

Zinc oxide and ichthammol

A new approach to managing category 1 and 2 pressure ulcers and moisture-associated skin damage

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Introduction

Open, non-healing wounds, often accompanied by deterioration of the surrounding skin, can be highly distressing for patients, significantly increase clinicians' workload and are costly to manage for global healthcare systems (Olsson et al, 2019). Pressure ulcers (PUs) or wounds that occur due to moisture-associated skin damage (MASD) are two examples of these wound types, which may occur together and can result in open wounds when skin integrity is completely lost (e.g. due to physical forces and skin contamination). Timely identification and management are essential, using interventions that protect the skin from further damage while promoting wound healing and preventing infection. This Made Easy document outlines the potential and practical strategies for using zinc oxide medicated dressings to manage patients with category 1 or 2 pressure ulcers and the surrounding damaged skin in patients with MASD.

Promoting wound healing with zinc oxide

Zinc is a chemical element that is an essential nutrient for the human body and is involved in growth, immune function, tissue maintenance, skin integrity and wound healing (Kogan et al, 2017; Al-Khafaji et al, 2022). Zinc deficiency is associated with older age, poor dietary intake

and comorbidities, which are common features of both MASD and PUs (Kogan et al, 2017; Arribas Lopez et al, 2025).

Figure 1 outlines the crucial role of zinc at each stage of wound healing.

Zinc oxide is a chemical compound prepared by combining zinc and oxygen. It is a white powder that is poorly absorbed by the body and a good candidate for topical application. Historical evidence exists for topical zinc oxide applications in managing chronic dermatological conditions and lower limb ulceration where an open wound has occurred due to compromised skin integrity (Davies, 2026). A recent systematic review and meta-analysis concluded that zinc treatment is associated with accelerated wound healing (Arribas Lopez et al, 2025). Zinc oxide paste-impregnated cotton dressings have demonstrated improved outcomes in patients with venous leg ulcers (VLUs), particularly when acute inflammation occurs along with generalised skin involvement, such as stasis dermatitis or eczema (Davies, 2026). When used alongside compression therapy, zinc oxide has demonstrated significantly greater healing improvement than compression therapy alone (Beckert et al, 2006). A systematic review recommended that healthcare professionals (HCPs) consider zinc oxide treatment for patients with PUs (Song et al, 2020). As zinc oxide-based treatments, such as medicated dressings, are inexpensive and easy to apply, they may provide a reliable wound care option for patients, HCPs and healthcare systems (Davies, 2026).

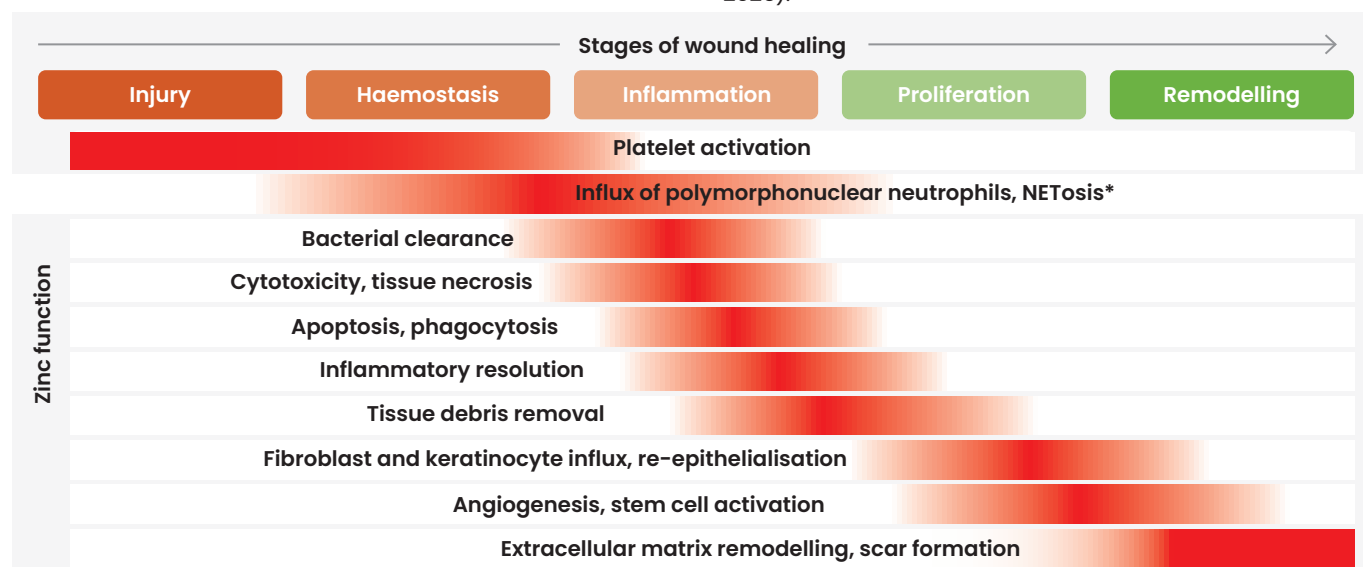


Figure 1. The importance of zinc during every phase of wound healing (adapted from Lin et al, 2017).

*NETosis: Formation of neutrophil extracellular traps to kill pathogens

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Table 1. Zinc oxide and ichthammol medicated dressings as wound contact layers for promoting wound healing.

Active ingredient	Evidence
Zinc oxide mechanism	- Reduces erythema and inflammation, and soothes and protects the skin (Ågren et al, 2021; Arribas Lopez et al, 2025) - Inhibits microbial activity and biofilm formation (Pasquet et al, 2014; Almoudi et al, 2018) - Promotes moist wound healing, autolytic debridement and re-epithelisation (Lansdown et al, 2007) - The zinc oxide paste does not dry out during wear, promoting trauma-free dressing changes
Ichthammol mechanism	- Reduces skin irritation, breaking the itch-scratch cycle; soothes and protects the skin (NLM, 2026) - Promotes healing (Beckert et al, 2006) - Inhibits microbial/fungal growth (Gayko et al, 2000; NLM, 2026) - Reduces inflammation and pain for patients with particularly distressing open wounds (e.g. hidradenitis suppurativa; Fisher and Ziv, 2020)
Product characteristics	Viscopaste* (zinc oxide, 10.00%) Ichthopaste* (zinc oxide, 6.32%; ichthammol 2.00%)
Odour	Minimal
Typical indications	Open wounds and their associated skin conditions (e.g. MASD, PUs, VLUs**, cellulitis, varicose eczema, chronic eczema, dermatitis)
Wear time	Up to seven days, promoting cost-effectiveness
Patient engagement	Suitable for self-care
Age restrictions	Suitable for use on patients of all ages

*Ichthopaste and Viscopaste are class III medical devices as per Medicine and Healthcare products Regulatory Agency (MHRA) classification (MHRA, 2022)

**Wound contact layer under compression therapy (e.g. for patients with VLUs)

Abbreviations: MASD, moisture-associated skin damage; NLM, National Library of Medicine; PU, pressure ulcer; VLUs, venous leg ulcers

Viscopaste™ and Ichthopaste™ (Evolan Pharma) are zinc oxide medicated dressings that have demonstrated benefits in the treatment of patients with VLUs and other skin complications (see **Table 1** for a summary of their features and product characteristics). In addition to zinc oxide, Ichthopaste contains ichthammol, an ammonium salt derived from sulphonated shale oil. Due to its reported anti-inflammatory, antibacterial and antifungal properties, ichthammol has historically been used to treat skin conditions such as eczema, psoriasis and boils (Boyd, 2010; National Library of Medicine [NLM], 2026).

As stated in the Instructions for Use (IFU) for Viscopaste and Ichthopaste, the products should not be used in individuals with a known sensitivity to zinc oxide or any other listed ingredient. If a reaction occurs, remove the product, cleanse the affected area with warm water and an emollient, gently pat the area dry and seek medical assistance.

Supporting patients with MASD and/or category 1 or 2 PUs

Skin deterioration and open wounds associated with MASD and pressure damage can severely affect patients' quality of life. The wound healing mechanisms promoted by zinc oxide in MASD- and pressure-related wounds may be similar to those observed in VLUs (see **Figure 1**), supporting the use of zinc oxide medicated dressings to promote healing in MASD and category 1 or 2 PUs. Zinc oxide may be a suitable treatment for superficial wounds but not those with exposed bones, tendon or other structures (e.g. in high-category PUs).

Appropriate identification and prompt treatment can help improve patient outcomes. Therefore, HCPs should understand the assessment, diagnosis and management of MASD and PUs and the role of evidence-based zinc treatments (Arribas Lopez et al, 2025).

Table 2. Presentation of MASD and PUs.

Characteristics	MASD	Pressure ulcers
Location on the body	Can develop anywhere on the body; some areas may be more prone (e.g. groin, skin folds, areas around stomas)	Usually over bony prominences (e.g. elbows, heels, hips, coccyx); also under medical devices (e.g. oxygen masks, urinary catheters)
Cause of skin damage	Exposure to moisture and the irritants in it (faeces, urine, stoma output, wound exudate)	Pressure and shear leading to tissue deformation
Odour	Depends on the irritant the skin is exposed to (e.g. urine, faeces, other chemicals)	PUs have a distinctive odour; they may become malodorous in the presence of infection
Pain	Typically present (burning, itching, tingling, pain)	May or may not be present; if present, may worsen if the patient is moved; itching present if the PU is healing, likely due to tissue contraction
Wound margin	Diffuse, irregular or jagged edges. 'Kissing' lesions in skin folds	Clearly defined margins
Wound bed	Blanchable or non-blanchable	Non-blanchable erythema or purple/maroon intact skin or open wound (depending upon the PU category)

Abbreviations: MASD, moisture-associated skin damage; PU, pressure ulcer

Table 3. Steps and considerations for using zinc oxide medicated dressings (e.g. Viscopaste and Ichthopaste).

Steps	Tips and considerations
Skin and wound assessment	Identify skin damage, cause, tissue type, exudate and sensitivity/pain levels. Follow local guidelines, where available, for MASD and PU identification, classification and reporting
Product selection	Ensure that the patient does not have sensitivity to any components of the product. For first-time use, a patch test is recommended. Match the dressing type to the identified wound skin condition(s). See Table 1 for features and product characteristics; these products may be used as the primary dressing/wound contact layer
Application technique	1. Depending on the wound size and skin condition, cut strips of the selected dressing to size to adequately cover the damaged skin/wound and/or periwound skin (may be used as the primary dressing). If required, the strips may be layered as needed. Ensure good coverage. Do not stretch the product over the wound or damaged skin (the dressings are made with cotton and are not elastic). In the inflammatory phase of healing, the affected area may swell. It is therefore important to apply the product in a way which allows for the swelling to take place without causing tightening or pressure on the skin 2. Cover with an appropriate secondary dressing/pad/bandage/garment (e.g. a net undergarment). Secure in place. A secondary dressing (e.g. a dressing pad, bandage, garment, tubular retention bandage) is always needed to prevent the zinc oxide paste from drying out and to protect the patient's clothing.
Patient education	Explain the purpose and mode of action of the zinc oxide medicated dressing to the patient or carer; for patients with capacity for self-care, provide appropriate education on self-management
Monitoring	Review healing progression as per your local guidelines
Removal	Viscopaste and Ichthopaste medicated dressings are intended for single use and may be left <i>in situ</i> for up to one week or earlier, depending on the patients' treatment plan and needs. 1. Upon removal, gently unwind or lift away the dressing and discard appropriately. Irrigate if necessary 2. Where there is faecal contamination, remove the whole dressing and dispose. Lightly remove any residual zinc oxide paste/faeces with warm water and emollient, gently pat dry and re-apply Viscopaste/ Ichthopaste to the area.

Abbreviations: MASD, moisture-associated skin damage; PU, pressure ulcer

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Table 2 summarises and differentiates MASD and PU characteristics and presentation. It is important to remember that MASD and PUs may coexist, particularly in elderly patients (Wounds UK, 2025; Beeckman et al, 2026).

The general principles of care for MASD and PUs are similar, including:

- Optimisation of patient's health
- Alleviation of the cause of the wound
- Timely screening and identification via validated tools
- Comprehensive skin care regimen
- Reduction of mechanical and environmental stress
- Promotion of wound healing and skin protection
- Appropriate documentation
- Prompt referral/escalation, where needed.

Given the beneficial role of zinc oxide in wound healing, early intervention with zinc oxide medicated dressings may improve outcomes in patients with MASD and category 1 and 2 PUs.

Steps and considerations for using zinc oxide medicated dressings

Patch testing is always recommended 48 hours prior to initial use, particularly if zinc oxide sensitivity is suspected.

Table 3 (page 3) outlines steps and considerations for using zinc oxide medicated dressings for patients with MASD and/or superficial PUs. **Figure 2** shows examples of these medicated dressings.



Figure 2. A, Viscopaste on a pressure ulcer on elbow (the patient also had moisture-associated skin damage); **B**, Ichthopaste on a malleolus pressure ulcer. (Images courtesy of the authors.)

Conclusion

Despite advances in wound care, improving outcomes for patients with MASD and PUs remains a challenge in practice. Zinc oxide medicated dressings protect fragile skin, reduce inflammation and support compression therapy where needed. Viscopaste and Ichthopaste remain effective, clinically relevant options within holistic, patient-centred community and tissue viability care.

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