EVIDENCE BASED STATEMENT

DOMAIN 10, Statement 6

TOPIC: "**Lymphedema prevention**"

SEARCH TERMS & SOURCES

(lymphedema[MeSH Terms]) AND prevention

INCLUSION CRITERIA

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

SEARCH RESULT BEFORE - AFTER SELECTION

184 (before) - 11 (after selection)

AGREEMENT BETWEEN THE 2 REVIEWERS before DOMAIN WORKING GROUP DISCUSSION & FINALIZATION

(N. of papers triggering disagreement in inclusion/No of papers from the initial search)

3/184

PERTINENT LITERATURE NOT IDENTIFIED BY THE LITERATURE SEARCH

1. Wu X, Liu Y, Zhu D, et al. Early prevention of complex decongestive therapy and rehabilitation exercise for prevention of lower extremity lymphedema after operation of gynecologic cancer. Asian J Surg. 2021 Jan;44(1):111-115.
2. Wang X, Ding Y, Cai HY, et al. Effectiveness of modified complex decongestive physiotherapy for preventing lower extremity lymphedema after radical surgery for cervical cancer: a randomized controlled trial. Int J Gynecol Cancer. 2020 Jun;30(6):757-763
3. Kuroda K, Yamamoto Y, Yanagisawa M, et al. Risk factors and a prediction model for lower limb lymphedema following lymphadenectomy in gynecologic cancer: a hospital-based retrospective cohort study. BMC Womens Health. 2017 Jul 25;17(1):50.
4. Mehrara BJ, Greene AK. Lymphedema and obesity: is there a link?. Plast Reconstr Surg. 2014;134(1):154e-160e.
5. Bats AS, Nos C, Bensaïd C, et al. Lower-limb drainage mapping for lymphedema risk reduction after pelvic lymphadenectomy for endometrial cancer. Oncologist. 2013;18(2):174-9.
6. Hnin YK, Ong LX, Tsai CC, et al. Does initial routine use of a compression garment reduce the risk of lower limb lymphedema after gynecological cancer treatment? A randomized pilot study in an Asian institution and review of the literature. Lymphology. 2018;51(4):174-183.

EVIDENCE BASED STATEMENT

Domain 10; Statement 6

IDENTIFIED REFERENCES

1: Spörlein A, Will PA, Kilian K, et al. Lymphatic Tissue Engineering: A Further Step for Successful Lymphedema Treatment. J Reconstr Microsurg. 2021 Jul;37(6):465-474.

2: Johansson K, Hayes S. A historical account of the role of exercise in the prevention and treatment of cancer-related lymphedema. Lymphology. 2020;53(2):55-62.

3: Ding J, Hasan B, Malandris K, et al. Prospective Surveillance and Risk Reduction of Cancer Treatment-Related Lymphedema: Systematic Review and Meta-Analysis. Oncol Nurs Forum. 2020 1;47(5):E161-E170.

4: McLaughlin SA, Stout NL, Schaverien MV. Avoiding the Swell: Advances in Lymphedema Prevention, Detection, and Management. Am Soc Clin Oncol Educ Book. 2020 Mar;40:1-10.

5: Bittar S, Simman R, Lurie F. Lymphedema: A Practical Approach and Clinical Update. Wounds. 2020 Mar;32(3):86-92. PMID: 32163039.

6: Chandler DJ, Grijsen ML, Fuller LC. With Bare Feet in the Soil: Podoconiosis, a Neglected Cause of Tropical Lymphoedema. Dermatology. 2021;237(2):236-247.

7: Bahk YY, Shin EH, Cho SH, et al. Prevention and Control Strategies for Parasitic Infections in the Korea Centers for Disease Control and Prevention. Korean J Parasitol. 2018 Oct;56(5):401-408

8: Dessalvi S, Villa G, Campisi CC, et al. Decreasing and preventing lymphatic-injury-related complications in patients undergoing venous surgery: A new diagnostic and therapeutic protocol. Lymphology. 2018;51(2):57-65.

9: Jørgensen MG, Toyserkani NM, Sørensen JA. The effect of prophylactic lymphovenous anastomosis and shunts for preventing cancer-related lymphedema: a systematic review and meta-analysis. Microsurgery. 2018 Jul;38(5):576-585.

10: Ahn S, Port ER. Lymphedema Precautions: Time to Abandon Old Practices? J Clin Oncol. 2016 Mar 1;34(7):655-8.

11: Todd M. Using compression hosiery to prevent rebound swelling. Br J Community Nurs. 2015 Oct;Suppl Chronic:S20, S22-5.

EVIDENCE BASED STATEMENT

Domain 10; Statement 6

TEXT FOR INCLUSION IN THE DOCUMENT
(300 words, not counting the references)
DOMAIN 10, Statement 6, **TOPIC**: "**Lymphedema prevention**"

Lymphedema has been found reciprocally associated with obesity.
[**Mehrara BJ, Greene AK. Lymphedema and obesity: is there a link?. Plast Reconstr Surg. 2014;134(1):154e-160e**.]
The prevention of one influences the other.
This concept leads to the importance of the activation of the lower limb muscle pumps, together with the thoraco-abdominal ones, by means of properly conducted physical exercise protocols.
[**Wu X, Liu Y, Zhu D, et al. Early prevention of complex decongestive therapy and rehabilitation exercise for prevention of lower extremity lymphedema after operation of gynecologic cancer. Asian J Surg. 2021 Jan;44(1):111-115**].
In this context, the aquatic environment can offer a significant benefit based on the buoyancy and on the natural graduated compression generated by the water, facilitating movements impeded in the dryland, particularly in obese and elderly patients.
Lymphedema can be secondary to trauma. In case it's surgical, pre-operative mapping and minimization of the tissue insult can reduce the lymphatic damage risk.
This has been demonstrated also in the lower limb venous surgery context: a finding that is paving the way for further investigations dedicated to identify the less aggressive approach to chronic venous disease in terms of lymphatic damage. Indeed, together with the surgical insult, the inflammatory consequences of thermal or chemical treatments should be properly assessed in patients potentially affected by both a venous and lymphatic component.
[**Dessalvi S, Villa G, Campisi CC, et al. Decreasing and preventing lymphatic-injury-related complications in patients undergoing venous surgery: A new diagnostic and therapeutic protocol. Lymphology. 2018;51(2):57-65**].
Graduated compression demonstrated a role in reducing the risk of lower limb lymphedema, but further wider studies are needed to come to a statistically significant conclusion regarding its preventive role.
Considering the recurrent and chronic lymphedema nature, proper patient education, skincare and surveillance programs are mandatory in the disease prevention.
[***McLaughlin SA, Stout NL, Schaverien MV. Avoiding the Swell: Advances in Lymphedema Prevention, Detection, and Management. Am Soc Clin Oncol Educ Book. 2020 Mar;40:1-10**].

EVIDENCE BASED STATEMENT

Domain 10; Statement 6

STATEMENT FOR PUBLIC EVIDENCE-BASED AWARENESS

DOMAIN 10, Statement 6

"**Prevention of lymphedema is crucial and possible by appropriate skin hygiene, healthy lifestyle, compression tools use and adequate follow-up visits, always supervised by expert health-professionals**"

4 SELECTED REFEREENCES

1. Mehrara BJ, Greene AK. Lymphedema and obesity: is there a link?. Plast Reconstr Surg. 2014;134(1):154e-160e
2. Wu X, Liu Y, Zhu D, et al. Early prevention of complex decongestive therapy and rehabilitation exercise for prevention of lower extremity lymphedema after operation of gynecologic cancer. Asian J Surg. 2021 Jan;44(1):111-115
3. Dessalvi S, Villa G, Campisi CC, et al. Decreasing and preventing lymphatic-injury-related complications in patients undergoing venous surgery: A new diagnostic and therapeutic protocol. Lymphology. 2018;51(2):57-65
4. *McLaughlin SA, Stout NL, Schaverien MV. Avoiding the Swell: Advances in Lymphedema Prevention, Detection, and Management. Am Soc Clin Oncol Educ Book. 2020 Mar;40:1-10

identified LITERATURE BIAS

Potentially heterogeneous study populations in terms of life-style habits

SUGGESTED NEXT LINES OF RESEARCH

Prospective investigations on life-style factors influencing lymphedema prevention