Compression therapy beyond venous leg ulcers

Elena C Montero*[1], **Kirsi Isoherranen**[2]

[1]Hospital Universitario Infanta Leonor y Virgen de la Torre, C/ Puerto de Lumbreras, 5, Vallecas Villa, 28031 Madrid, Spain
[2]Helsinki University Hospital/Skin and Allergy Hospital, Meilahdentie 2, 00029 HUS, Finland

*Corresponding author email elenacondemontero@gmail.com

Keywords dermatology, venous ulcers, compression therapy, atypical wounds, leg ulcers

For referencing Montero EC. Compression therapy beyond venous leg ulcers. Journal of Wound Management 2023;24(3):76.

DOI https://doi.org/10.35279/jowm2023.24.03.01

Submitted 31 May 2023, Accepted 19 September 2023

The inflammatory process inherent in any leg wound involves an alteration in the microcirculation, with greater capillary filtration, and, because of the force of gravity, an increase in intravenous pressure. Therefore, despite the absence of reflux or an obstructive cause, a state of venous hypertension may develop, making healing difficult. The term 'hydrostatic ulcers' has been proposed to refer to leg wounds of different aetiologies that meet this condition[1]. This group includes wounds in patients with obesity and immobilisation issues, traumatic wounds and atypical wounds (e.g., vasculitis and occlusive vasculopathy). Moreover, is not uncommon for a patient to present several of these predisposing conditions together[1,2]. Even if a recent review concludes that only limited evidence has been published to support the use of compression for non-venous leg ulcers[3], the experience in the clinical practice for traumatic ulcers and atypical wounds due to Pyoderma gangrenosum, Necrobiosis lipoidica, vasculitis or Martorell ulcer shows that it promotes wound healing[2,3].

The effects of compression therapy on leg wounds are, among others, decreased capillary filtration, increased local lymphatic drainage, reduction of inflammation and increased arterial flow. These benefits may justify the recommendation to use compression therapy, provided it is not contraindicated, in any leg with a wound[1,3,4].

A relevant question is: Which then are the contraindications for compression therapy? As a principle, pressure exerted externally and continuously must not exceed the intra-arterial and arteriolar pressure. This is why it has been established that compression therapy is contraindicated if the ankle-brachial index (ABI) is less than 0.6[5]. However, patients with mild peripheral artery disease may benefit from compression therapy. In fact, increased arterial flow has been shown in these patients with the use of high stiffness bandages or pneumatic compression devices[6]. In this context of understanding the benefit of compression therapy as the best anti-inflammatory and anti-gravity treatment for leg ulcers, an expert consensus has come to establish only these three situations as contraindications for compression therapy – severe peripheral artery disease, severe cardiac insufficiency, and compression of epifascial arterial bypasses[6].

Consequently, in addition to the increasing spectrum of indications for compression therapy, even traditional contraindications such as cellulitis have become indications for compression therapy. A recent study has shown that the initiation of compression therapy synchronous to antibiotic therapy, in addition to not increasing the risk of infection spread, reduces inflammation, oedema and thus may reduce the risk of secondary ulcers[7].

Generalisation of compression therapy, adapted to the needs of each patient, and always adjuvant to the accurate aetiological treatment of each leg ulcer, might have a great impact on accelerating wound healing[8].

REFERENCES

1. Partsch H. Why should wounds on the lower extremities be treated by compression? J Wound Tech 2010;8:10–13.
2. Isoherranen K, O'Brien JJ, Barker J, Dissemond J, Hafner J, Jemec GBE, et al. Atypical wounds. Best clinical practice and challenges. J Wound Care.2019;28(Sup6):S1–S92.
3. Shavit E, Alavi A. Compression therapy for non-venous leg ulcers: current viewpoint. Int Wound J 2019;16(6):1581–1586.
4. Burian EA, Karlsmark T, Nørregaard S, Kirketerp-Møller K, Kirsner RS, Franks PJ et al. Wounds in chronic leg oedema. Int Wound J 2022;19:411–425.
5. De Maeseneer MG, Kakkos SK, Aherne T, Baekgaard N, Black S, Blomgren L, et al. European Society for Vascular Surgery (ESVS) 2022 clinical practice guidelines on the management of chronic venous disease of the lower limbs. Eur J Vasc Endovasc Surg 2022;63:184–267.
6. Rabe E, Partsch H, Morrison N, Meissner MH, Mosti G, Lattimer CR, et al. Risks and contraindications of medical compression treatment – a critical reappraisal. An international consensus statement. Phlebol 2020;35(7):447–460.
7. Eder S, Stücker M, Läuchli S, Dissemond J. Ist die Kompressionstherapie bei Erysipel des Unterschenkels kontraindiziert? Resultate einer retrospektiven Analyse [Is compression therapy contraindicated for lower leg erysipelas? Results of a retrospective analysis]. Hautarzt 2021;72(1):34–41.
8. Isoherranen K, Montero EC, Collier M, Høgh A, Ivory JD, Kirketorp-Moller K, et al. Lower leg ulcer diagnosis & principles of treatment. Including recommendations for comprehensive assessment and referral pathways. J Wound Manage 2023;24(2Sup1):S1–76.