pain to the patient during removal, should be considered.[25]

Skin care

Skin care of the legs is another important aspect of care. Emollients should be used routinely to prevent and manage dry skin, eczema and contact dermatitis. If venous eczema is active, then corticosteroid therapy may be required. In these cases, it might be necessary to replace the compression bandaging more frequently than normal, to enable the topical preparations to be applied to the affected skin.[9]

Treatment of infection

In the case of VLUs, systemic infections are treated with oral antibiotics. If indicated, dressings and other topically applied products incorporating antimicrobial agents, for example silver or polyhexamethylene biguanide, may be used as an adjunct to systemic antibiotic therapy.[26] If the infection worsens and/or the patient cannot take oral antibiotics, hospitalisation for the administration of parenteral antibiotics may be necessary.[9] In cases of severe cellulitis, hospital admission is recommended.

Treatment of pain

Pain at dressing changes can be minimised by the use of dressings that are atraumatic on removal, for example those coated with soft silicone adhesives.[25,27] Analgesics (e.g. paracetamol) may be required to manage underlying pain.[9]

Patient-centred care

Other concomitant interventions should be considered to address comorbidities that are known to delay the healing of leg ulcers, e.g. cardiovascular disease, diabetes, obesity, lymphoedema, depression and psycho-social issues.[28,29]

Monitoring and escalation

Compression bandages are generally changed once weekly, although there are occasions when more frequent changes are required, e.g. if oedema is present, if there is a need to inspect for wound and skin complications, if there is a need to administer topical preparations to the wound, or if the wound dressing becomes saturated with exudate.[30] Weekly changing of compression therapy is recommended due to reduction in oedema potentially leading to bandaging slippage, and also to allow skin hygiene and health to be maintained.

Assessments should focus on the areas outlined in Table 2. Selecting appropriate compression bandaging should be a shared decision-making process that prioritises patient comfort and preferences, ensuring that the chosen regimen is both effective and tolerable. By addressing specific concerns such as pain, bulkiness, and mobility issues, and adapting the therapy to the patient's lifestyle, clinicians can increase confidence in the intervention and improve concordance.[31,32]

If a VLU is showing delayed or no signs of healing after two weeks of compression therapy, then the patient must be referred to a specialist (e.g. vascular or dermatological) for review and consideration for advanced therapies.[9,33]

Healing and prevention

It is estimated that between 30-75% of VLUs will heal after six months of compression therapy.[34] The average time for a VLU to heal varies from 6 to 12 months, with approximately 20% of all ulcers failing to heal with 24 months.[33] However, If optimal compression therapy is applied and superficial vein ablation undertaken in the early stages of the patient pathway, then outcomes can be expected to be better. For example, in a large multi-centre clinical study, 450 patients with VLUs were randomly assigned to an early intervention group (compression therapy and early superficial vein ablation), a deferred intervention group (compression therapy and superficial vein ablation deferred until after the ulcer was healed or until 6 months after randomisation if the ulcer was unhealed). The median time to ulcer healing was 56 days in the early intervention group and 82 days in the deferred intervention group. The healing rate at 24 weeks post-randomisation was 85.6% and 76.3% in the early intervention and deferred intervention groups, respectively.[35]

Once the ulcer has healed, the pathway shifts to preventing recurrence, which is common in venous disease. Recurrence rates of VLUs are high, with incidences of 22%, 57% and 78% reported within three months, one year and three years of healing, respectively.[36,37]

As well as playing an important role in the treatment of VLUs, compression plays an important role in preventing recurrence, often through the use of compression hosiery or wraps tailored to individual's needs and preferences.[38] Superficial vein ablation is another option for preventing recurrence.[9]

The provision of lifestyle advice to the patient (e.g. encouraging adherence with compression therapy, mobility and exercise, leg elevation (when immobile), regular leg examination, frequent use of emollients, and a healthy diet), ensuring that the patient attends regular follow-up visits, and making sure that the patient has easy access to appropriate care if needed, are key to a successful prevention protocol.[9] Community-based clinics and primary care teams often lead this phase, with periodic specialist review for high risk or recurrent cases.

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Mölnlycke solutions to clinical challenges in the management of diabetes-related foot ulcers (DFUs) a product selection guide

Cleanse

Consider using water, saline or antiseptic-containing solutions to cleanse the wound and soften devitalised tissue[1,2]

Granudacyn Wound Irrigation Solution: for cleansing/irrigation and softening devitalised tissue

Debride

Consider an appropriate form of debridement (surgical, sharp, autolytic, biological, enzymatic and mechanical) to remove non-viable tissue or foreign material from the ulcer[3]

Mepi Debripad: for fast, low-pain mechanical wound debridement

Oxygenate

Consider topical oxygen therapy / hyperbaric oxygen therapy if hypoxia suspected[4,5]

Granulox: topical haemoglobin spray for improving wound oxygenation

Skin care

Emollients should be used routinely to prevent and manage dry skin, eczema and contact dermatitis[6]

Epaderm Cream / Epaderm Ointment: emollient preparations for managing eczema and other dry skin conditions

Balance moisture

Patient comfort

All the Mepilex dressings mentioned in this guide have soft silicone (Safetac)-coated wound contact surfaces that minimise dressing-related trauma and pain to the patient on removal[8,9]

Skin stripping caused by traditional dressings with aggressive adhesive

Atraumatic removal of dressings with Safetac

Compression

Strong compression (> 40 mmHg) typically required to address the underlying venous hypertension for patients with chronic venous insufficiency without arterial involvement (ankle brachial pressure index [ABP]I >0.8). However, safe application depends on careful assessment of the patient's vascular status and overall clinical condition. For example, in patients with combined arterial and venous insufficiency (ABPI in the range 0.6-0.8), moderate compression (20-40 mmHg) is normally indicated.[10]

Mepi Press 2 – strong compression when ABPI >0.8 and <1.3

Mepi Press 2 Lite – mild-to-moderate compression when ABPI >0.5 and <0.8

Manage infection

For systemic infections, oral antibiotics are normally recommended. If adjunctive topical antimicrobial therapy is indicated, consider short-term use (i.e. up to 4 weeks) of silver-containing dressings[7]

Topical antimicrobial indicated?

NO | **YES**

Balance moisture

VLUs are typically associated with high exudation in the early stages of healing, with reduced levels as the ulcer progresses toward healing. Consider a dressing regime with an appropriate exudate handling capacity

	NO	YES
Copious exudate	 **Mepilex Transfer:** exudate transfer (primary) Plus **Mextra:** superabsorbent (secondary)	 **Mepilex Transfer Ag:** silver-containing exudate transfer (primary) Plus **Mextra:** superabsorbent (secondary)
High - moderate exudate	**Mepilex Up:** dimpled foam	**Exufiber Ag+:** silver-containing fibre (primary) Plus **Mepilex Up:** dimpled foam (secondary)
Moderate - low exudate	**Mepilex Up:** dimpled foam Or **Mepilex Lite:** thin foam	 **Mepilex Ag:** silver-containing foam
For wounds that require packing, consider using a fibre dressing underneath the absorbent dressing:	 Exufiber: gelling fibre (primary)	 Exufiber Ag+: silver-containing gelling fibre (primary)

Monitoring and escalation

The following scenarios typically warrant referral for specialist care in accordance with institutional procedures: diagnostic uncertainty (e.g. suspected arterial or mixed venous/arterial disease, malignancy, diabetes, rheumatoid arthritis/ systemic vasculitis, deep venous obstruction), difficulties controlling underlying pathologies, poor ankle mobility, reduced join function, history of falls, rapidly deteriorating ulcer, atypical ulcer location/appearance, treatment-related ulcer complications (osteomyelitis, sepsis, necrotising fasciitis, contact dermatitis, uncontrolled pain), delayed or no healing after two weeks of compression therapy, and recurrent ulceration.[1]

All products referred to in this guide should be used according to the instructions for use supplied with them. Product availability and intended uses can vary across regions. Please consult your local Mölnlycke representative for guidance.

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Venous leg ulcer: phlebological compression therapy in Germany – obstacles and options

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Venous leg ulcers (VLU) are the most severe form of chronic venous insufficiency (CVI) and, with a prevalence of 51–68% in Germany, are among the most common chronic wounds on the lower leg.[1-3] A VLU should be regarded as a chronic wound from the beginning, requiring treatment of the underlying disease.[4] In Germany, an estimated 0.2–0.5% of the population has an active VLU.[5-6] The prevalence increases with age to around 2% in people over 80 years of age.[7] Up to 70% of those affected suffer a recurrence within six months of healing.[8]

A VLU impairs quality of life significantly. Pain, exudation, odour, sleep disturbances, mobility restrictions, social isolation, psychological stress and financial burden have a negative impact on adherence and everyday life.[9-12] Holistic care is therefore required, including standardised assessment of quality of life, e.g. using Wound-QoL, and targeted interventions.[13]

In Western industrialised nations, up to 1% of healthcare costs are spent on treating ulcerations of the lower extremities.[14] The treatment costs for a patient with a VLU vary internationally between €4.000 and €30.000 per year, depending on the healthcare system, and average around €9.500 in Germany.[15,16] Consistent and appropriate compression therapy significantly shortens the healing time and thus significantly reduces the overall costs.

The most important conservative therapeutic measure is compression therapy. After checking for contraindications, it should be used as standard therapy for all people with VLUs. Proper compression therapy reduces oedema, relieves pain and promotes wound healing.[17] However, according to analyses of health insurance data, 61–80% of people with active VLUs do not receive compression therapy.[18,19] In addition, compression therapy is often not performed regularly, properly or according to guidelines.[19-22] Compression therapy is performed in treatment phases. In the initial decongestion phase, materials are needed that can be easily adjusted to changes in leg circumference, such as short-stretch bandages, multi-component systems or medical adaptive compression systems (MAC). In the following maintenance phase, ulcer stocking systems are used. After healing, medical compression stockings are used, usually for life to prevent recurrence.[17] In daily practice, however, short-stretch bandages are predominantly used, often improperly and without sufficient pressure values.[20,23] This prolongs decongestion, delays healing and increases costs. Modern treatment options such as MACs and multi-component systems are more user-friendly, more effective, and therefore more cost-efficient, and some are suitable for self-management. However, they are rarely prescribed.[24-26]

The treatment of VLUs should be painless and indication-specific, ensuring balanced exudate management and protection against microorganisms.[17] In the decongestion phase, due to high wound exudation, dressings are used that can absorb a large amount of exudate, especially under compression therapy, and also have good retention, e.g. wound dressings with superabsorbents.[17] As wound exudation continuously decreases during the maintenance phase, dressings are used that promote and maintain a moist, warm wound environment and can absorb wound exudate, e.g. fine-pored polyurethane foam dressings without polyacrylate adhesive.[17]

There are considerable shortcomings in daily practice. Adequate diagnosis is often delayed or incomplete, pressure specifications are missing from prescriptions, and materials are not prescribed sufficiently, in a timely manner or in accordance with current standards.[26,27] Up-to-date knowledge is insufficiently disseminated among health care professionals. Guidelines are often unknown or not implemented.[22] In addition, compression therapy is taught inadequately, improperly and inappropriately during nurses education.[28] Training improves skills, but must be provided on a regular basis. At the same time, simpler and safer treatment options, such as multi-component systems and MACs should be preferred to short-stretch bandages.

Patient education is crucial for successful treatment and adherence. Individualised, needs-based information on the disease, risk factors, skin care, compression therapy, exercising physical activities and self-management is essential. Knowledge deficits are considered the main cause of poor adherence. Structured patient education, brochures and the involvement of relatives improve adherence, self-management and healing.[17]

Structured checklists, guideline-based e-learning courses with practical components, disease management programmes, standardised patient education and a stronger focus on compression therapy in nurses and medical education could help to optimise treatment.

Compression therapy is the central pillar in the conservative treatment of people with VLUs. In Germany, however, it is often not conducted in accordance with guidelines. There are shortcomings in diagnosis, prescription, application, training and patient education. This leads to prolonged healing times, high recurrence rates, reduced quality of life and avoidable costs. Evidence-based use of materials and user-friendly products that are accepted by patients can improve the treatment of people with VLUs.

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Case 1

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Granudacyn® Wound Irrigation Solution / Mepilex® Up / Mepi™ Press 2 Lite
Venous leg ulcer

Clinical challenge:

To 'kick-start' a non-healing wound and improve patient comfort, especially at dressing change.

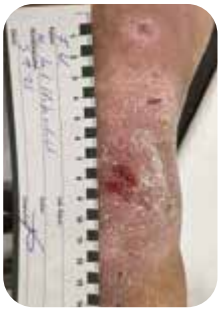
Patient and Wound History

- 76-year-old male, with compliancy issues.
- Medical history: type 2 diabetes mellitus, hypertension, peripheral arterial disease, chronic venous insufficiency, heart disease, and kidney disease.
- **Venous leg ulcer** located on the lateral lower right leg: present for 1.5 months.
- Initial treatment: intermittent compression bandage or tight knee-high socks.

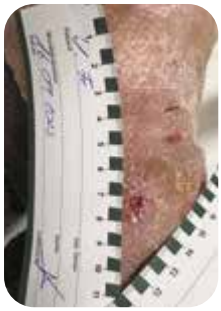
Intervention and Treatment Regime

- Granudacyn Wound Irrigation Solution, a hypochlorous acid solution, was chosen to cleanse the wound and reduce the risk of infection. Mepilex Up, a dimpled non-bordered foam dressing, was selected for its ability to manage exudate (preventing maceration) and maintain a moist wound environment, and its compatibility with compression therapies. Mepi Press 2 Lite, a two layered compression bandaging system, was chosen for its ability to provide light limb compression, as well as its ease of application and comfort during wear.
- At each dressing change, the wound was mechanically debrided (debridement pad) and cleansed with Granudacyn. At day 11, conservative sharp debridement (tweezers and ring curette) was performed.
- The wound was dressed with Mepilex Up (primary dressing) and a gauze bandage (secondary dressing); Mepi Press 2 Lite provided compression therapy.
- Dressing changes were done twice weekly; median interval between dressing change of 4 days (range 2 – 5 days).

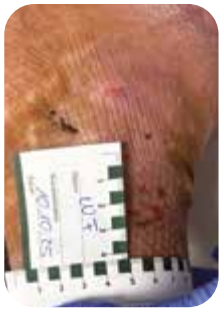
Wound Progression



Day 1
(initial study intervention)



Day 11



Day 35

Day 46

	Day 1 (initial study intervention)	Day 11	Day 35	Day 46
Wound area	4.83 cm^2	0.63 cm^2 (↓87%)	0.07 cm^2 (↓99%)	Healed
Wound depth	0.2 cm	0.1 cm	0.1 cm	-
Signs of infection	None	None	None	None
Viable tissue	75%	75%	100%	100%
Peri-wound	Healthy	Healthy	Healthy	Healthy
Exudate	Moderate, non-viscous, serosanguinous	Low, non-viscous, clear/serous	Low, non-viscous, clear/serous	-
Pain*	2, 2, 3-4, 2	2, 2, 1-2, 1-2	1, 1, 1, 1	0, 0, 0, 0

*Pain prior to dressing change, on dressing removal, during wound cleansing and on re-application (scale 0-10)

Perspective

At the final study evaluation, the venous leg ulcer had healed. Together, Mepilex Up and Mepi Press 2 Lite successfully facilitated wound healing in a patient with multiple co-morbidities.

Case 2

Dr Christoph Schicker,
Specialist in General Medicine, Surgery and Emergency Medicine, Medical Centre Bad Konig, Germany

Granudacyn® Wound Irrigation Solution / Mepilex® Up / Mepi™ Press 2 Lite
Venous leg ulcer

Clinical challenge:

To 'kick-start' a non-healing wound and improve patient comfort, especially at dressing change.

Patient and Wound History

- 67-year-old female; moderate compliance.
- Medical history: type 2 diabetes mellitus, hypertension, chronic venous insufficiency and Parkinson's disease.
- **Venous leg ulcer** located on the right lower medial leg: present for 47 days.
- Initial treatment: traditional wound dressings.

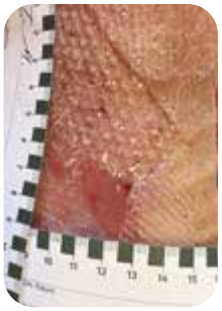
Intervention and Treatment Regime

- Granudacyn Wound Irrigation Solution, a hypochlorous acid solution, was chosen to cleanse the wound and reduce the risk of infection. Mepilex Up, a dimpled non-bordered foam dressing, was selected for its ability to manage exudate (preventing maceration) and maintain a moist wound environment, and its compatibility with compression therapies. Mepi Press 2 Lite, a two layered compression bandaging system, was chosen for its ability to provide light limb compression, as well as its ease of application and comfort during wear.
- At each dressing change, the wound was mechanically debrided (debridement pad) and cleansed with Granudacyn.
- The wound was dressed with Mepilex Up (primary dressing) and a gauze bandage (secondary dressing); Mepi Press 2 Lite provided compression therapy.
- Dressing changes were done twice weekly; median interval between dressing change of 4 days (range 2 – 5 days).

Wound Progression

Day 1
(initial study intervention)

Day 14



Day 33

Day 42

	Day 1 (initial study intervention)	Day 14	Day 33	Day 42
Wound area	12.9 cm^2	7.5 cm^2 (↓42%)	0.07 cm^2 (↓64%)	Healed
Wound depth	0.1 cm	0.1 cm	0.05 cm	-
Signs of infection	None	None	None	None
Viable tissue	20%	95%	100%	100%
Peri-wound	Healthy, but with moderate dryness	Healthy, but with moderate dryness	Healthy, but with moderate dryness	Healthy, but with moderate dryness
Exudate	Moderate, non-viscous, clear/serous	Low, non-viscous, clear/serous	Low, non-viscous, clear/serous	-
Pain*	4, 5, 5, 4	2, 2, 2, 2	1, 1, 1, 1	0-1, 0-1, 0-1, 0

*Pain prior to dressing change, on dressing removal, during wound cleansing and on re-application (scale 0-10)

Perspective

At the final study evaluation, the venous leg ulcer had healed. Together, Mepilex Up and Mepi Press 2 Lite successfully facilitated wound healing in a patient with multiple co-morbidities.

Case 3

Jane Todhunter,
Advanced Vascular Nurse Practitioner and Lead Vascular Nurse, North Cumbria Integrated Care NHS Foundation Trust, Carlisle, United Kingdom

Mepilex® Up
Venous leg ulcer

Clinical challenge:

To promote wound healing, manage lymphorrhea whilst reducing wound and dressing-related pain, and ultimately improve the patient's quality of life.

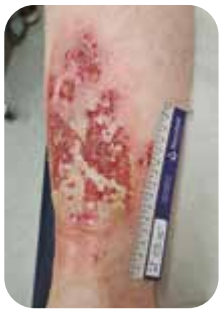
Patient and Wound History

- 67-year-old male.
- Medical history: hypertension, depression.
- **Lymphovenous leg ulcer** located on the right lower anterior leg: present for 5 months.
- The patient was very despondent. He had stopped attending the gym due to high levels of lymphorrhea and had stopped sleeping in his bed, exacerbating the problem. He had lost hope that the wound could heal.
- Most recent treatment: dressing pads, wool and crepe bandages, tubular bandage.

Intervention and Treatment Regime

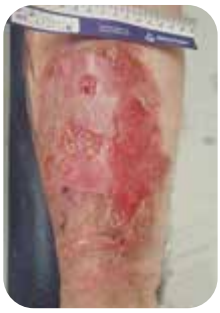
- Mepilex Up, a dimpled non-bordered foam dressing, was selected for its ability to manage exudate (preventing maceration) and maintain a moist wound environment, and its compatibility with compression therapies.
- At each dressing change, the wound was cleansed with tap water and emollient applied.
- Initially, the wound was dressed with an antimicrobial wound dressing (primary dressing), Mepilex Up (secondary dressing) and a cohesive inelastic compression bandage. After 4 days, the antimicrobial dressing was discontinued.
- After the initial dressing change at 4 days, dressings were changed weekly.

Wound Progression

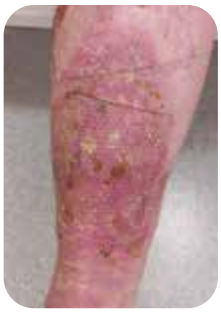


Day 1
(initial study intervention)

Day 4



Day 10



Day 24

	Day 1 (initial study intervention)	Day 4	Day 10	Day 24
Wound area	153.0 cm^2	108.0 cm^2 (↓29%)	84.0 cm^2 (↓45%)	Healed
Wound depth	0.2 cm	0.1 cm	0.1 cm	Healed
Signs of infection	None	None	None	None
Viable tissue	80%	90%	90%	100%
Peri-wound	Moderate erythema, excoriation, maceration	Improved	Improved	Mild dryness
Exudate	High, non-viscous, serosanguinous	Moderate, non-viscous, serosanguineous	Moderate, non-viscous, serosanguineous	-
Pain*	7-8, 7-8. 7-8, 2-3	1, 1, 1, 1	1, 1, 1, 1	0, 0, 0, 0

*Pain prior to dressing change, on dressing removal, during wound cleansing and on re-application (scale 0-10)

Perspective

At the final study evaluation, the chronic leg ulcer had healed. Mepilex Up was suitable for the whole of the wound healing journey, managing very high levels of lymphorrhea but conversely, upon the rapid reduction in lymphorrhea, there was no adherence or trauma to the fragile newly epithelialised wound bed tissue on its removal.

The patient couldn't believe how quickly his leg healed. He commented on the comfort of Mepilex Up and how the lack of leakage gave him the confidence to return to sleeping in his bed, and to go back to the gym and walking again without the fear of a wet, smelly leg. He said "It is amazing, you have literally saved my life. Thank you".

Case 4

Jane Todhunter,
Advanced Vascular Nurse Practitioner and Lead Vascular Nurse, North Cumbria Integrated Care NHS Foundation Trust, Carlisle, United Kingdom

Mepilex® Up
Venous leg ulcer

Clinical challenge:

To promote wound healing, manage lymphorrhea, and improve the patient's quality of life.

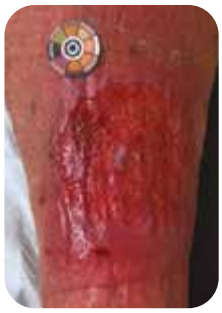
Patient and Wound History

- 64-year-old female with an elevated body mass index (BMI).
- Medical history: type 2 diabetes mellitus.
- Lymphovenous leg ulcer located on the left lower anterior leg: present for 5 months.
- The patient expressed a sense of hopeless around the chances of the ulcer healing.
- Most recent treatment: dressing pads, wool and crepe bandages; the patient refused to use compression therapy as she wanted to wash daily.

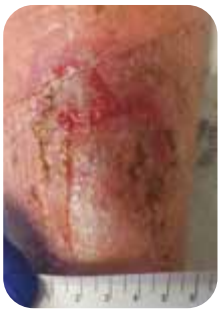
Intervention and Treatment Regime

- Mepilex Up, a dimpled non-bordered foam dressing, was selected for its ability to manage both low and high viscosity exudate and prevention of maceration.
- At each dressing change, the wound was cleansed with tap water; at the final study assessment, water and emollient were utilised.
- Initially, the wound was dressed with an antimicrobial wound dressing (primary dressing), Mepilex Up (secondary dressing) and a compression bandage. After 29 days, the antimicrobial dressing was discontinued.
- Dressings were changed weekly.

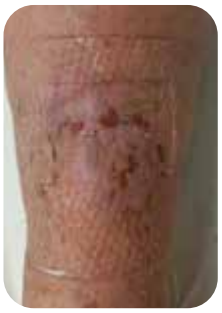
Wound Progression



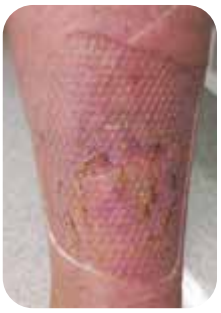
Day 1
(initial study intervention)



Day 7



Day 14



Day 35

	Day 1 (initial study intervention)	Day 7	Day 14	Day 35
Wound area	49.0 cm^2	4.0 cm^2 (↓92%)	4.0 cm^2	0.3 cm^2 (↓99%)
Wound depth	0.1 cm	0.1 cm	0.1 cm	Healed
Signs of infection	None	None	None	None
Viable tissue	100%	100%	100%	100%
Peri-wound	Moderate yellow/green	Moderate yellow/green	Moderate yellow/green	Low, clear/serous
Exudate	High, non-viscous, serosanguinous	Moderate, non-viscous, serosanguineous	Moderate, non-viscous, serosanguineous	-
Pain*	7-8, 7-8. 7-8, 2-3	1, 1, 1, 1	1, 1, 1, 1	0, 0, 0, 0

*Pain prior to dressing change, on dressing removal, during wound cleansing and on re-application (scale 0-10)

Perspective

At the final study evaluation, the chronic lymphovenous leg ulcer had almost healed. Mepilex Up was successfully used throughout the healing journey, in conjunction with compression, to manage the lymphorrhea, adapting to the changing levels, with no adherence or trauma to the fragile newly epithelialised wound bed tissue upon its removal.

The patient found Mepilex Up comfortable to wear and she was delighted that there was no gravitational leakage and no strike through.

Case 5

Paulo Ramos
Nurse
USF Corino de Andrade, Porto, Portugal

Granudacyn® Wound Irrigation Solution / Mepilex® Up / Mepi™ Press 2
Venous leg ulcer

Clinical challenge:

To optimise wound healing and manage exudate in delayed healing wounds whilst affording comfort for the patient.

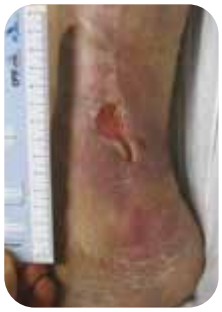
Patient and Wound History

- 64-year-old female.
- Medical history: hypertension, chronic venous insufficiency, previous deep vein thrombosis, anaemia, bilateral knee osteoarthritis.
- Surgical history: varicose vein surgery (18 years prior to study).
- **Venous leg ulcers** (VLU) located on the lateral lower left and right legs; present for 2 years.
- Treatment prior to study: wound debridement and intravenous antibiotics due to severe infection (patient hospitalised); gelling fibre dressing (right VLU) and povidone-iodine non-adherent dressing (left VLU).
- Dressing changes twice weekly.

Intervention and Treatment Regime

- Granudacyn Wound Irrigation Solution, a hypochlorous acid solution, was chosen to cleanse the wound and reduce the risk of infection. Mepilex Up, a dimpled non-bordered foam dressing, was selected for its ability to manage exudate (preventing maceration) and maintain a moist wound environment, and its compatibility with compression therapies. Mepi Press 2, a two layered compression bandaging system, was chosen for its ability to provide long-term compression therapy for the management of venous disease and oedema.
- At each dressing change the VLUs were cleansed with Granudacyn.
- Each VLU was dressed with Mepilex Up and Mepi Press 2 applied.
- Median dressing change was 5 days (range 4 - 7 days).

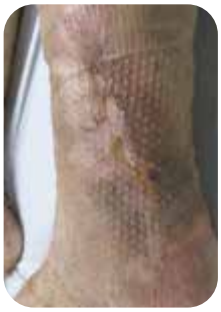
Wound Progression- Left Leg



Day 1
(initial study intervention)

Day 13

Day 26

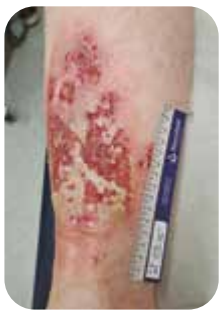


Day 35

	Day 1 (initial study intervention)	Day 13	Day 26	Day 35
Wound area	4.5 cm^2	3.0 cm^2 (↓29%)	1.3 cm^2 (↓45%)	Healed
Wound depth	0.0 cm	0.0 cm	0.0 cm	Healed
Signs of infection	Oedema, malodour	Reduced	Reduced	None
Viable tissue	100% granulation	90% granulation; 10% epithelial	40% granulation; 60% epithelial	100% epithelial
Peri-wound	Moderate erythema, excoriation, maceration	Improved	Improved	Healthy
Exudate	High, non-viscous, serosanguinous	Moderate, non-viscous, serosanguineous	Moderate, non-viscous, serosanguineous	None
Pain*	-, -, 2, 1	2, 0, 1, 1	0, 0, 0, 0	0, 0, 0, 0

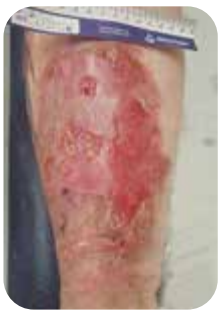
*Pain prior to dressing change, on dressing removal, during wound cleansing and on re-application (scale 0-10)

Wound Progression- Right Leg

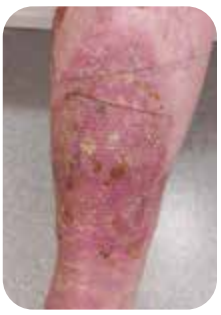


Day 1
(initial study intervention)

Day 13



Day 26



Day 35

Wound area	30.0 cm^2	27.0 cm^2 (↓10%)	9.0 cm^2 (↓70%)	6.0 cm^2 (↓80%)
Wound depth	0.0 cm	0.0 cm	0.0 cm	Healed
Signs of infection	Oedema, malodour	Reduced	None	None
Viable tissue	100% granulation	100% granulation	80% granulation; 20% epithelial	50% granulation; 50% epithelial
Peri-wound	Moderate erythema, excoriation, maceration	Improved	Improved	Healthy
Exudate	High, non-viscous, serosanguinous	Moderate, non-viscous, serosanguineous	Moderate, non-viscous, serosanguineous	None
Pain*	-, -, 4, 1	4, 0, 1, 1	2, 0, 0, 0	0, 0, 0, 0

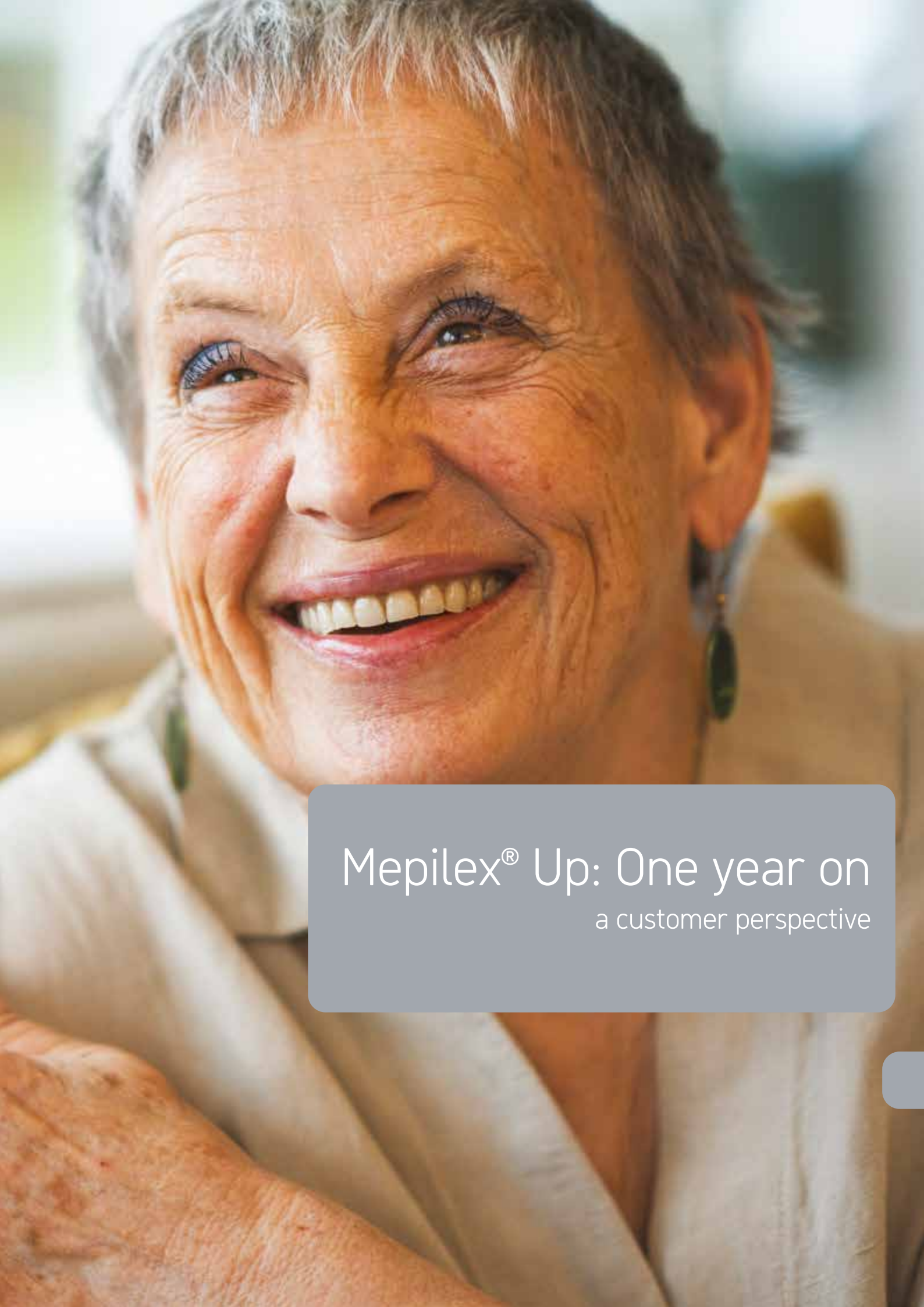
*Pain prior to dressing change, on dressing removal, during wound cleansing and on re-application (scale 0-10)

Perspective

After just 5 weeks of treatment, the VLU on the left leg had healed and the VLU on the right leg had significantly improved and was on a trajectory towards wound healing. Mepilex Up provided excellent wound exudate management, whilst protecting the wound bed tissue and periwound skin. Its thin design proved advantageous when used under Mepi Press 2 compression therapy.

The patient was pleasantly surprised at the rapid healing of the ulcers. She commented on the comfort afforded by both Mepilex Up and Mepi Press 2, and how being pain-free had improved her quality of sleep.

Translating Wound Care Pathways into Practice



Mepilex® Up: One year on

a customer perspective

Mepilex Up: One year on – a customer perspective

Kim Whitlock

RGN, degree in social and healthcare management (BSc Adult Nursing, PGDip Wound Healing)

Tissue Viability Matron, North Bristol NHS Trust, Bristol, United Kingdom

In late 2024, an advisory board, consisting of tissue viability and vascular specialists, convened to discuss unmet needs in the management of complex lower limb chronic wounds. The proceedings of the meeting, published in 2025, include details of the characteristics of wound dressings that are key to successful clinical outcomes for patients with wounds such as venous leg ulcers (VLUs) and diabetes-related foot ulcers (DFUs) (Table 1).[1]

Table 1: Examples of diabetes-related foot ulcer grading systems commonly used in clinical practice

Characteristic	Impact
Able to absorb varying levels of exudate (low-to-high)	Minimises risk of leakage and moisture-related damage to wound and peri-wound region (e.g. maceration)
Highly conformable / adaptable to the lower limb and wound location	Facilitates ease of application and achievement of effective dressing seal
Ability to maintain functionality as exudate is absorbed and withstand the impact of mechanical forces (e.g. gravity)	Avoidance of slippage, sagging and rolling enables dressing to stay securely in place and potentially allows for extended intervals between dressing changes
Available in range of adjustable sizes; adjustable	Variety of sizes and ability to be cut to size facilitate tailored treatment, discrete wear and patient comfort; may also reduce dressing wastage
Compatible with other interventions (e.g. compression for venous leg ulcers; offloading for diabetes-related foot ulcers)	Design/shape/size should enable dressings to work effectively in the presence of mechanical forces imparted by compression/offloading devices, while not affecting the performance of the devices. For example, bulky dressings may add unwanted pressure and mechanical loads to the wound
Gentle adherence	Enables dressings to be easily removed without causing trauma to the wound and peri-wound region, thus minimising pain to the patient

Mepilex® Up is a relatively new addition to the range of dressings with Safetac® (soft silicone) technology supplied by Mölnlycke Health Care (Mölndal, Sweden). This short article explores the design of this particular dressing, before reviewing publications (from the last 12 months) which describe pre-clinical and clinical research that were undertaken to evaluate the performance of this innovative dressing, in relation to some of the characteristics listed in Table 1.

Introduction to Mepilex® Up

Mepilex Up is a conformable, non-bordered, absorbent foam dressing intended for use in the management of low-to-highly exuding wounds such as leg ulcers, foot ulcers, pressure injuries, traumatic wounds, and other wounds healing by secondary intention. It is composed of: (i) a soft silicone-coated (Safetac) wound contact surface; (ii) a flexible absorbent pad of compressed polyurethane foam (which helps to spread exudate across its structure in all directions, even working against gravitational forces, by means of its capillary action) and (iii) an outer polyurethane film (breathable to facilitate evaporation, but waterproof) (Figure 1). The Safetac contact surface is non-adherent to the moist wound but adheres gently to the dry peri-wound skin. This component enables the dressing to protect the wound and surrounding skin while preventing trauma to the wound bed and the surrounding epidermis, and minimising pain to the patient on removal.[2]

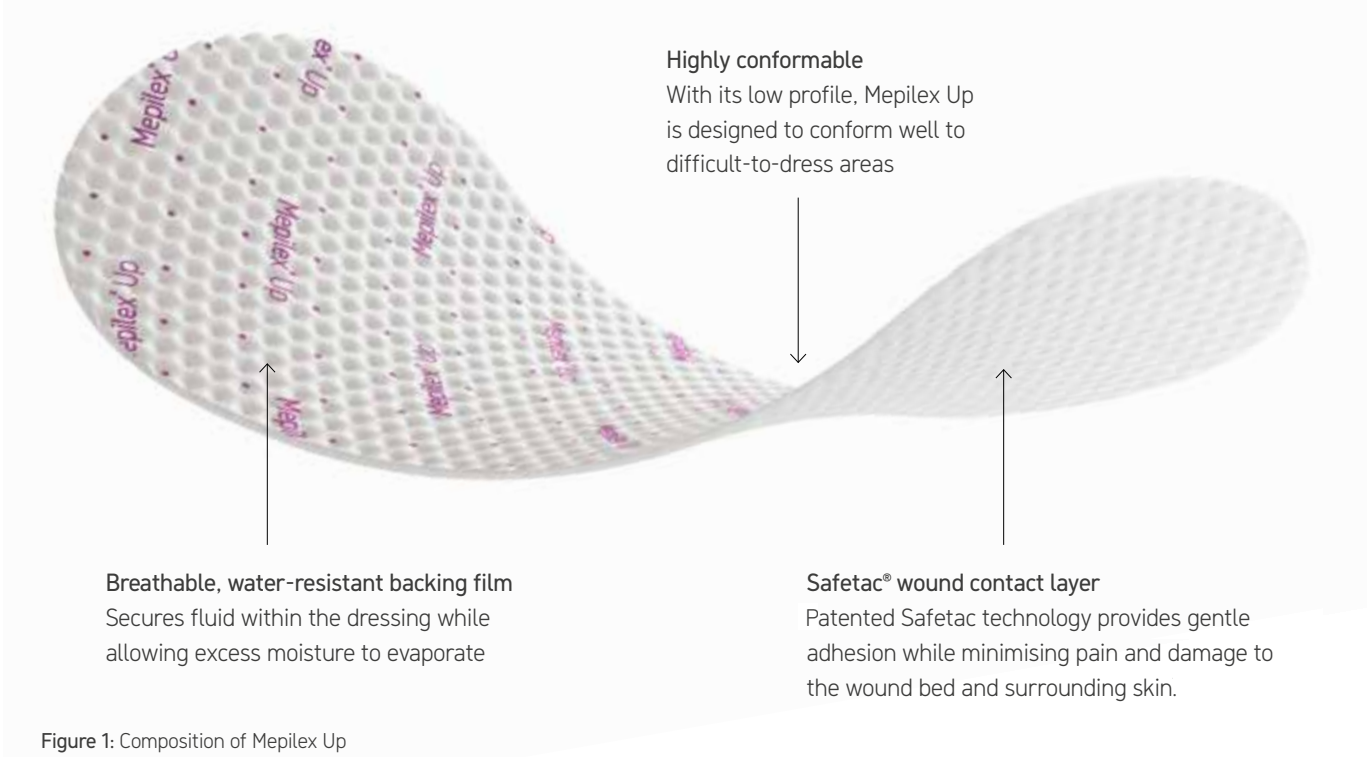


Figure 1: Composition of Mepilex Up

In a peer-reviewed supplement to the International Wound Journal, published in 2025, an article describes the results of laboratory-based tests that were carried out to assess the fluid handling properties of Mepilex Up and a clinical study undertaken to evaluate the performance of the dressing on highly exuding complex lower limb wounds).[2]

Laboratory evaluation

In the first part of the laboratory testing, the fluid handling capacity (FHC), fluid retention capacity (FRC) following acute compression, and moisture vapour loss (MVL) of Mepilex Up and five other non-bordered foam dressings were evaluated according to the EN 13726:2023 standard.[3] Mepilex Up performed well in each test, demonstrating its capacity (and, mostly, superiority) to absorb, retain and release fluid into the environment. The same dressings were then evaluated using the FLUHTE (FLUid Handling Test Equipment) method. This wound simulator is designed to replicate the shape of the lower leg (allowing vertical positioning to account for the effects of gravity on fluid distribution within dressings), and also control for factors that influence fluid handling of dressings, such as temperature, relative humidity, exudate flow rate, compressive forces and the composition of simulated wound fluid.[4] In this more clinically relevant testing, Mepilex Up significantly outperformed the other five dressings in terms of their ability to disperse fluid and was also found to have significantly higher MVL values when tested with compression bandages.[2]

These findings indicate that Mepilex Up has the ability to manage large quantities of fluids, even when working against gravitational forces, and its fluid handling properties are not impeded by the mechanical forces associated with the use of compression devices.

Clinical study

The results of the laboratory studies described above are consistent with the observations from the clinical study in which 72 patients with either VLUs (n=36) or DFUs (n=36) had Mepilex Up dressings applied and were assessed for up to six weeks. In general, the wounds substantially improved, with reductions in size and exudate levels observed. The investigators rated Mepilex Up very highly in terms of its ability to absorb and retain moderate-to-large quantities of exudate. Described as a relatively thin dressing with a low profile, Mepilex Up was also rated highly with regard to its ease of application and conformability. The dressing was also associated with minimal pain and trauma on removal. Patients reported that Mepilex Up was comfortable to wear, with and without compression. Compliance with compression (VLUs) and offloading (DFUs) was high throughout the study. These findings indicate that, despite its thinness, Mepilex Up can effectively manage exudate whilst remaining conformable and comfortable to wear under compression and offloading devices.[2]

Case studies

In the published proceedings of the advisory board meeting mentioned above, a case study is described in which Mepilex Up was used as part of the care of a moderately exuding fasciotomy wound on the lower leg of a patient with type 2 diabetes who presented with critical limb ischaemia. Despite the underlying pathology and the fact that compression therapy could not be administered (patient had peripheral arterial disease), wound healing slowly progressed. Mepilex Up was reported as being easy to apply, safe to apply to fragile skin, effective in managing high volumes of fluid, remains in place, easy to remove with minimal pain. The introduction of Mepilex Up also coincided with reduced visits, freeing up clinical time.[1]

In a Mölnlycke Health Care publication first distributed at the European Wound Management Association 2025 Conference, 10 case studies (undertaken in Finland, Portugal, United Kingdom, and United States of America), involving the use of Mepilex Up on VLUs (n=9) and a DFU (n=1) are presented. Good wound healing progression was observed in all cases. Mepilex Up was also reported to be easy to apply, able to absorb and retain exudate effectively, comfortable for the patient to wear (under compression and offloading) and associated with minimal pain on removal. In one case, the patient was happy to self-care using Mepilex Up, which enabled her to have a holiday.[5]

Survey

A poster presented at the Symposium on Advanced Wound Care (Fall 2025) describes a survey of European healthcare professionals' experience of using Mepilex Up in the management of different wound types. The survey questionnaire included eight questions relating to the clinical performance of the dressing: the possible answers were 'not effective', 'effective', 'extremely effective' and 'extremely effective and superior to most comparable dressings used'. Data from 209 fully completed questionnaires were analysed. The respondents indicated that Mepilex Up had been used on VLUs with compression (n=432), VLUs without compression (n=120) and other wound types (n=337). They also indicated that the dressing had been used on wounds with high (44.4%), moderate (42.3%) and low (13.2%) exudate levels. The findings relating to the impression of Mepilex Up with regard to exudate management, minimising leakage and minimising maceration are presented in Figure 2, with the data relating to the impression of the dressing when used on wounds with different exudate levels shown in Figure 3.[6]

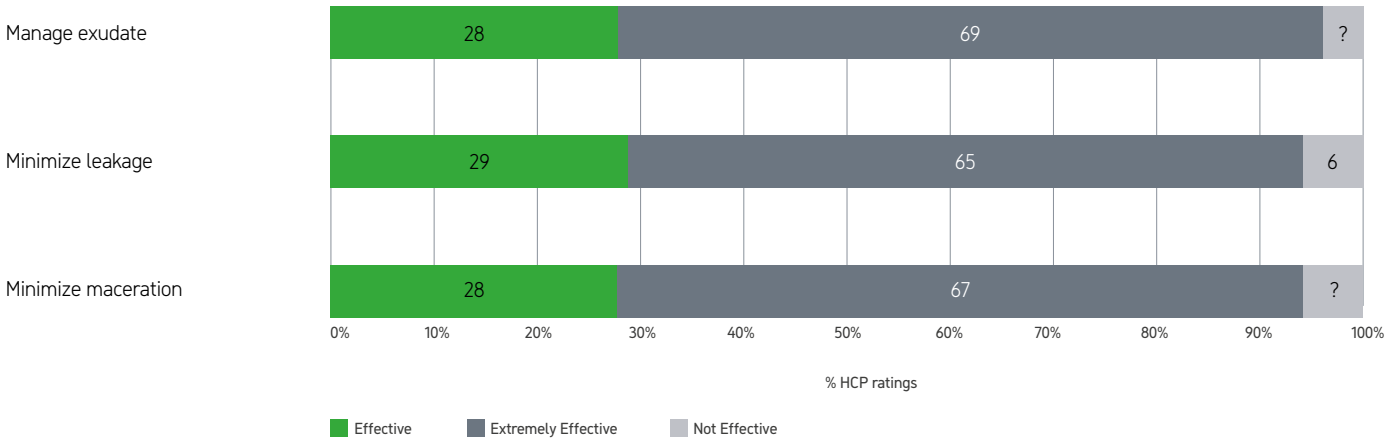


Figure 2: Health care professionals' impression of Mepilex Up in terms of managing exudate, minimising leakage and minimising maceration (# categories of 'extremely' effective' and 'extremely effective and superior to most comparable dressings' are combined)

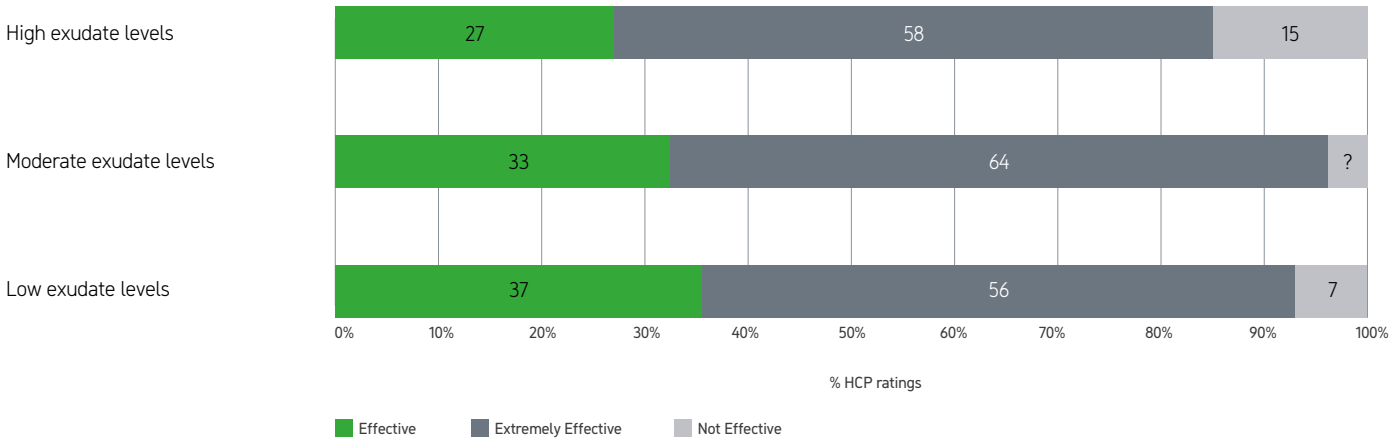


Figure 3: Health care professionals' overall impression of Mepilex Up for different wound exudation types (# categories of 'extremely' effective' and 'extremely effective and superior to most comparable dressings' are combined)

For the characteristics 'Handling and application to wound', Manages exudate', Minimises leakage' Minimises maceration', 'Meets the clinical objectives when used under compression', 'Facilitates patient comfort during wear', Minimises pain associated with dressing changes', and 'Overall impression', the percentage of HCPs who rated the characteristic as 'effective' or higher ranged from 94.3% to 99.5%. The vast majority (97%) of respondents indicated that they would like to continue using the dressing.[6]

Concluding remarks

Over the past year, the growing body of scientific and clinical research data relating to Mepilex Up has highlighted its value as an effective dressing for managing complex lower limb wounds. Laboratory testing demonstrated that the dressing performed well in each test of absorption, retention and MVL. These findings were reinforced by the more clinically relevant FLUHTE evaluations in which Mepilex Up was able to disperse fluid efficiently even under the influence of gravity and compression.

Clinical outcomes further support these laboratory observations. In the six week study of patients with venous leg ulcers and diabetes related foot ulcers, investigators reported substantial improvements in wound size and exudate levels, alongside high ratings for conformability, comfort and ease of application. Importantly, the dressing's thin profile did not compromise its ability to manage moderate to high exudate levels or to remain comfortable under compression and offloading devices.

Real world experience mirrors these results. Case studies from multiple countries describe reliable exudate management, secure wear, minimal pain on removal and positive impacts on patient quality of life—including an instance of a patient who was able to self manage her care. Survey data from over 200 healthcare professionals further emphasise this consistency, with 97% of respondents indicating that they would like to continue using the dressing and effectiveness ratings exceeding 94% across key performance characteristics.

Taken together, these findings demonstrate that Mepilex Up successfully addresses many of the unmet needs identified by the advisory board in 2024. Its combination of strong fluid handling, conformability, gentle adherence and compatibility with compression and offloading positions it as a valuable option for clinicians managing complex lower limb wounds. As adoption continues to grow, further real world evidence will help to refine best practice and optimise outcomes for patients living with chronic wounds.

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Declaration of interest

This compendium has been prepared by the Medical Affairs and Clinical Engagement teams at Mölnlycke Health Care. It has not been subject to double-blind peer review.

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