Management of burn wounds using Mepilex Ag

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Introduction

Burn wounds are a significant global healthcare burden and a leading cause of physical and psychological harm to patients, including disability, scarring and the stigma associated with burn injuries. Owing to prolonged hospitalisation, recovery and rehabilitation, burn wounds also present significant challenges for healthcare professionals (HCPs) and systems, especially in low- and middle-income countries. This Made Easy document provides up-to-date guidance on the assessment and treatment of burn wounds, highlighting clinical evidence and case studies on the impact of silver-containing dressings.

Burn injury is a common worldwide problem, with almost half of all global burn cases in 2019 occurring in Asia, and the highest numbers of recorded burn injuries documented in China and India (Collier et al, 2022). The World Health Organisation has stated that burns are the cause of approximately 180,000 annual deaths, with 11 million people experiencing some burn injury annually (Radzikowska-Büchner et al, 2023).

Burn injuries can be highly distressing for patients, challenging for caregivers and healthcare professionals (HCPs) and costly for healthcare systems. Burns often result in a profound and enduring impact on the patient, which may include common psychological concerns such as post-traumatic stress, anxiety, depression and disruptions to self-perception (Dmitry et al, 2025). Therefore, to minimise complications, it is important for HCPs to understand burns and their management, and have access to evidence-informed treatment methods.

Causes and classification of burns

Burns are wounds resulting from damage to the skin and other tissues (Zwierello et al, 2023), caused by the following factors:

- Heat (e.g. scalds from hot liquids, contact burns from hot solids, or flames)
- Radiation
- Electricity
- Friction
- Chemicals.

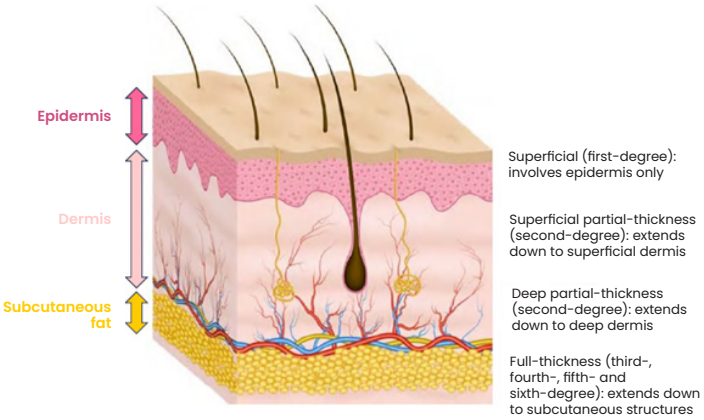

Figure 1. Classification of burns according to their impact on the skin. Adapted from Zwierello et al (2023) and Malhotra et al (2024).

The severity of a burn determines the clinical care required. Burn severity varies widely and depends on factors such as anatomical site, temperature, duration of exposure, total surface area affected and depth (Evans et al, 2010). Burns are classified by their depth, with the increasing depth indicating greater tissue damage, which may lead to delayed healing and increased complications (see **Figure 1** for burn classification; Zwierello et al, 2023; Malhotra et al, 2024). Accurate burn classification is important for selecting appropriate management. Otherwise, complications such as infection, scarring and contractures can significantly reduce the patient's quality of life.

Challenges in managing burns

Managing burns is a complex challenge, often requiring multidisciplinary and specialised wound care, placing a significant burden on HCPs and healthcare systems globally. The overall aim of burn care is to minimise the adverse effects caused by the injury, contracture development, scarring and the impact on patient's physical and emotional quality of life, while maintaining range of movement (Manasyan et al, 2025).

The burden associated with burn wounds, along with associated regional factors, such as limited access to care and financial constraints, has created substantial challenges for burn wound management across the APAC region (Puri et al, 2025). It is, therefore, important for HCPs to understand, and have access to, burn management tools that are easy to use and can be employed across diverse clinical settings.

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Role of dressings in burn management

Topically applied products, such as creams and dressings, are minimally invasive burn management tools, providing a protective barrier and promoting wound healing. Expert consensus (Puri et al, 2025) and HCP experience (Nischwitz, 2021) broadly agree on the characteristics of an ideal dressing for management of burns in practice:

- Pain-free removal
- Easy application
- Ability to remain *in situ* for several days (undisturbed wound healing)
- Ability to absorb exudate
- Ability to provide an antimicrobial barrier
- Ability to create a sterile, moist wound environment
- Cost-effectiveness.

Traditionally, silver sulphadiazine (SSD) creams have been used as a standard treatment for partial-thickness burns (Hermans, 2019). However, side effects of SSD include leukopenia, hypersensitivity, allergic reactions, wound bed discolouration, antimicrobial resistance and pain during application and removal (White and Cooper, 2005; National Library of Medicine, 2023). Consequently, alternative approaches to the topical management of burns that are at least as effective as SSD, but associated with fewer side effects, should be considered (Davies et al, 2017). HCPs have access to a wide array of dressing types for use in burn care, including variants containing antimicrobial agents (e.g. silver) for when topical antimicrobial therapy is indicated. One such dressing is Mepilex® Ag.

Introducing Mepilex Ag dressings with Safetac® technology

Mepilex Ag (Mölnlycke Health Care) is a silver-containing absorbent foam dressing with Safetac technology. It is suitable for burn wounds, fulfilling the ideal dressing characteristics highlighted above. Mepilex Ag can be used for a wide range of wound types due to its gentle adherence, ease of application and removal and exudate absorption capacity; it may be used as an antimicrobial barrier to support the treatment of wounds when topical antimicrobial therapy is indicated (Puri et al, 2025). Additionally, Mepilex Ag has a wear time of 7 days (depending on the nature and condition of the wound). This longer wear time promotes undisturbed wound healing, which can improve burn wound outcomes.

Dressings with conventional adhesives may damage delicate wound tissue or fragile peri-wound skin (Charlesworth et al, 2014; Matsumura et al, 2014). It is important that HCPs are aware of and use dressings that reduce or even prevent dressing-related trauma (Puri et al, 2025).

Safetac is a technology based on soft silicone which can adhere to intact dry skin and remain in place on moist wounds or damaged surrounding skin without adhering to these fragile tissues (Cutting, 2008). Therefore, dressings with Safetac technology (e.g. Mepilex Ag) can be applied and removed without damaging the wound or stripping the epidermis of the surrounding skin (Cutting, 2008). The gentle yet effective seal formed between intact skin and a Safetac dressing helps limit the spread of exudate into surrounding tissue; this effect reduces the risk of moisture-related peri-wound damage (e.g. maceration). By reducing trauma to the wound and peri-wound area during removal, Safetac dressings help minimise pain during dressing changes. Numerous studies in healthy volunteers (Dykes et al, 2001; Dykes, 2007; Waring et al, 2008; Waring et al, 2011) and in patients with chronic wounds (Zillmer et al, 2006) have shown that dressings with Safetac are less traumatic to remove than dressings that use other adhesive systems.

Clinical evidence for Mepilex Ag

Table 1 provides a summary of randomised clinical trials comparing Mepilex Ag with a variety of other interventions and SSD, highlighting the better outcomes achieved with Mepilex Ag (i.e. reduced healing time and dressing-related pain, better scar outcomes, higher patient and clinician satisfaction and lower treatment costs).

Case studies

Case studies advance clinical knowledge and can help demonstrate the scale of clinical problem, the intervention required and its impact on outcomes (Piker, 2026). See pages 4 and 5 for case studies demonstrating the positive outcomes achieved with Mepilex Ag in patients with partial-thickness burns.

Conclusion

It is recommended to use burn wound dressings that minimise pain and infection risk, prevent trauma to the wound and peri-wound skin, improve ease of use for HCPs and reduce overall care costs for healthcare systems (Puri et al, 2025). The clinical evidence and case studies presented in this Made Easy highlight the effectiveness of Mepilex Ag in achieving these outcomes in both adult and paediatric patients.

Table 1. Overview of randomised clinical trials evaluating Mepilex Ag for burn wounds

Randomised clinical trials	Burn classification and clinical setting	Mepilex Ag comparators	Outcomes
Aggarwala et al (2021); *n*=119; adult patients	• Partial-thickness burns (TBSA 0.3–6.0%); <72 hours post-injury • Ambulatory (outpatient) care	Dressings with nanocrystalline silver or ionic silver; a synthetic skin substitute	✔ Shorter mean re-epithelialisation time (*NSS*) was noted with Mepilex Ag (8.9 days) versus dressings with nanocrystalline silver (9.6 days), dressings with ionic silver (9.6 days) and the synthetic skin substitute (10.8 days) ✔ 26% longer time to re-epithelialisation was noted in the synthetic skin substitute group compared with the Mepilex Ag group (p<0.01 when adjusted for gender, age, smoking status, burn mechanism, TBSA and first-aid frequency) ✔ There was a 99%, 71% and 53% probability that Mepilex Ag was dominant (i.e. less costly and more effective) when compared with the synthetic skin substitute and dressings containing nanocrystalline silver and ionic silver, respectively
Gee Kee et al (2015 and 2017); *n*=103 and 96, respectively; paediatric patients	• Superficial partial- to deep partial-thickness burns (TBSA ≤10%) <72 hours post-injury • Emergency care/ paediatric burn care centre	Dressings with nanocrystalline silver (dressing A) or nanocrystalline silver with a silicone wound contact layer (dressing B)	✔ After adjusting for burn depth, healing times were 40% and 33% longer with dressings A and B, respectively, compared with Mepilex Ag (p≤0.01) ✔ Compared with dressing A, FLACC scores in the Mepilex Ag group were 32% lower at dressing removal (p=0.01) and 37% lower at new dressing application (p=0.04); scores with dressing B were 23% lower at dressing removal (p=0.04) and 40% lower at new dressing application (p<0.01) ✔ Compared with dressing A, VAS-P scores in the Mepilex Ag group were 25% lower at dressing removal (p=0.04) and 34% lower in the dressing B group (p=0.02) at new dressing application ✔ Median costs (dressings, analgesics, scar management) were lower in the Mepilex Ag group (AUD 94.45) than the dressing A group (AUD 244.90) and the dressing B group (AUD 196.66) ✔ There was a 99% and 97% probability that Mepilex Ag dominated (i.e. was less expensive and more effective than) dressings A and B, respectively
Tang et al (2015); *n*=153; paediatric and adult patients	• Deep partial-thickness thermal burns (TBSA 2.5–25.0%); <36 hours post-injury • Burn care centre	SSD cream	✔ Healing rate with Mepilex Ag and SSD was 79%, with a median healing time of 15 and 16 days, respectively (*NSS*) ✔ The mean number of dressings used was lower in the Mepilex Ag group (3.06) than the SSD group (14.00; p<0.0001) ✔ Clinicians rated Mepilex Ag higher than SSD in terms of ease of application, lack of dressing adherence, ease of removal and overall experience (p<0.0001) ✔ Patients rated Mepilex Ag higher than SSD in terms of experiencing anxiety during dressing change, ease of movement while wearing it, ability of the dressing to remain in place and lack of stinging/burning during dressing wear (p<0.0001) ✔ Pain at dressing change (before, during and after removal) was lower in the Mepilex Ag group than the SSD group (p≤0.0254)
Silverstein et al (2011); *n*=100; paediatric and adult patients	• Partial-thickness burns (TBSA 2.5–20.0%); <36 hours post-injury • Burn care centres	SSD cream	✔ Mean time to hospital discharge was shorter in the Mepilex Ag group versus the SSD group (5.6 versus 8.3 days; p=0.034) ✔ Mean healing time was 13.4 and 17.1 days in the Mepilex Ag and SSD groups, respectively (*NSS*) ✔ Compared with the SSD group, pain intensity was lower in the Mepilex Ag group at dressing application (p=0.018), during wear (p=0.048) and on removal (p=0.097) ✔ Mepilex Ag was rated higher than SSD in terms of ease of use (p=0.0028) and flexibility (p=0.0038) ✔ The total treatment cost per patient was lower in the Mepilex Ag group (USD 309) versus the SSD group (USD 614)

Abbreviations: *AUD, Australian dollars; FLACC, Face, Legs, Activity, Cry, Consolability score; n, number of patients; NSS, not statistically significant; p, p-value; SSD, silver sulphadiazine; TBSA, total body surface area; USD, United States dollars; VAS-P, Visual Analogue Scale-Pain*

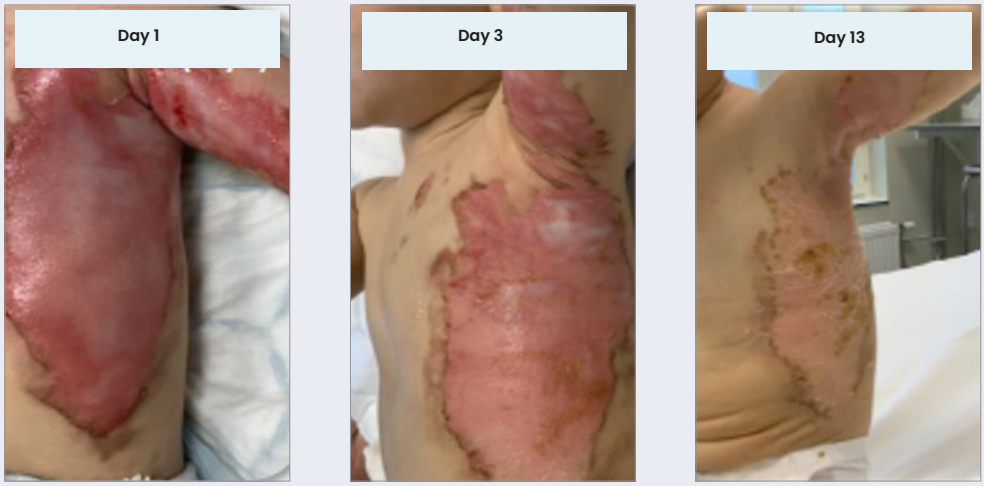
Case study 1

Clinical challenge: To promote wound healing and prevent infection whilst minimising scarring and reducing patient pain and discomfort.

Patient and wound history
- 17-month-old male infant
- No relevant medical history
- Superficial partial-thickness scald injury on left lateral side of the chest, and top of the underarm, with a deep partial-thickness burn to the armpit; present for 4 days
- Previous dressing: foam.

Treatment
- Granudacyn® Wound Irrigation Solution (Mölnlycke Health Care), a hypochlorous acid solution, was used to cleanse the wound and reduce the risk of infection. Mepilex Ag dressing was selected due to its antimicrobial action, effective exudate management, prevention of wound maceration and conformability
- Mechanical wound debridement was performed using dry gauze, and the wound was cleansed with Granudacyn
- Mepilex Ag was applied as a primary dressing; a Tubifast® vest (Mölnlycke Health Care) and stretchable medical tape were used for dressing fixation
- The dressings were changed on day 3 and day 7.

Healing progression



	Day 1	Day 3	Day 13
Wound area	120 cm^2	32 cm^2 (73% reduction)	Healed
Pruritus	None	Mild	Mild
Signs of infection	None	None	None
Viable tissue	100%	100%	100%
Peri-wound	Healthy	Healthy	Healthy
Exudate	Moderate, non-viscous, yellow/green	Low, non-viscous, clear/serous	None
FLACC score*	6/10	0/10	-

HCP perspective

"Mepilex Ag was easy to use and conformed well to a difficult-to-dress wound area. It provided excellent exudate management and offered comfort during wear." *Matilda Karlsson, Registered Nurse, Linköping University Hospital, Sweden*

**Face, Leg, Activity, Cry, Consolability score; a pain assessment tool for children aged up to 7 years who are unable to communicate their pain*

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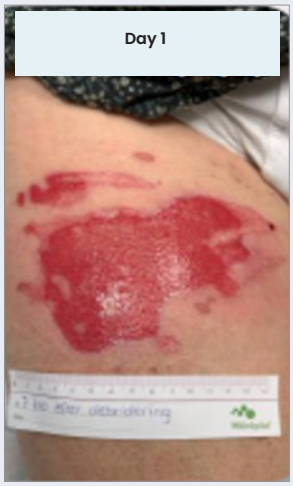
Case study 2

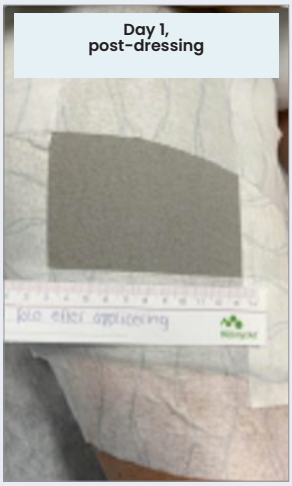
Clinical challenge: To promote wound healing and prevent infection whilst minimising scarring and reducing patient pain and discomfort.

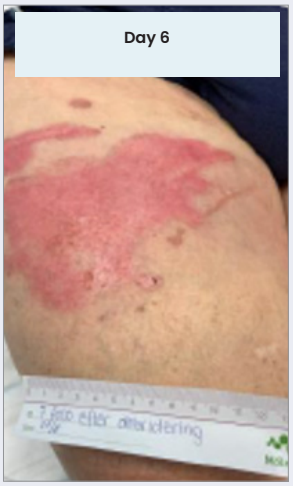
Patient and wound history
- 71-year-old male
- Medical history of hypertension and hiatus hernia
- Superficial partial-thickness burn on the top of the front right thigh; present for 4 days
- Previous dressing: foam.

Treatment
- Granudacyn® Wound Irrigation Solution (Mölnlycke Health Care), a hypochlorous acid solution, was used to cleanse the wound and reduce the risk of infection. Mepilex Ag dressing was selected for its antimicrobial action, effective exudate management, prevention of wound maceration and conformability
- Mechanical wound debridement was performed using dry gauze, and the wound was cleansed with Granudacyn
- Mepilex Ag was applied as a primary dressing; an elastic bandage and Tubifast® were used for dressing fixation
- The dressing was changed once during the study period.

Healing progression







Wound area	30 cm^2		Healed
Pruritus	None		None
Signs of infection	None		None
Viable tissue	100%	Mepilex Ag *in situ*	100%
Peri-wound	Healthy		Healthy
Exudate	Moderate, non-viscous, clear/serous		None
Pain score*	10/100; 12/100; 30/100; 0/100		0/100; 5/100; 0/100; 0/100

HCP perspective

"The use of **Granudacyn** and **Mepilex Ag** promoted the successful healing of a scald injury. Mepilex Ag was easy to apply and conformable to the wound area. Exudation was well managed, minimising the risk of maceration. The patient found Mepilex Ag comfortable to wear, with pain minimised on removal."

Matilda Karlsson, Registered Nurse, Linköping University Hospital, Sweden

**In the order of appearance: 'pain prior to dressing change'; 'on dressing removal'; 'during wound cleansing'; 'upon dressing re-application'*

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