

# Use a wrap instead: using compression wraps in lymphoedema and venous disease

**Drew Payne**

Member of the Royal College of Nursing, Community Nurse with Whittington Health

*drew.payne.london@gppglemail.com*

Every nurse, at some point in their career, has encountered a patient with swollen legs as a result of lymphoedema. In the UK, Lymphoedema affects approximately 1.3 to 3.9 out of a 1000 individuals (Brown, 2019). This equates to about 260 000 people (Lee et al, 2017). There is a high correlation with age, with those aged 65–74 years showing an increased prevalence rate of 10.3 per 1000 individuals (Brown, 2019).

Lymphoedema is often dismissed as just ‘swollen legs’ when it can be a condition that has a severe impact on a patient’s quality of life (QOL). This article looks at the use of compression wraps in treating lymphoedema, along with its benefits, especially as it allows patients to manage their own care.

## How the lymphatic system works

The lymphatics are a complex system that drain fluid out of the body’s tissues and back into the circulatory system. Initial lymphatics are made up of a single layer of endothelial cells—the cells that also line blood vessels—that occupy the spaces between tissues and are anchored to the skin and muscles by fine filaments. As the skin and muscles stretch and contract with the body’s movements, especially those of the limbs, the fine filaments open and close the initial lymphatics, drawing fluid along them. The fluid is sent to collecting vessels and from there, into the lymph nodes. The fluids eventually get back into the circulatory system (Lee and Lawrance, 2017)

The lymphatic system is a passive system; the energy required to move fluids along its vessels comes from the movement of other muscles and tissues. Therefore,

a patient’s level of activity and movement can power the lymphatic system (Lee and Lawrance, 2017). This is one of the reasons why immobile patients experience swelling to their limbs, especially their legs.

The lymphatic system also aids in the production of lymphocytes—white blood cells that attack and fight invading micro-organisms and cancer cells, thus forming an important part of the body’s immune system (Lee and Lawrance, 2017).

## What is lymphoedema?

Lymphoedema is the failure of the lymphatic system to work and effectively drain fluid from the body’s tissues, causing it to remain and collect there. This can range from mild to severe. Mild lymphoedema is oedema that causes swelling to the affected part of the body, usually a limb. When it is severe, it can cause gross swelling and distortion to the affected area or areas (Hopkins, 2008). It can often affect the legs and arms, even the head, face or genitals; it rarely affects the trunk (Hopkins, 2008).

There are two types of lymphoedema: primary and secondary, which are defined by their causes. Primary lymphoedema results from congenital abnormality of the lymphatic system, impairing its function (Hopkins, 2008). This is rare, affecting around 1 in 6 000 people (Brown, 2019). Secondary lymphoedema results from external damage to the lymphatic system. This can be caused by cancer and cancer treatment, especially if lymph nodes are involved or removed; chronic infection; vascular disorders; heart failure; trauma to the affected area; and certain types of surgery, especially gynaecological, pelvic or orthopaedic surgery (Hopkins, 2008; Brown, 2019). Trauma or surgery can often affect only one limb, which explains why some patients can experience lymphoedema in only one limb.

The chronic condition can severely impact a patient’s QOL. The swelling can be severe, causing the affected limb to be heavy and difficult to move. It can also cause changes in the skin, such as exaggerated skin folds, which can become infected and form superficial ulcerations. There can be recurrent cellulitis, as well as repeated and even copious exudate—fluid leaking out through the skin.

## Abstract

Lymphoedema is more than ‘swollen legs’; it is an unpleasant condition that affects approximately 260 000 people in the UK. This article briefly looks at what the lymphatic system is and what lymphoedema is. It then looks at compression wraps and argues for wider use with patients, as they can promote self-care in patients.

**Keywords:** lymphoedema • venous disease • compression wraps  
• district nursing • community nursing

## Box 1. Author's case study

Mrs H was a widowed woman, living alone, in her late 60's. She was housebound because she was partially sighted and had very problematic swollen legs.

She was referred to the district nursing team for management of her swollen and heavily exudating legs. Her legs were exudating so much that they required daily bandaging, taking over an hour each visit. Mrs H found this heavy exudating distressing and depressing; she complained about the large amount of washing she had to do. The Tissue Viability Nurse had been unable to perform ABPI because of her swollen legs; therefore, compression could not be applied.

One nurse in the team persevered and he was able to get ABPI recordings from Mrs H, which showed it was safe to apply compression to her legs. Compression bandages reduced the swelling in her legs and stopped the exudate but, because they were only being changed once a week (due to a low number of nurses who were competent in it), Mrs H's legs broke down with eczema. Her legs were only being washed and moisturised once a week.

There was no capacity in the team to change Mrs H's bandages more frequently. Then one of the team's nurses attended a Lymphoedema study day, where compression wraps were showcased and the team decided to trial them with Mrs H.

Mrs H was sceptical at first, as she had tried compression hosiery years before. However, she found the compression wraps comfortable and easy to apply, even though she is partially sighted. She also found she could adjust them during the day if they became loose and could remove them at night. Her daily carer assisted her with daily skin care to her legs, which resulted in her eczema reducing and then healing, leaving her legs free from it. It also meant that the team could reduce her visits to monthly monitoring visits.

Patients with severe lymphoedema are likely to have additional and compounding co-morbidities, such as: diabetes, arthritis, venous leg ulcers and cardiovascular problems. All of these can have a severe effect on a patient's QOL, adversely affecting their physical, psychological and social wellbeing (Todd, 2018).

Patullo (2017), in their case study, found their patient's gross lymphoedema to both legs had a huge, negative impact on his life. The patient, who was 55 years old at the time, was not sleeping in a bed at the time because his legs were too heavy to lift on to the bed. He was suffering from constant pain from the weight of his legs. The exudate from his legs had stained and soaked into his home's carpet, causing an unpleasant smell from it. He could no longer drive because of his swollen legs and thus, became housebound. He no longer socialised because he did not want to invite people into his home, considering the gross nature of his legs and the smell from his carpet (Patullo, 2017). Therefore, this case study reflects the extent of this unpleasant condition, which has severe effects on the patient's QOL.

## How to manage lymphoedema

There are four factors for treating lymphoedema:

- Skin care
- Exercise
- Lymph drainage (a specialised massage technique)
- Compression (Hopkins, 2008).

Skin care is essential because of the damage lymphoedema can cause to the skin of the affected limb, especially from any exudate, infection and/or ulceration. Therefore, the skin will require regular cleansing and moisturising.

Brown (2019) described compression as 'the gold standard treatment for both leg ulceration and lymphoedema.' It works by applying pressure in the form of compression, along the affected limb, to force the fluid out of the tissues and back into the circulation system

(Brown, 2019). The compression offers resistance against the calf muscles as they contract with movement, thus increasing the pressures in the veins and muscles, thereby aiding venous return (Brown, 2019). But compression alone cannot help in venous return; exercise is just as important. Patients need to be encouraged to exercise as much as they can.

Lymphoedema must be diagnosed by a suitably qualified specialist before the start of any treatment. Lymphoedema is not an acute condition, it is characterised by swelling that has been present for longer than 3 months and is not eased by elevation (Everett et al, 2020). Hopkins (2008) recommends an initial assessment to rule out any other cause of swelling, such as:

- Cellulitis (acute, not chronic)
- An ankle brachial pressure index (ABPI) of <0.8 or >1.2
- Unstable cardiac failure
- Acute deep vein thrombosis.

## Advantages of using a compression wrap

Traditionally, the first line of treatment for lymphoedema is compression bandaging to reduce the oedema and once this has subsided, the use of compression garments to prevent the return of the oedema (Lee et al, 2017).

Compression bandaging is a time-consuming activity, easily taking over an hour to apply bi-lateral leg bandages. It can only be performed by suitably trained and competent nurses. Because of this, it is almost impossible to provide daily bandage changes.

In recent years, compression wrap devices have become available for the management of lymphoedema and venous disease (Brown, 2019). They are made from inelastic fabric, which are wrapped around the limb and secured in place by strips of Velcro. At the back of the limb, they are stitched or secured into a single garment, aiding ease of application (Brown, 2019).

The advantage of compression wraps are that they can be applied and removed by the patient themselves (Lee et al, 2017). They allow the patient to take control of their own lymphoedema management. A patient can remove them for skin care, which can be performed daily or even twice daily, rather than just when the compression bandages are being changed. The patient can also adjust the compression wrap themselves (Brown, 2019). If a wrap becomes loose or tight during the day, then the patient adjusts the different straps on the wrap. Patullo (2017), in their study, reported that their patient found them easier to use than compression hosiery and was able to comply with using it daily. They can even be removed at night and reapplied in the morning (Thomas, 2017).

Compression wraps are designed to be worn under clothes, while feet and leg wraps are designed for use under shoes, as they are less bulky (Lee et al, 2017). This means that they are easily hidden by clothing, not often possible with compression bandaging, which often need adapted shoes. They are also less restrictive on mobility as compression bandages (Everett et al, 2020) and exercise can help manage lymphoedema.

To apply compression bandages, a nurse must first go through appropriate and in-depth training and then their competence needs to be assessed. However, this is not the case with compression wraps. After suitable education, patients can apply their own wraps and so can carers and junior members of a district nursing team (Lee and Lawrence, 2017).

### Considerations before starting a patient on compression wraps

Before using compression wraps on a patient, we must first consider if it is a suitable form of treatment for them. The patients need to be diagnosed with either lymphoedema or venous disease and not have an ABPI of <0.8 or >1.2 (Hopkins, 2008).

The patient should have the dexterity to apply the compression wraps; if not, they should have a relative or regular carer who can (Patullo, 2017). If the patient is having daily social service carers, then the patient should be able to direct them on how to apply the wraps.

The patient and/or their relatives/carers will need to be educated on why they should be using the wraps and how it should be applied (Patullo, 2017). If the patient understands and accepts the need for the wraps then their compliance in wearing them will also increase. The wraps are easy to apply, but if the patient's feet are also covered by the wraps, then it should be ensured they are being applied correctly, as several brands require the straps to be crossed over when applied to the feet. Measurement for correct size of wraps is much simpler and less elaborate than measuring a patient for compression hosiery (Lee et al, 2017) and because the wraps themselves are adjustable, it is easier to get them to fit correctly on to a patient's limb.

### The problem with compression wraps

There are two main drawbacks with using compression wraps. Firstly, there is a high, initial cost outlay with them. A set of below-the-knee compression wraps can cost between £120 to £160 (Everett, 2016). Brown (2019), Thomas (2017) and Everett et al (2020), all found that they are cost-effective, in practice. The wraps themselves are reusable (Everett et al, 2020), while also reducing the need for qualified nurses to be present when they are being changed and can be managed by the carers or the patient themselves.

Secondly, there is very little primary research into the use of compression wraps and very few randomised control trials into their use. Thomas (2017) found no randomised control trials when he conducted his literature review into their use. Lee and Lawrence (2017), Williams (2016) and Thomas (2017) highlighted this as well, though all of them also noted the number of case studies that report positive results from its use (*Box 1*). This could also be an indication of the poor level of funding for nursing research, with case studies being much easier and cheaper to fund than randomised control trials. Healthcare is now very much evidence driven; the Nursing and Midwifery Council (2015) code of conduct requires nurses to be aware of the evidence behind their practice and yet, there is so little evidence supporting the use of compression wraps. Lee and Lawrence (2017) and Thomas (2017) found that these case studies did provide evidence for their effectiveness.

Brown (2019) found no adverse effects caused from using compression wraps, that their use did not incur any additional costs to the NHS and that they provided a good alternative to compression hosiery.

### Conclusion

Lymphoedema is not just a swollen limb, it can severely impact on a patient's health and their QOL. The gold standard for managing it is compression (Brown, 2019).

Compression wraps provide a patient-centred alternative to compression bandaging, allowing a patient to manage their own treatment, adjusting the wraps when needed, while also being able to remove them to perform daily skin care. They are less bulky, enabling them to be disguised under clothing and allow more freedom of movement. Skin care and exercise are also important elements of lymphoedema management (Hopkins, 2008).

Most of the evidence supporting the use of compression wraps are from case studies; therefore, there is an urgent need for more research to support their use. Nonetheless, there are several benefits to using compression wraps and they should be taken into consideration while thinking about a first line of treatment for a patient with lymphoedema or venous disease.

BJCN

- Brown A. Flat knit hosiery and compression wraps: managing lower limb lymphoedema. *J Prescr Pract.* 2019; 1(11): S8-14. <https://doi.org/10.12968/jprp.2019.1.Sup11.S8>
- Everett J. The use of pressure wraps in treating lymphoedema in care. *Nursing & Residential Care* 2016; 26(8): 417-422. <https://doi.org/10.12968/nrec.2016.18.8.417>
- Everett J, Lawrance S, Phillips N. Empowering patient self-management through tailored compression garment regimens. *Br J Community Nurs.* 2020;25(Sup10):S18-S24. <https://doi.org/10.12968/bjcn.2020.25.sup10.s18>
- Hopkins A. Compression therapy for lymphoedema. *Pract Nurs.* 2008; 19(10), 496-503. <https://doi.org/10.12968/pnur.2008.19.10.31247>
- Lee N, Lawrence S. Haddenham easywrap: the latest innovation in the management of lymphoedema. *Br J Community Nurs.* 2017;22 Suppl 5(Sup5):S14-S21. <https://doi.org/10.12968/bjcn.2017.22.sup5.s14>
- Lee N, Pugh S, Cooper R. Haddenham easywrap as part of self-management in lymphoedema and lipoedema: The patient perspective. *Br J Community Nurs.* 2017;22(Sup10):S50-S57. <https://doi.org/10.12968/bjcn.2017.22.sup10.s50>
- Nursing and Midwifery Council. The code: professional standards of practice and behaviour for nurses and midwives. 2015. <https://www.nmc.org.uk/globalassets/sitedocuments/nmc-publications/nmc-code.pdf> (accessed 20 November 2022)
- Patullo L, Rajagopalan S. Successful outpatient management of lymphoedema and lymphorrhoea with wrap around compression: a case study. *J Wound Care.* 2017;26(3):100-106. <https://doi.org/10.12968/jowc.2017.26.3.100>
- Todd M. Lymphoedema and chronic oedema: an overview. *Pract Nurs.* 2018; 29(7): 325-330. <https://doi.org/10.12968/pnur.2018.29.7.325>
- Thomas S. The use of compression wraps in the management of lymphoedema. *J Lymph.* 2017;12(1):32-38. <https://www.woundsinternational.com/uploads/resources/e18c897fc0421c87028e8329689ab501.pdf>
- Williams A. A review of the evidence for adjustable compression wrap devices. *J Wound Care.* 2016 May;25(5):242-247. <https://doi.org/10.12968/jowc.2016.25.5.242>

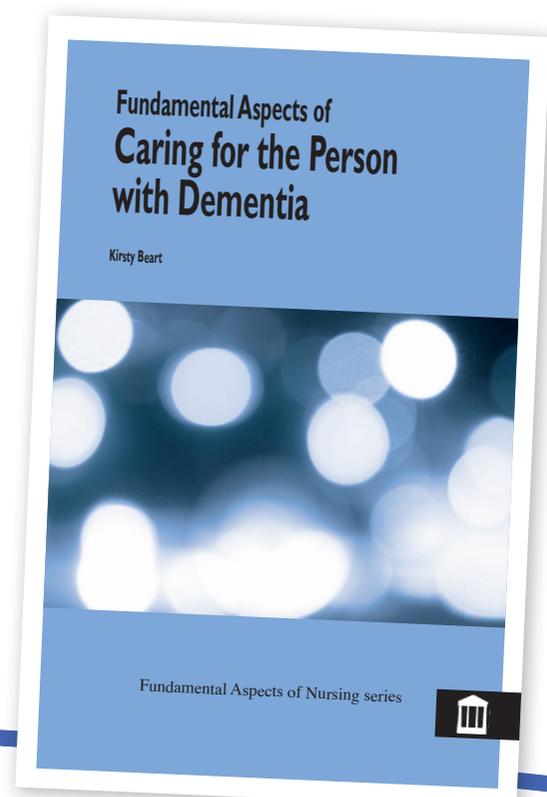
## Caring for the Person with Dementia

### Kirsty Beart

This book has been written with the intention of helping its readers to understand the perspective of the person who has been labelled as suffering with dementia, as well as that of the carers and the professionals. It is split into two sections to help the reader identify the parts they need to read at different times or for varying purposes.

- Section 1 offers information and debate about the theoretical issues and explanations of dementia and memory loss. This includes explanations of what dementia actually is and where it comes from in the first place.
- Section 2 moves into the more practical side of this text. Many areas of concern for carers and professionals alike are similar and this section brings their ideas and perspectives together so that they might be able to benefit from each other.

ISBN-13: 978-1-85642-308-8; 234 x 156 mm; paperback; 160 pages; publication 2006; £19.99



Order your copies by visiting  
[www.quaybooks.co.uk](http://www.quaybooks.co.uk)

or call  
**+44 (0)1722 716935**