EVIDENCE BASED STATEMENT

DOMAIN 09, Statement 06

TOPIC: "Superficial and deep venous post-procedural compression timing and dosing"

SEARCH TERMS & SOURCES

(compression) AND (post-procedural)

INCLUSION CRITERIA

- Lower limb only
- Systematic Reviews, Meta-Analysis, Reviews
- Publication < 10 years, only ENG

SEARCH RESULT BEFORE - AFTER SELECTION

109/5

PERTINENT LITERATURE NOT IDENTIFIED BY THE LITERATURE SEARCH

1. Ma F, Xu H, Zhang J, Premaratne S, Gao H, Guo X, Yang T. Compression Therapy Following Endovenous Thermal Ablation of Varicose Veins: A Systematic Review and Meta-Analysis. Ann Vasc Surg. 2022 Mar;80:302-312
2. Bootun R, Belramman A, Bolton-Saghdaoui L, et al. Randomized Controlled Trial of Compression After Endovenous Thermal Ablation of Varicose Veins (COMETA Trial). Ann Surg. 2021 Feb 1;273(2):232-239
3. Tan MKH, Salim S, Onida S, Davies AH. Postsclerotherapy compression: A systematic review. J Vasc Surg Venous Lymphat Disord. 2021 Jan;9(1):264-274
4. Chou JH, Chen SY, Chen YT, et al. Optimal duration of compression stocking therapy following endovenous thermal ablation for great saphenous vein insufficiency: A meta-analysis. Int J Surg. 2019 May;65:113-119
5. 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.
6. Al Shakarchi J, Wall M, Newman J, et al. The role of compression after endovenous ablation of varicose veins. J Vasc Surg Venous Lymphat Disord. 2018 Jul;6(4):546-550.
7. Lurie F, Lal BK, Antignani PL, et al. Compression therapy after invasive treatment of superficial veins of the lower extremities: Clinical practice guidelines of the American Venous Forum, Society for Vascular Surgery, American College of Phlebology, Society for Vascular Medicine, and International Union of Phlebology. J Vasc Surg Venous Lymphat Disord. 2019 Jan;7(1):17-28
8. El-Sheikha J, Carradice D, Nandhra S, Leung C, Smith GE, Campbell B, Chetter IC. Systematic review of compression following treatment for varicose veins. Br J Surg. 2015 Jun;102(7):719-25. doi: 10.1002/bjs.9788. Epub 2015 Apr 2.
9. Huang TW, Chen SL, Bai CH, Wu CH, Tam KW. The optimal duration of compression therapy following varicose vein surgery: a meta-analysis of randomized controlled trials. Eur J Vasc Endovasc Surg. 2013 Apr;45(4):397-402.

EVIDENCE BASED STATEMENT

Domain 9; Statement 6

IDENTIFIED REFERENCES

1. Machin M, Younan HC, Smith S, et al. Systematic review on the benefit of graduated compression stockings in the prevention of venous thromboembolism in low-risk surgical patients. Phlebology. 2021 Apr;36(3):184-193
2. Wade R, Paton F, Woolacott N. Systematic review of patient preference and adherence to the correct use of graduated compression stockings to prevent deep vein thrombosis in surgical patients. J Adv Nurs. 2017 Feb;73(2):336-348.
3. 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. doi: 10.1016/j.jvn.2015.12.005.
4. Mandavia R, Shalhoub J, Head K, et al. The additional benefit of graduated compression stockings to pharmacologic thromboprophylaxis in the prevention of venous thromboembolism in surgical inpatients. J Vasc Surg Venous Lymphat Disord. 2015 Oct;3(4):447-455.
5. Wade R, Sideris E, Paton F, et al. Graduated compression stockings for the prevention of deep-vein thrombosis in postoperative surgical patients: a systematic review and economic model with a value of information analysis. Health Technol Assess. 2015 Nov;19(98):1-220.

EVIDENCE BASED STATEMENT

Domain 9; Statement 6

TEXT FOR INCLUSION IN THE DOCUMENT

DOMAIN 01, Statement 01, TOPIC: "Superficial and deep venous post-procedural compression timing and dosing"

Graduated compression following vein procedures is recommended in an heterogenous way in the different international guidelines, with pressure ranging from 16 to 40 mmHG and a timing ranging from 24 hours to 3 weeks.
[**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 review on graduated compression peri-procedural use in low-risk surgical patients pointed out the need of properly powered studies before delivering high grade recommendations.
[Machin M, Younan HC, Smith S, et al. Systematic review on the benefit of graduated compression stockings in the prevention of venous thromboembolism in low-risk surgical patients. Phlebology. 2021 Apr;36(3):184-193].
Another review demonstrated the heterogeneity in the outcome measures used in this topic investigations, therefore suggesting larger data collection on specific assessments of not only thrombotic incidence, rather pain and quality of life that demonstrated a potential benefit in compression use.
[Al Shakarchi J, Wall M, Newman J, Pathak R, Rehman A, Garnham A, Hobbs S. The role of compression after endovenous ablation of varicose veins. J Vasc Surg Venous Lymphat Disord. 2018 Jul;6(4):546-550. doi: 10.1016/j.jvsv.2018.01.021].
Indeed, the most recent review on the topic reported a better pain control and a faster return to normal activities following the use of post-procedural compression, yet with the confirmed need of larger high quality studies on the topic.
***[Ma F, Xu H, Zhang J, Premaratne S, Gao H, Guo X, Yang T. Compression Therapy Following Endovenous Thermal Ablation of Varicose Veins: A Systematic Review and Meta-Analysis. Ann Vasc Surg. 2022 Mar;80:302-312]**
A randomized comparative trial demonstrated a better pain control by the compression group, particularly in case of concomitant phlebectomies, but with no significant difference in quality of life and return to normal activities. It should be noted that both study groups wore compression bandages, introducing a potential bias in the compression analysis.
[Bootun R, Belramman A, Bolton-Saghdaoui L, et al. Randomized Controlled Trial of Compression After Endovenous Thermal Ablation of Varicose Veins (COMETA Trial). Ann Surg. 2021 Feb 1;273(2):232-239]
Considering the potential benefits of post-procedural compression and the low associated risk, further studies should be dedicated on the topic, including the currently lacking area of deep venous post-procedural management.

EVIDENCE BASED STATEMENT

Domain 9; Statement 6

STATEMENT FOR PUBLIC EVIDENCE-BASED AWARENESS

DOMAIN 09, Statement 06

"Certified compression stockings can be useful after a procedure on the venous system.
Only expert health-professionals can recommend specific compression type and duration"

SELECTED REFEREENCES

1. **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**
2. **Machin M, Younan HC, Smith S, et al. Systematic review on the benefit of graduated compression stockings in the prevention of venous thromboembolism in low-risk surgical patients. Phlebology. 2021 Apr;36(3):184-193**
3. **Al Shakarchi J, Wall M, Newman J, Pathak R, Rehman A, Garnham A, Hobbs S. The role of compression after endovenous ablation of varicose veins. J Vasc Surg Venous Lymphat Disord. 2018 Jul;6(4):546-550. doi: 10.1016/j.jvsv.2018.01.021**
4. **Ma F, Xu H, Zhang J, Premaratne S, Gao H, Guo X, Yang T. Compression Therapy Following Endovenous Thermal Ablation of Varicose Veins: A Systematic Review and Meta-Analysis. Ann Vasc Surg. 2022 Mar;80:302-312**
5. **Bootun R, Belramman A, Bolton-Saghdaoui L, et al. Randomized Controlled Trial of Compression After Endovenous Thermal Ablation of Varicose Veins (COMETA Trial). Ann Surg. 2021 Feb 1;273(2):232-239**

identified LITERATURE BIAS

Different outcome measures in heterogeneous procedures and lack of interface pressure measurement

SUGGESTED NEXT LINES OF RESEARCH

Multi-center rct on homogeneous outcome measures.
Registry data