

EVIDENCE BASED STATEMENT

DOMAIN **07**, Statement **6**

TOPIC: “**Compression protocols in venous ulcer patients**”

SEARCH TERMS & SOURCES
(graduated compression) AND (venous ulcer)

INCLUSION CRITERIA

- Lower limb only
- Reviews
- Publication < 10 years, only ENG

SEARCH RESULT BEFORE - AFTER SELECTION

7/4

PERTINENT LITERATURE NOT IDENTIFIED BY THE LITERATURE SEARCH

- Shi C, Dumville JC, Cullum N, et al. Compression bandages or stockings versus no compression for treating venous leg ulcers. Cochrane Database Syst Rev. 2021 Jul 26;7(7):CD013397.
- Ning J, Ma W, Fish J, Abbas J, et al. Interface pressure changes under compression bandages during period of wearing. J Vasc Surg Venous Lymphat Disord. 2021 Jul;9(4):971-976.
- Alvarez OM, Markowitz L, Parker R, Wendelken ME. Faster Healing and a Lower Rate of Recurrence of Venous Ulcers Treated With Intermittent Pneumatic Compression: Results of a Randomized Controlled Trial. Eplasty. 2020 Jun 5;20:e6.
- Mosti G, Mancini S, Bruni S, et al. Adjustable compression wrap devices are cheaper and more effective than inelastic bandages for venous leg ulcer healing. A Multicentric Italian Randomized Clinical Experience. Phlebology. 2020 Mar;35(2):124-133.
- Giancesini S, Obi A, Onida S, et al. Global guidelines trends and controversies in lower limb venous and lymphatic disease: Narrative literature revision and experts' opinions following the vWINTER international meeting in Phlebology, Lymphology & Aesthetics, 23-25 January 2019. Phlebology. 2019 Sep;34(1 Suppl):4-66.
- Mościcka P, Szweczyk MT, Cwajda-Białasik J, Jawień A. The role of compression therapy in the treatment of venous leg ulcers. Adv Clin Exp Med. 2019 Jun;28(6):847-852
- De Carvalho MR, Peixoto BU, Silveira IA, et al. A Meta-analysis to Compare Four-layer to Short-stretch Compression Bandaging for Venous Leg Ulcer Healing. Ostomy Wound Manage. 2018 May;64(5):30-37.
- Nelson EA, Hillman A, Thomas K. Intermittent pneumatic compression for treating venous leg ulcers. Cochrane Database Syst Rev. 2014 May 12;(5):CD001899

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IDENTIFIED REFERENCES

1. Goel RR, Hardy SC, Brown T. Surgery for deep venous insufficiency. Cochrane Database Syst Rev. 2021 Sep 30;9(9):CD001097.
2. Knight Nee Shingler SL, Robertson L, et al. Graduated compression stockings for the initial treatment of varicose veins in people without venous ulceration. Cochrane Database Syst Rev. 2021 Jul 16;7(7):CD008819.
3. Hall L, Adderley U. Active debridement of venous leg ulcers: a literature review to inform clinical practice. Br J Community Nurs. 2019 Jun 1;24(Sup6):S24-S29.
4. de Carvalho MR, de Andrade IS, de Abreu AM, et al. All about compression: A literature review. J Vasc Nurs. 2016 Jun;34(2):47-53.

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TEXT FOR INCLUSION IN THE DOCUMENT

DOMAIN 07, Statement , TOPIC: “**Compression protocols in venous ulcer patients**”

International guidelines globally recognize the pivotal role of appropriate compression in venous ulcer healing.

[Gianesini S, Obi A, Onida S, et al. Global guidelines trends and controversies in lower limb venous and lymphatic disease: Narrative literature revision and experts' opinions following the vWINTER international meeting in Phlebology, Lymphology & Aesthetics, 23-25 January 2019. Phlebology. 2019 Sep;34(1 Suppl):4-66.]

A recent Cochrane revision reported that bandages or graduated compression stockings are associated with a probable quicker and more effective wound healing. The potential benefit of their use has been shown also in pain control and disease-specific quality of life. Adverse effects and cost-effectiveness of compression in this setting remain unclear.

***[Shi C, Dumville JC, Cullum N, et al. Compression bandages or stockings versus no compression for treating venous leg ulcers. Cochrane Database Syst Rev. 2021 Jul 26;7(7):CD013397].**

Appropriate compression is also considered fundamental for recurrence management: non compliance to compression has been associated with up to 70% recurrence rate indeed.

Mościcka P, Szewczyk MT, Cwajda-Białasiak J, Jawień A. The role of compression therapy in the treatment of venous leg ulcers. Adv Clin Exp Med. 2019 Jun;28(6):847-852

A recent publication on venous ulcer patients demonstrated the non inferiority in healing rate, as well as the competitiveness in cost-efficacy, of a specific adjustable compression wrap versus inelastic bandaging.

[Mosti G, Mancini S, Bruni S, et al. Adjustable compression wrap devices are cheaper and more effective than inelastic bandages for venous leg ulcer healing. A Multicentric Italian Randomized Clinical Experience. Phlebology. 2020 Mar;35(2):124-133].

The possibility of readjusting the compression dose along time represents a benefit considering the bandaging interface pressure variability.

[Ning J, Ma W, Fish J, et al. Interface pressure changes under compression bandages during period of wearing. J Vasc Surg Venous Lymphat Disord. 2021 Jul;9(4):971-976].

Intermittent pneumatic compression was reported to potentially improve wound healing rate compared to no compression, but its alternative role to compression bandages remains unclear.

Nelson EA, Hillman A, Thomas K. Intermittent pneumatic compression for treating venous leg ulcers. Cochrane Database Syst Rev. 2014 May 12;(5):CD001899

Literature demonstrating the best compression modality, timing and dosing is still missing.

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STATEMENT FOR PUBLIC EVIDENCE-BASED AWARENESS

DOMAIN 7, Statement 6

“Compression is the mainstay of ulcer healing and can be performed by proper bandage, graduated compression stocking and adjustable compression use, following expert prescription and application. In difficult healing cases, intermittent pneumatic compression can provide a valuable option.”

4 SELECTED REFERENCES

- Gianesini S, Obi A, Onida S, et al. Global guidelines trends and controversies in lower limb venous and lymphatic. *Phlebology*. 2019 Sep;34(1 Suppl):4-66
- *Shi C, Dumville JC, Cullum N, et al. Compression bandages or stockings versus no compression for treating venous leg ulcers. *Cochrane Database Syst Rev*. 2021 Jul 26;7(7):CD013397
- Mościcka P, Szewczyk MT, Cwajda-Białasiak J, Jawień A. The role of compression therapy in the treatment of venous leg ulcers. *Adv Clin Exp Med*. 2019 Jun;28(6):847-852
- Mosti G, Mancini S, Bruni S, et al. Adjustable compression wrap devices are cheaper and more effective than inelastic bandages for venous leg ulcer healing. A Multicentric Italian Randomized Clinical Experience. *Phlebology*. 2020 Mar;35(2):124-133
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identified LITERATURE BIAS

- lack of interface pressure measurement in several studies

SUGGESTED NEXT LINES OF RESEARCH

Randomized trials comparing bandaging, adjustable compression wraps and intermittent pneumatic compression.