

Compression therapy and Lymphoedema what are the Options?

Rebecca Aburn NP Vascular 2021

Lymphoedema

- Lymphoedema is a chronic swelling of a limb or body region and is associated with significant morbidity, loss of function and, on rare occasions, mortality.

Incidence and Prevalence

ORIGINAL ARTICLE

Chronic oedema: a prevalent health care problem for UK health services

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Conclusion

CO was found to affect approximately 4 per 1000 in an East Midlands population. There was a clear rise in prevalence with increasing age, and surprisingly, nearly a third of inpatients had CO. Primary lymphoedema affected only a minority of patients known to a specialist service. In contrast, secondary causes of CO, such as venous disease and immobility, were common.

Economic impact

A SYSTEMATIC REVIEW OF CARE DELIVERY MODELS AND ECONOMIC ANALYSES IN LYMPHEDEMA: HEALTH POLICY IMPACT (2004-2011)

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Best Practice guidelines-Chronic care network Australia

Principle 1: Early identification, education and monitoring of patients at risk of lymphoedema

Principle 2: Identification, assessment and diagnosis of lymphoedema by a trained health professional

Principle 3: Patient-centred education to enable self-management of lymphoedema

Principle 4: Comprehensive treatment tailored to patient needs and clinical reasoning

Principle 5: Correct provision of compression garments according to clinical recommendations

Principle 6: Effective management of lymphoedema-associated cellulitis, including prevention of recurrence

Principle 7: Effective response to inpatients with lymphoedema

Signs and Symptoms

Thickened skin

Stemmers sign- classically on 2nd toe.

Dilated lymphatic vessels in skin visible

Keratosis

Cobblestone skin changes

Dilated vessels in the skin changes
filled with clear fluid



Semi acute

RED FLAGS;

Infection

Injury / trauma/

DVT (thrombosis)

Allergy

New medication

Long term months / years

Venous disease / post DVT

Heart failure

Low serum protein

Muscle pump failure

Dependency

Obesity

Lymphedema

Grading

Two years



Twenty years



Treatment

- Patient goals / expectations
- Skin care – always
- Education
- Exercise – engage the pump
- MLD
- Pneumatic compression therapy
- Compression bandaging / hosiery

Skin care

- Wash
- Moisturise
- Manage skin folds
- Monitor for infection

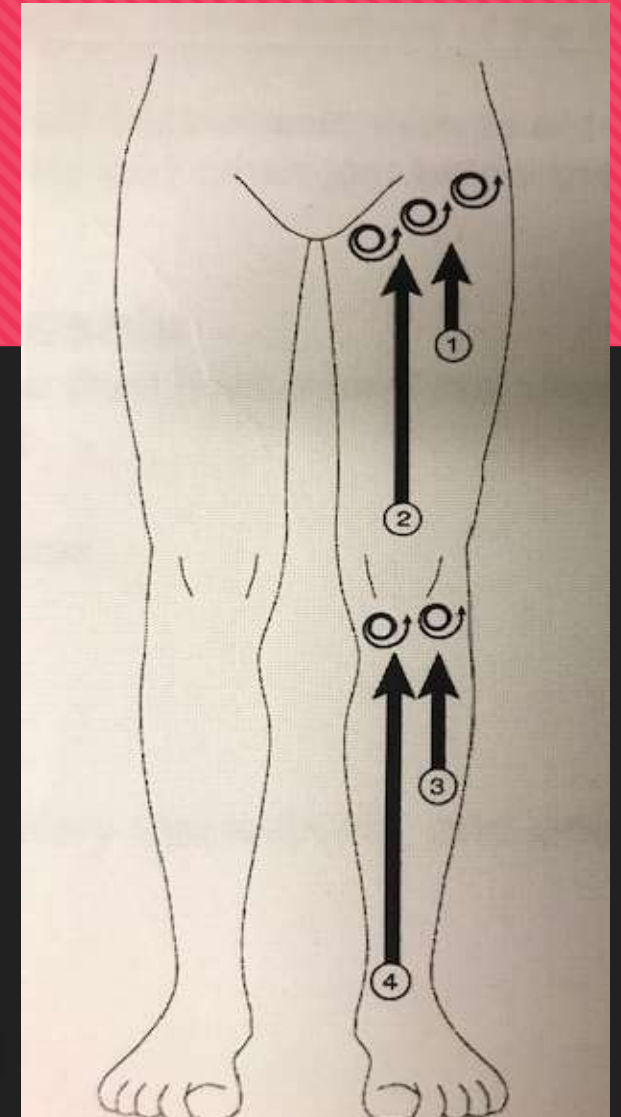


Initial phase (Treatment phase)

- Complex decongestive therapy
- Reduction
- Maintenance
- **Manual lymph drainage**
- **Pneumatic compression Therapy**
- **Compression garment**

Manual Lymphatic Drainage

- Slow
- Individually prescribed
- Correct technique
- Time
- Therapy period – takes 45 mins to do one leg



Manual lymphatic Drainage: Evidence

- Johannsson et al (2015) surveyed the current evidence and regard to lymphoedema treatment and concluded that less evidence should be placed on MLD and more on early diagnosis, compression, weight control and exercise.
- Time consuming 45 minutes per leg, hard to self-administer
- Trained therapist to administer the therapy multiple times over several weeks.
- Needs to be combined with other therapies.

Which compression when:

Level of lymphedema	Level of compression	Class
Subclinical mild lymphedema	14-21mmHg	1
Moderate / severe lymphedema	23-32mmHg	2
Severe Lymphedema	34-46mmHg	3
Severe complex lymphedema	49-70mmHg	4

Compression



○ Bandaging- full leg



Standard Treatment- Compression therapy

- Lymphoedema (2006) framework suggests lymph reabsorption is increased as capillary fluid filtration with compression hosiery.
- A consensus statement released 2018 found strong evidence for compression bandaging in the **treatment phase** and then measurement for **maintenance phase** hosiery is more effective than hosiery alone in the management of Lymphoedema.

Compression garments

- Made to measure
- Expensive
- Flat knit higher working pressure and lower resting pressure
- Circular knit lower working pressure higher resting pressure



Wraps

- Intolerance to bandaging or garments
- Stubborn oedema
- Distorted limb shape
- Post-bandage rebound oedema
- Weak hand strength
- Large abdomen / back problems



Pneumatic compression Therapy



Evidence

- Keith Harding et al 2016 found “evidence that new adaptive compression therapy(ACT) is comparably efficacious to successfully heal VLUs compared with four-layer bandage management but is better accepted and achieves higher patient-reported quality-of-life scores in these challenging patients”.
- Miranda et al (2001) when they reviewed the effect of PCT on Lymphoedema there was effective in reducing peripheral oedema but did not alter or influence lymphatic drainage this suggests that MLD is still required to activate the lymph nodes.

Patient-centered outcomes of a dual action pneumatic compression device in comparison to compression stockings for patients with chronic venous disease

Fedor Lurie, MD, PhD,^a and Marc Schwartz,^b Toledo, Ohio; and Minneapolis, Minn

- Patients with primary chronic venous insufficiency and a documented low adherence to compression hosiery were randomized at 10 centres to use the PCT device at 30-40mmHg for two hours per day and control group their compression hosiery during waking hours.
- They found compliance was higher in this group and easier to don and doff, comfortable limb reduction was greater in the PCT group.

Chronic edema of the lower extremities: international consensus recommendations for compression therapy clinical research trials

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- Recommendations from this expert panel
- IPC RCT trials to compare current methods of Tx Hosiery versus MLD
- IPC duration and frequency
- IPC testing appropriate levels of therapy
- Skin changes over time
- Rebound oedema times length of treatment times for PCT

Practice Points

- What is able to be delivered by services,
- Home care is where we are moving ,
- As patients age compliance with hosiery is harder,
- **Limited RCT evidence for PCT- Need more research,**
- Electronic register of patients with Lymphoedema,
- **Multidisciplinary approach to manage Lymphoedema needed.**

Current research project

- This research aims to explore what treatment frequency is optimum for improving the physiological and psychological impact of Pneumatic compression Therapy for lymphoedema / lipoedema and chronic oedema.

Thank-you