

Compression Therapy in Venolymphatic Disorders



BACKGROUND

PREVALENCE OF VENOLYMPHATIC DISORDERS

Venous disorders¹:

- C1** (spider & reticular veins): 59.1%
- C2** (varicose veins): 14.3%
- C3** (chronic leg edema): 13.4%
- C4–C6** (skin changes, healed/open ulcer): 3.6%

Lymphatic disorders²:

- Lymphedema:** 1.8% (2% women; 1.5% men)
- Primary lymphedema:**
1/3 of all lymphedema patients
- Secondary lymphedema:**
2/3 of all lymphedema patients

Lipedema³:

Predominantly in women: 6–8%

MANAGEMENT

The management of venolymphatic disorders is multifactorial & includes:

- **Compression therapy,** a well-established treatment for venolymphatic conditions⁴
- Skin care
- Surgical techniques & other therapies
- Exercise / weight management
- Lymphatic drainage

This One-Pager focuses on **compression therapy mechanisms, benefits and types, and on how to choose the best garment** for an individual patient.

COMPRESSION THERAPY

Mechanisms of action⁵:

- Improves venous return
- Decreases filtration
- Enhances lymph formation & lymphatic flow
- Reduces inflammation⁶

Beneficial effects⁵:

- Reduces signs & symptoms
- Reduces & prevents edema
- Accelerates wound healing
- Improves & prevents skin conditions
- Reduces mechanical impairment & pain
- Increases physical activity & tissue stabilization; enhances quality of life



COMPRESSION THERAPY TYPES^{4,7}

CIRCULAR KNIT



CHARACTERISTICS

- Fine, discrete stockings; softer, more elastic & esthetic than flat knit; no seam
- Long-stretch properties; lower working pressure* than flat knit
- Availability of made-to-measure garments
- Lower costs than flat knit or compression wraps

USAGE

- CVI (C0–C6; examples: heavy legs, varicose veins, early/mild edema; venous leg ulcers with the Ulcer X kit)
- Mild to moderate lymphedema, lipedema or lipolymphedema, if limb has a uniform shape; can be used for the decongestive, transition or maintenance phase

FLAT KNIT



CHARACTERISTICS

- Thicker & stiffer materials compared to circular knit; highly resistant; with seam
- Short-stretch properties; higher working pressure* than circular knit
- Flexible & versatile (custom-made)
- Comfortable with soft tissue or skin folds; comfortable at high compression classes

USAGE

- Moderate CVI (C3–C4)
- Mild to severe lymphedema, lipedema, lipolymphedema, with or without shape distortion (tissue containment); maintenance phase (can be used for the decongestive & transition phase); recommended after bandaging to prevent rebound

COMPRESSION WRAPS



CHARACTERISTICS

- Allow self-management (self-application & -adjustment, self-hygiene & skin care); enhanced treatment efficacy & enhanced quality of life; cost-effective (washable, re-usable; time-saving); comfortable thanks to self-adjustment
- Short-stretch properties; high working pressure* & low resting pressure*

USAGE

- Moderate/severe CVI (C3–C6)
- Mild/moderate to severe lymphedema, lipedema or lipolymphedema, with or without shape distortion; maintenance phase (can be used for the decongestive & transition phase); also used to prevent rebound

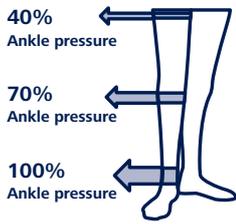


COMPRESSION CLASSES & PRESSURE CHARACTERISTICS

COMPRESSION CLASSES

(pressure at ankle):

Compression therapy exerts a controlled pressure on a limb. Different compression classes exist (depending on the regional norms) for circular knit and flat knit products.



* PRESSURE CHARACTERISTICS

Resting pressure: pressure created at the interface of the compression textile and the limb in a **supine position** (when **resting**). This corresponds to the compression class of a given product.

Working pressure: pressure created at the interface of the compression textile and the limb during **movement**. The increase in pressure that occurs during movement depends on the fabric stiffness. Stiffer material results in a greater increase in working pressure.

Two garments of the same compression class produce the same resting pressure, but the stiffer garment produces a higher working pressure.

A high stiffness effectively reduces edema, but it makes the donning of compression stockings difficult: this is why compression stockings have a lower stiffness compared to bandages or wraps.



CHOOSING THE RIGHT GARMENT^{4,7}

The choice of the correct garment for an individual patient is influenced by many factors:

- **Clinical status of the patient** (condition for which the garment is to be used; stage, severity & swelling site of edema)
- **Age, mobility, ability to manage/tolerate garments**
- **Skin condition** (fragile, ulcerated, normal)
- **Limb morphology**
- **Stiffness** of the fabric
- **Self-care** (health status, patient's understanding of condition & desire to change) & financial situation of patient
- **Patient's preference**

TAKE-HOME MESSAGE

Compression therapy is a cornerstone in the management of veno-lymphatic disorders. A wide variety of compression products exist, each having specific characteristics that make them more or less suitable for an individual patient. The selection of the correct compression garment should consider many different factors. This is crucial for an effective and patient-centered therapy.

References: (1) Rabe, E. et al. (2003). Bonner Venenstudie der Deutschen Gesellschaft für Phlebologie. *Phlebologie*, 32(01), 1-14; (2) Gültig, O., Miller, A., & Zöltzer, H. (Eds.). (2016). *Leitfaden Lymphologie*. Elsevier Health Sciences; (3) Herbst, K.L., et al. (2021). Standard of care for lipedema in the United States. *Phlebology*, 02683555211015887; (4) www.sigvaris.com; (5) Peripheral Edema One-Pager: www.sigvaris.com/stemmer-medical-platform#one-pagers; (6) Inflammation One-Pager: www.sigvaris.com/stemmer-medical-platform#one-pagers; (7) Framework, L. Best practice for the management of lymphoedema. 2006. MEP Ltd: London, United Kingdom. Note: All patients must have had a holistic assessment including ABPI before prescribing garments / medical devices.