



Contents lists available at ScienceDirect

Actas Dermo-Sifiliográficas

journal homepage: www.actasdermo.org

Opinion Article

Traditional Practices in Dermatology and Wound Care: Are They Evidence-Based?

A. García-Mares ^{a,*}, E. Conde Montero ^b^a Servicio de Dermatología, Hospital Universitario Clínico San Carlos, Madrid, Spain^b Servicio de Dermatología, Hospital Universitario Infanta Leonor y Virgen de la Torre, Madrid, Spain

In dermatologic clinical practice, we are faced daily with acute and chronic wounds. Despite their frequency, the lack of awareness regarding best practices for their proper management is striking. In fact, many practices are routinely performed simply out of tradition and are not always based on solid scientific evidence. Examples include the use of topical antibiotics to prevent infections, the performance of surgical procedures under sterile conditions, or the continuous washing and debridement of wounds.

Traditionally, systematic washing and debridement of wounds are considered essential for healing, and, thus, are included in most clinical practice guidelines on wound care. Under this premise, washing and debridement at each dressing change would help eliminate agents that impair healing, such as biofilm, excessive exudate containing pro-inflammatory cytokines, non-viable tissue, etc.¹

However, what scientific evidence exists to support that all wounds need to be washed or debrided? A recent publication showed that the slough in chronic ulcers consists not only of denatured tissue but also collagen, keratins, and other proteins that may be viable and promote healing.² In fact, if a wound is progressing well, would aggressive washing—or even debridement—not be counterproductive for this newly formed tissue?³ In this regard, debridement of venous ulcers has not been shown to improve healing, except in recalcitrant ulcers with excessive slough.⁴ That is, achieving a wound with less slough during dressing changes does not necessarily mean that healing will be accelerated, as has been observed with larval therapy.⁵ Washing and debridement are necessary in wounds with visible debris, infected wounds, or those harboring resistant biofilm. However, in acute wounds or those with a favorable progression, manipulation of the wound bed could potentially harm the cells and growth factors that promote healing⁶ and may also generate inflammation,⁷ hindering closure. Surgical debridement seems to provide no benefit in cases of atrophie blanche and will cause pain and may even worsen the wound in pyoderma gangrenosum or arteriosclerotic ulcers.

Another widespread clinical practice lacking scientific justification is the microbiological culture of chronic ulcers whose healing has stalled, even in the absence of clinical suspicion of infection. The diagnosis of ulcer infection is clinical⁸ (erythema, increased temperature and pain, systemic symptoms, etc.), and unnecessary cultures lead to overuse of

antibiotics, since most chronic wounds are colonized. This naturally occurring microbiota has been involved in the wound-healing process, for example, by modulating lesional inflammation⁹—an additional reason not to alter the beneficial microenvironment through cleaning and/or debridement in wounds that are healing adequately.

The frequency of dressing changes is another traditional practice that has not been appropriately studied. It is commonly recommended to change dressings 1–3 times per week, or even daily. Again, we encounter the same situation: if a wound is healing and the dressing is not saturated, why should we disrupt an optimal microenvironment by replacing it with another that lacks growth factors or beneficial microbiota? To extend dressing-change intervals, exudate volume must be reduced; therefore, we must treat the wound etiology—for example, with compression therapy or leg elevation in venous ulcers. Based on the authors' experience, another element that allows further spacing of dressing changes is encouraging the physiological formation of scabs using fiber-based dressings (alginate) or zinc oxide on the wound bed to stimulate epithelialization beneath the crust. In addition to its drying effect, zinc oxide possesses anti-inflammatory and antimicrobial properties.¹⁰ However, for years, wound care has focused on maintaining a moist environment, based on findings from a pioneering 1962 study by Winter¹¹ on superficial acute wounds in the skin of 2 pigs. That study did not find significant differences in the rate of re-epithelialization of acute wounds beyond the first 72 h,¹¹ and, in fact, there is no clear evidence demonstrating the benefit of the same moist environment in healing chronic ulcers.¹² On the contrary, maintaining a moist environment may be harmful to lesional and perilesional skin by promoting maceration when exudate is excessive; thus, in practice, it is not advisable in many chronic lower-extremity ulcers.

In the field of wound care, Dermatology has focused for years on the prevention and diagnosis of infections, without addressing inflammation control to accelerate healing and improve cosmetic outcomes. We must not forget that dermatologists not only treat acute and chronic wounds but also create wounds surgically—wounds that we sometimes do not manage optimally. This is especially important in lower-extremity surgical wounds, in which gravity prolongs the inflammatory process and produces edema that hinders healing. In this context, compression is a therapeutic strategy that, despite not being widely adopted among dermatologists, improves surgical outcomes in the lower extremities by preventing suture dehiscence and graft or flap necrosis.^{13,14}

* Corresponding author.

E-mail address: alfredogarciamares@gmail.com (A. García-Mares).<https://doi.org/10.1016/j.ad.2025.104573>

In conclusion, given the need to challenge these habitual practices, we recommend re-evaluating traditional strategies with a critical mindset and conducting studies capable of generating high-quality evidence.

References

1. Fernandez R, Griffiths R, Ussia C. Effectiveness of solutions, techniques and pressure in wound cleansing. *JBI Rep.* 2004;2:231–270.
2. Townsend EC, Cheong JA, Radzietza M, et al. What is slough? Defining the proteomic and microbial composition of slough and its implications for wound healing. *Wound Repair Regen.* 2024;32:783–798.
3. Lindsay E. To wash or not to wash: what's the solution for chronic leg ulcers. *Wound Essent.* 2007;2:74–83.
4. Williams D, Enoch S, Miller D, Harris K, Price P, Harding KG. Effect of sharp debridement using curette on recalcitrant nonhealing venous leg ulcers: a concurrently controlled, prospective cohort study. *Wound Repair Regen.* 2005;13:131–137.
5. Greene E, Avsar P, Moore Z, Nugent L, O'Connor T, Patton D. What is the effect of larval therapy on the debridement of venous leg ulcers? A systematic review. *J Tissue Viabil.* 2021;30:301–309.
6. Doerfler P, Schoefmann N, Cabral G, et al. Development of a cellular assay as a personalized model for testing chronic wound therapeutics. *J Invest Dermatol.* 2025;145:631–644.2024.
7. Conde-Montero E, Moreau A, Schlager JG, Pastor D, Hafner J. Protocols in wound healing: evidence-based or mere rituals? *Int Wound J.* 2024;21:e70062.
8. Franks PJ, Barker J, Collier M, et al. Management of patients with venous leg ulcers: challenges and current best practice. *J Wound Care.* 2016;25(suppl 6):S1–S67.
9. Lai Y, di Nardo A, Nakatsuji T, et al. Commensal bacteria regulate toll-like receptor 3-dependent inflammation after skin injury. *Nat Med.* 2009;15:1377–1382.
10. Lansdown AB, Mirastschijski U, Stubbs N, Scanlon E, Agren MS. Zinc in wound healing: theoretical, experimental, and clinical aspects. *Wound Repair Regen.* 2007;15:2–16.
11. Winter GD. Formation of the scab and the rate of epithelization of superficial wounds in the skin of the young domestic pig. *Nature.* 1962;193:293–294.
12. Jones J. Winter's concept of moist wound healing: a review of the evidence and impact on clinical practice. *J Wound Care.* 2005;14:273–276.
13. Conde-Montero E, Silvente-San Nicasio C, Velázquez-Tarjuelo D, De la Cueva-Dobao P. La terapia compresiva tras cirugía dermatológica en la pierna. *Dermatol Rev Mex.* 2019;63:235–236.
14. Isoherranen K, Conde Montero E, Atkin L, et al. Lower leg ulcer diagnosis & principles of treatment: including recommendations for comprehensive assessment and referral pathways. *J Wound Manage.* 2023;24(2 Suppl 1).