

EVIDENCE BASED STATEMENT

DOMAIN **01**, Statement **02**

TOPIC: “venous AND/OR lymphatic swelling”

SEARCH TERMS & SOURCES

swelling AND (lower limb)

INCLUSION CRITERIA

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

SEARCH RESULT BEFORE - AFTER SELECTION

319/9

PERTINENT LITERATURE NOT IDENTIFIED BY THE LITERATURE SEARCH

1. Raffetto JD, Khalil RA. Mechanisms of Lower Extremity Vein Dysfunction in Chronic Venous Disease and Implications in Management of Varicose Veins. *Vessel Plus*. 2021;5:36.
2. Ortega MA, Fraile-Martínez O, García-Montero C, et al. Understanding Chronic Venous Disease: A Critical Overview of Its Pathophysiology and Medical Management. *J Clin Med*. 2021 Jul 22;10(15):3239.
3. Gasparis AP, Kim PS, Dean SM, et al. Diagnostic approach to lower limb edema. *Phlebology*. 2020;35(9):650-655. doi:10.1177/0268355520938283
3. Keast DH, Moffatt C, Janmohammad A. Lymphedema Impact and Prevalence International Study: The Canadian Data. *Lymphat Res Biol*. 2019 Apr;17(2):178-186.
4. Rasmussen JC, Aldrich MB, Tan IC, et al. Lymphatic transport in patients with chronic venous insufficiency and venous leg ulcers following sequential pneumatic compression. *J Vasc Surg Venous Lymphat Disord*. 2016 Jan;4(1):9-17.
5. Partsch H, Lee B. Phlebology and lymphology--a family affair. *Phlebology*. 2014 Dec;29(10):645-7.
6. Mortimer PS. Evaluation of lymphatic function: abnormal lymph drainage in venous disease. *Int Angiol*. 1995 Sep;14(3 Suppl 1):32-5.

EVIDENCE BASED STATEMENT

Domain 1; Statement 2

IDENTIFIED REFERENCES

1. Bahadori S, Immins T, Wainwright TW. Volumetric assessment of lower limb oedema using 3D laser scanning technique: a systematic review. *J Med Eng Technol*. 2022 Jan;46(1):40-45.
2. Scherer K, Khilnani N. Evaluation and Management of Patients with Leg Swelling: Therapeutic Options for Venous Disease and Lymphedema. *Semin Intervent Radiol*. 2021 Jun;38(2):189-193.
3. Guedes PM, Saldanha NA, Matos PM, et al. Occupational leg edema-use of compression stockings. *Porto Biomed J*. 2020 Nov 24;5(6):e093.
4. Leow KS, Chew KM, Chawla A, Lim TC. Sonographic assessment of musculoskeletal causes of calf pain and swelling. *Emerg Radiol*. 2019 Jun;26(3):349-359.
5. Ratchford EV, Evans NS. Approach to Lower Extremity Edema. *Curr Treat Options Cardiovasc Med*. 2017 Mar;19(3):16.
6. Warren Peled A, Kappos EA. Lipedema: diagnostic and management challenges. *Int J Womens Health*. 2016 Aug 11;8:389-95.
7. Hidding JT, Viehoff PB, Beurskens CH, et al. Measurement Properties of Instruments for Measuring of Lymphedema: Systematic Review. *Phys Ther*. 2016 Dec;96(12):1965-1981.
8. Toh JWT, Salindera S, Sarofim M, et al. An unusual cause of bilateral lower limb pitting oedema: Crohn's septal panniculitis diagnostic of erythema nodosum. *ANZ J Surg*. 2018 Jun;88(6):E566-E567.
9. Lim MC, Lee JS, Nam BH, Seo SS, Kang S, Park SY. Lower extremity edema in patients with early ovarian cancer. *J Ovarian Res*. 2014 Mar 7;7:28.

EVIDENCE BASED STATEMENT

Domain 1; Statement 2

TEXT FOR INCLUSION IN THE DOCUMENT

DOMAIN 01, Statement 2 , TOPIC: “venous AND/OR lymphatic swelling”

The interconnection between venous and lymphatic systems has been clearly described decades ago.

[Mortimer PS. Evaluation of lymphatic function: abnormal lymph drainage in venous disease. *Int Angiol.* 1995 Sep;14(3 Suppl 1):32-5].

Nevertheless, the ‘mutual interdependence’ between veins and lymphatics function keeps on being not properly considered by the medical community. Vein drainage depends on lymphatic one and vice-versa. While one can compensate the other, in case of malfunctioning both of them can overload each other, as in the conditions of chronic venous hypertension and lymphedema.

The two systems are then inseparable and conjunctly involved in edema and swelling development: Starling principle has been indeed revised taking into consideration the active lymphatic role in the capillary filtration process.

[Partsch H, Lee B. Phlebology and lymphology--a family affair. *Phlebology.* 2014 Dec;29(10):645-7].

Lower limb swelling is an extremely common condition characterized by interstitial fluids accumulation, affecting both healthy subjects and vein-lymphatic patients. A proper knowledge of its pathophysiology is pivotal for proper care.

Whenever dealing with a venous edema, the eventual lymphatic component should be assessed as well, and vice-versa.

The approach must include a detailed history and sonographic assessment, including hemodynamic evaluation, in the field of venous and lymphatic insufficiency.

Characterizing the fluidity of the edema is important as well in its potential to suggest an early vs late stage of lymphatic involvement, even not being sufficient to come to a final diagnosis.

Lipedema must be taken into consideration in the swelling differential diagnosis, in order to prescribe an adequate treatment strategy.

***[Scherer K, Khilnani N. Evaluation and Management of Patients with Leg Swelling: Therapeutic Options for Venous Disease and Lymphedema. *Semin Intervent Radiol.* 2021 Jun;38(2):189-193.]**

Special attention should be paid in the detection of eventual drugs use leading to edema development and worsening of the vein and/or lymphatic drainage.

Lower limb swelling diagnostic work-up must always take into consideration systemic conditions leading to a lymphatic overload that might influence also the venous functionality, and viceversa.

[Gasparis AP, Kim PS, Dean SM, et al. Diagnostic approach to lower limb edema. *Phlebology.* 2020;35(9):650-655]

EVIDENCE BASED STATEMENT

Domain 1; Statement 2

STATEMENT FOR PUBLIC EVIDENCE-BASED AWARENESS

DOMAIN 01, Statement 2 “venous AND/OR lymphatic swelling”
“In swollen legs both vein and lymphatic drainage must be properly assessed”

SELECTED REFERENCES

1. Mortimer PS. Evaluation of lymphatic function: abnormal lymph drainage in venous disease. *Int Angiol.* 1995 Sep;14(3 Suppl 1):32-5
2. Partsch H, Lee B. Phlebology and lymphology--a family affair. *Phlebology.* 2014 Dec;29(10):645-7
3. Scherer K, Khilnani N. Evaluation and Management of Patients with Leg Swelling: Therapeutic Options for Venous Disease and Lymphedema. *Semin Intervent Radiol.* 2021 Jun;38(2):189-193
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identified LITERATURE BIAS

Lack of objective measure to differentiate between lymphatic and vein functionality

SUGGESTED NEXT LINES OF RESEARCH

Investigations assessing the grade of venous and lymphatic impairment reciprocal correlation