

# The Chronic Oedema 'Wet Leg' (Lymphorrhoea) Pathway

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**Contributions From:**

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**Foreword**

*“Chronic oedema with leaking lymphorrhoea is a challenging condition both to live with from a patient’s perspective and to treat. I am therefore delighted to see the publication of this pathway guidance aimed at community nursing staff to help guide their clinical practice. The report makes sobering reading on the debilitating and distressing effects of this condition and I believe it is therefore essential that community nurses take a leading role in delivering effective person-centred care, which minimises the complications of the condition and eliminates hospital admissions as far as possible. This guidance will hopefully achieve better outcomes for sufferers and I look forward to seeing the positive impact it makes on the lives of people living with the condition in Wales.”*

**Professor Jean White, Chief Nursing Officer Wales/Nurse Director NHS Wales**

## Aim

The aim of this document is to support effective management of patients affected with 'wet legs' (lymphorrhoea) and chronic oedema on a community nursing caseload. It is intended to be used by community nurses as a resource that can support a successful pathway of care. This document will help community nurses deliver effective and timely chronic oedema management strategies ensuring delivery of prudent healthcare. Subsequently, improving the quality of life for those patients identified, as well as reducing the community nurse caseload.

## Introduction

Chronic oedema with leaking lymphorrhoea frequently occurs within a community setting. Lymphorrhoea is described as lymph leaking from oedematous tissues when breaks appear in the skin. Lymphorrhoea appears as beads of fluid which seep from the affected area, putting the patient at risk of skin damage and an increased risk of problems such as cellulitis.<sup>1</sup> Although frequently seen in the elderly population, it is also identified with younger patients who have had cerebral vascular attacks, spina bifida, paraplegia and multiple sclerosis. Ensuring effective management, it is essential that community nurses can identify the aetiology contributing to chronic oedema and lymphorrhoea including the management strategies available.<sup>2</sup> A holistic assessment is required to determine the health history and any significant contributory medical conditions that would affect the implementation of compression e.g. uncontrolled heart failure, end-stage kidney disease.

It is essential that in a community setting, patients with chronic oedema and lymphorrhoea are identified promptly and referred to their local lymphoedema service. Incorporating joint working between community nursing and lymphoedema services will ensure the best outcome for the patient. Without collaboration and co-production, lymphorrhoea related to chronic oedema can cause complications and may result in patients remaining on a caseload unnecessarily.

Chronic oedema is a long-term condition where swelling occurs in the limbs for longer than three months.<sup>3</sup> Chronic oedema increases the risk of venous ulcers, and currently, 1% of the population have an ulcer.<sup>4</sup> Chronic oedema patients also suffer repeated cellulitis episodes and account for 2-3% of all hospital admissions.<sup>5</sup> According to a recent evaluation by Lymphoedema Network Wales (LNW), over 50% of community nursing time is treating people with chronic oedema and leg ulcers. This pathway aims to manage patients with lymphorrhoea and chronic oedema promptly to reduce the risk of them developing chronic leg ulcers. With a rising elderly population, obesity, cardiac disease, cancer and three quarters of the population not getting enough exercise, the cases of chronic oedema are increasing.<sup>6</sup> The annual costs of leg ulcer management is estimated at least

£200million in the UK.<sup>7</sup> Thus it is vital that we implement chronic oedema management to reduce escalating costs from patients developing leg ulcers.

Chronic oedema affects individuals physically, psychologically and socially.<sup>8</sup> It has a significant impact on quality of life and the ability to undertake normal activities of daily living.<sup>8</sup> Reported issues include:-

- Swollen limbs that can leak putrid fluid increasing isolation
- Isolation which has the same effect on health as smoking 15 cigarettes a day<sup>9</sup>
- Poor functional ability due to co-morbidities which can lead to sleeping in a chair that increases chronic oedema
- Decreased mobility causing extended periods sitting due to lifestyle choices and medical factors
- Unable to wear normal shoes and limited on selection of clothes
- Increased pain levels and increase risk of developing cellulitis and red leg syndrome
- Unable to work - 42% of UK lymphoedema patients reported that the condition affected their ability to work<sup>5</sup> and 9% had previously quit work due to the condition.<sup>10</sup> It is, therefore, important to ensure chronic oedema is identified early and wet legs are managed promptly and effectively
- Frequent unplanned admissions into hospital with cellulitis
- Scared, anxious and depressed and unable to cope and lost control<sup>8</sup>

Research from Derby of a sample (n=32) with chronic oedema report that 50% had leg ulceration with 31% having an ulcer for more than five years.<sup>11</sup> Secondary complications included:

- 53% suffered a cellulitis
- Of which 9% required hospital admission with 11 days being the average length of hospital
- Inappropriate referrals cost a district nurse an average of 5 hours per week.

In June 2016, LNW commenced the On the Ground Education Programme (OGEP) in Cardiff and Vale University Health Board. It was identified within the first cluster (population area 126,000) that 56% of the workload was managing chronic oedema and lymphorrhoea in the community. Management of these patients routinely involved the application of a wound dressing and yellow/blue line stockinette. This pilot identified patients were being seen at least once a day as the lymph fluid had soaked through the dressing.

Through education and collaboration, a more efficient management plan was introduced. The management plan included a full holistic assessment and the commencement of two levels of support bandaging. *Level One* and *Level Two Support Bandaging* provides less than a Class 1 compression.<sup>7</sup> *Level One Support Bandaging* uses a dressing, stockinette liner, wool and liner. The use of wool

padding over dressing pads protects the fragile underlying anatomical structures and supplements the absorbency of the dressings. This method allows the community nurse to manage the leaking more effectively and reduce the number of calls required. *Level Two Support Bandaging* is effectively a dressing, stockinette liner, wool and one layer of Actico cohesive bandage. These two levels of support bandaging reduce leaking offering support and comfort to the patients. Both *Level One* and *Level Two Support Bandaging* significantly reduced the need for daily community nurse calls. These support levels of bandaging could also be applied by a suitable trained and competent healthcare support worker through delegation.

It is important to note that once the lymphorrhoea is controlled, an individual assessment must be carried out to ensure correct compression garments are prescribed. The assessment can be done by a community nurse or collaboratively with the local lymphoedema service. Careful consideration of the social situation in how the compression garments will be donned and doffed after lymphorrhoea management must be undertaken. A minimum of a Class 1 British standard compression garment from the All Wales Lymphoedema Compression Garment Formulary must be applied to prevent further episodes of leakage (see Appendix 1 for a concise Lower Limb Compression Therapy Selection Guide). Full collaboration with the local lymphoedema clinic is essential in the patient's long-term management of their chronic oedema and compression garment selection.

As well as skin care and support bandaging, patients must also be encouraged to sleep in a bed and move their body accordingly. To promote behavioural changes and effective self-management, simple exercise leaflets and video films developed by LNW are available for all patients with chronic oedema.

## **The Chronic Oedema 'Wet Leg' (Lymphorrhoea) Pathway**

The Chronic Oedema 'Wet Leg' (Lymphorrhoea) Pathway (Appendix 2) has been developed to provide a tool for community nurses to enable effective prudent management of those affected with lymphorrhoea. The pilot and raw health economic research from Swansea University have demonstrated this pathway will potentially reduce the number of visits required by community nurses as well as the long-term reduction in chronic wounds associated with lymphorrhoea. It is anticipated that one benefit may facilitate previously housebound individuals with lymphorrhoea to now be able to leave the house. Furthermore, the risk of developing cellulitis is reduced thereby decreasing GP visits and mobility can be maintained by being able to wear appropriate footwear. Existing wound and leg ulcer pathways developed by the Tissue Viability Nurses must continue to be followed along with vascular and dermatology protocols.

## Chronic Oedema ‘Wet Leg’ (Lymphorrhoea) Care Plans

The Chronic Oedema ‘Wet Leg’ (Lymphorrhoea) Care Plans (Appendix 3 & 4) aid the application of *Level One* and *Level Two* support bandaging. They also provide details on whether patients will require toe bandaging or toe caps. These care plans can be photocopied and placed in the patient’s community nursing notes.

### Arterial Assessment

A full vascular assessment forms part of a holistic assessment. A comprehensive medical/social history including medication should be undertaken with all patients regardless of vascular status. Ankle Brachial Pressure Index (ABPI), commonly called Doppler may be considered necessary. It is important to consider that an ABPI can only be accurately recorded in non-oedematous limbs.<sup>6, 7</sup>

If there is a risk of arterial disease based on the list of risk factors below, then a Toe Brachial Pressure Index (TBPI) needs to be performed. For patients following this pathway, an ABPI is not required.<sup>7</sup> This rationale is based on the minimal amount of compressive forces that are exhibited in the support/compression system. LNW and Surgical Material Testing Laboratory (SMTL) have tested the systems, and *Level One Support Bandaging* using the appropriate size stockinette for limb size produced less than 5 mmHg whereas *Level Two Support Bandaging* provided 10 mmHg. It is important to note that this compression level is on application only and will reduce within hours due to muscle pump activity and oedema reduction.

The guidance set out by Wounds UK Best Practice Document (2015)<sup>1</sup> states that Class 1 compression (14-17mmhg) is considered safe to use without an ABPI assessment provided there is no history of an arterial disease or arterial symptoms.

#### Risk Factors of Arterial Disease<sup>6, 12</sup>

Systemic indicators of arterial disease	Changes to the limb
History of ischemic heart disease	Pale colourless limb
History of stroke	Limb feels cold to the touch
Transient ischaemic attacks	Diminished or absent foot pulses
History of rest pain	Loss of colour on elevation
History of arterial surgery	Delayed capillary refill
History of intermittent claudication	

Further to support this statement, research carried out by Partsch and Mortimer<sup>14</sup> highlighted that compression increases arterial flow even in patients with arterial occlusive disease. This demonstrated that when the surrounding oedema is reduced arterial flow increases. Intermittent compression which is evident in the short stretch bandaging systems increases venous output and arterial perfusion.<sup>14, 15</sup>

Caution and collaboration are advised if the patient has poorly controlled congestive cardiac failure before introducing *Level Two Support Bandaging*, however *Level One Support Bandaging* can be applied.

## Delegation and Healthcare Support Workers

Community nursing services have to respond to the increasing demand and capacity gap within their services. The Kings Fund (2016)<sup>13</sup> suggest having a greater skill mix within teams and delegating some tasks to healthcare support workers, has the potential to enable senior staff to deliver care for patients with advanced or complex needs.

LNW provide an Agored Cymru Accredited Unit, on 'Managing Chronic Oedema in Community Settings' which would support the role of a safe delegation from a registered nurse to a healthcare support worker. Delegation already occurs in lymphoedema services across Wales. On completion of a holistic assessment, a safe delegation of patient-specific treatment task can be delivered by healthcare support workers who have been deemed competent in the completion of these aspects of care by a suitably trained member of staff.<sup>17</sup> A regular review by the registered nurse ensuring appropriate care is being delivered and reviewed.

The healthcare support worker will have the opportunity to build up a rapport with the patient and provide consistency than being seen by many registered nurses. The healthcare support worker will be able to provide more time dealing with the needs of the patient and preparing them for the application of compression garments in self-care management. Following a risk assessment, the healthcare support worker would have been trained and assessed as competent in the application of *Level One* and *Level Two Support Bandaging*. The delegating registered nurse must ensure that there are rigorous support and supervision supporting ongoing care of the patient. The delegation of this particular task has the potential to enhance care and demonstrates prudent healthcare within the community nursing services in Wales.

## Conclusion

This document provides evidenced based research in rationalising the use of support/compression modalities in the management of lymphorrhoea. This will be achieved through practical education of community staff at all levels.

This pathway can be shared with all community staff enabling the effective and efficient management of patients suffering from chronic oedema and leaking legs. Collaboration is essential in successfully managing these patients reducing the need for daily district nurse calls as well as costly complications to the patient and the NHS.

## References

- <sup>1</sup> Wounds UK Best Practice Statement. Compression Hosiery. (2015). second edition. 2015/ London: Wounds UK. [www.wounds-uk.com](http://www.wounds-uk.com)
- <sup>2</sup> Lewis, M.J., & Morgan, K. Managing chronic oedema: a collaborative community approach. (2008) *British Journal of Community Nursing*. Chronic oedema supplement. April 2008, 25-32.
- <sup>3</sup> Moffatt, C.J., Franks, P.J., Doherty, D.C., Williams, A.F., Badger, C., Jeffs, E., Bosanquet, N., Mortimer, P.S.(2003) Lymphoedema: an underestimated health problem. *Q Journal Medicine*, 92: 731-38.
- <sup>4</sup> Moffatt, C.J., Franks, P.J., Doherty, D.C., Martin, R., Blewett, R., Ross, F.(2004) Prevalence of leg ulceration in a London population. *Q Journal Medicine*, 97(7): 431-7.
- <sup>5</sup> Posnett, J. & Franks, P.J. (2008). The burden of chronic wounds in the UK. *Nursing Times*; 104: 3, 44-45.
- <sup>6</sup> Skills for Practice: Management of Chronic Oedema in the Community. Wounds UK, Aberdeen, (2009).
- <sup>7</sup> Stephen-Haynes, J. & Callaghan, R. (2016). Options for Compression dressings. *Practice Nurse*, 46 (7): 20-25.
- <sup>8</sup> Welsh Government (2010) Strategy for lymphoedema – Designed for Lymphoedema Welsh Government, Cardiff.
- <sup>9</sup> Holt-Lunstad, J.T.B., Layton, J.B. (2010). Social relationships and mortality risk: a meta-analytic review. *PLoS Medicine* 7 (7)  
<http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1000316>
- <sup>10</sup> Lam, R., Wallace, A., Burbidge, B., et al. (2006). Experiences of patients with Lymphoedema. *J Lymphoedema*, 1(1): 16-21.
- <sup>11</sup> Moffatt, C., & Pinnington, L. Project evaluation report: facilitating development of community based lymphoedema services through clinical education. (2012). Available from:  
<http://eastmidlandsletb.net/Resources/Documents/Engaging%20for%20Innovation/Evaluations/Lymphoedema.pdf>
- <sup>12</sup> Clinical Resource Efficiency Support Team (CREST) Lymphoedema Guidelines (2008) [www.crestni.org.uk](http://www.crestni.org.uk)



<sup>13</sup> Maybin. J., Charles, A., Honeyman,. M. (2016). Understanding quality in District Nursing Services Learning from Patients Kings Fund.

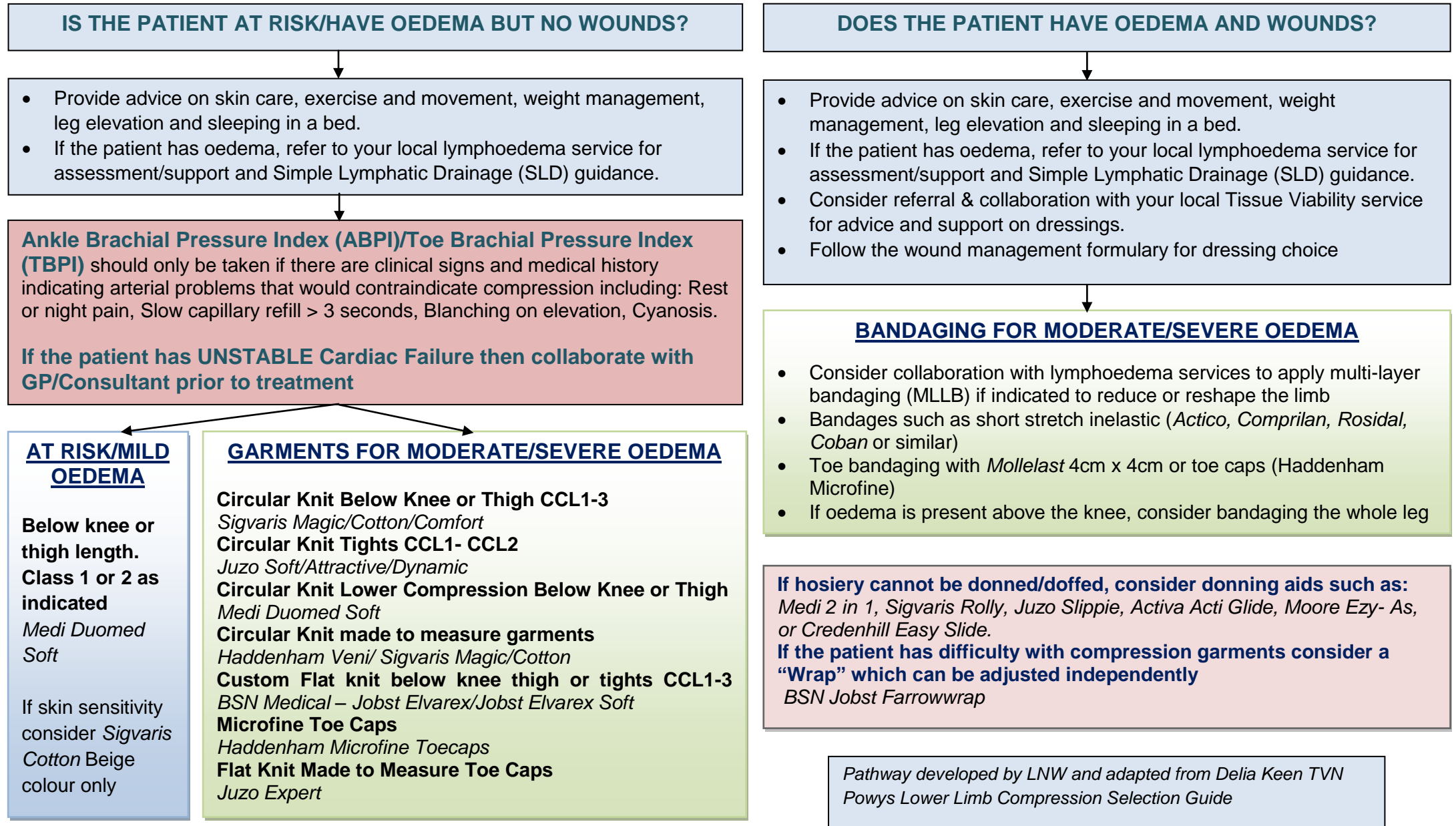
<sup>14</sup> Partsch, H. & Mortimer, P. (2015). Compression for leg wounds. *BJD*.173:359-369.

<sup>15</sup> Partsch, H., Fleur, M., & Smith, P.C. (2008) Indications for compression therapy in venous and lymphatic disease consensus based on experimental data and scientific evidence under the auspices of the IUP. *International Angiology*,27(3)193-219.

<sup>16</sup> Bianchi, J. (2005). LOI: an alternative to Doppler in leg ulcer patients. *Wounds UK* 1(1): 80–5.

<sup>17</sup> Nursing Midwifery Council (2015) Code of Conduct.

For use following full patient assessment and lymphoedema treatment



## The Chronic Oedema 'Wet Leg' (Lymphorrhoea) Pathway

Does the limb have clinical signs of infection/cellulitis?

- Red/spreading erythema
- Warm to touch
- Painful
- Patient systemically unwell/flu like symptoms or malaise?

Yes

Refer to GP for Cellulitis management following the All Wales Antimicrobial Guidance. Lymphoedema is on page 23



Primary Care Antimicrobial Guidelines

Ensure the legs are washed effectively with a bowl of water, washing emollient, dried and moisturised as per local formulary

To promote comfort, manage leaking and provide support

### **LEVEL ONE SUPPORT BANDAGING:**

- Apply an absorbent dressing & non-adherent layer if necessary from local formulary
- One layer of blue/yellow line tubular stockinette
- Minimum of 3 rolls of wool padding
- One layer of blue/yellow line tubular stockinette

This support can remain in place for up to 48 hours unless leakage or slippage is evident

**A DOPPLER IS NOT REQUIRED**

No

Refer to local lymphoedema service - contact [Lymphoedema.network.wales@wales.nhs.uk](mailto:Lymphoedema.network.wales@wales.nhs.uk) for information

Ensure the legs are washed effectively with a bowl of water, washing emollient, dried and moisturised as per local formulary

To promote comfort, manage leaking and provide support

### **LEVEL ONE SUPPORT BANDAGING:**

- Apply an absorbent dressing from local formulary
- One layer of blue/yellow line tubular stockinette
- Minimum of 3 rolls of wool padding
- One layer of blue/yellow line tubular stockinette

**A DOPPLER IS NOT REQUIRED**

### **LEVEL TWO SUPPORT BANDAGING:**

If there is no history of arterial disease or any arterial symptoms as per holistic assessment it is considered safe to apply 14-17mmhg pressure.<sup>1</sup>

**A DOPPLER IS NOT REQUIRED**

- Apply an absorbent dressing from local formulary
- One layer of blue/yellow line tubular stockinette
- Minimum of 3 rolls of wool padding
- Apply Short Stretch Bandage *inelastic (10cm width)* in a spiral application from the base of the toes up the leg with a 50% overlap & stretch up to the knee. Apply toe bandages if toes are swollen.




### **LEVEL THREE COMPRESSION BANDAGING:**

**Collaboration with local lymphoedema service or TVN prior to commencement of compression which includes two layers of Short Stretch Bandage (10cm width) at full stretch.**

**Unmanaged lymphorrhoea can cause skin maceration, increase the risk of infection and development of chronic wounds. Legs will continue to leak if not supported**




**Has patient got wet eczema? Yes - Ensure you follow local guidance on topical steroid management.  
Has the patients got a wound? Yes - Follow local guidance for referral to TVN**

## Chronic Oedema 'Wet Leg' (Lymphorrhoea) Care Plan

<b>PATIENT NAME:</b>		<b>DATE OF BIRTH:</b>	<b>DISTRICT NURSE CONTACT:</b>	<b>DATE:</b>
LEVEL 1 SUPPORT BANDAGING	GOAL	INSTRUCTIONS		PHOTOGRAPHS
<ul style="list-style-type: none"> <li>One layer of blue/yellow line tubular stockinette</li> <li>3 rolls of wool padding</li> <li>One layer of blue/yellow line tubular stockinette</li> </ul>	Stop leaking  Provide comfort and support  Reduce oedema	<ul style="list-style-type: none"> <li>Wash leg in emollient/ointment/lotion and apply moisturising cream _____</li> <li>Apply wound dressings as per formulary</li> <li>One layer of blue/yellow line tubular stockinette</li> <li>3 rolls of wool padding</li> <li>One layer of blue/yellow line tubular stockinette</li> </ul> <b>A DOPPLER IS NOT REQUIRED<sup>1</sup></b>		
LEVEL 2 SUPPORT BANDAGING	GOAL	INSTRUCTIONS		PHOTOGRAPHS
<ul style="list-style-type: none"> <li>One layer of blue/yellow line tubular stockinette</li> <li>3 rolls of wool padding</li> <li>One layer of blue/yellow line tubular stockinette</li> <li>One Actico or short stretch 10cm x 6m</li> </ul>	Stop leaking  Provide comfort and support  Reduce oedema	<ul style="list-style-type: none"> <li>As above then</li> <li>Apply Short Stretch Bandage inelastic (<b>10cm width</b>) in a spiral application from the base of the toes up the leg with a 50% overlap and stretch up to the knee</li> <li>Apply toe bandages if toes are swollen. See document 'Lymphoedema/Chronic Oedema Toe Bandaging Care Plan'. Or consider using toe caps</li> </ul> <b>A DOPPLER IS NOT REQUIRED<sup>1</sup></b>		
LEVEL 3 COMPRESSION	GOAL	INSTRUCTIONS		PHOTOGRAPHS
<ul style="list-style-type: none"> <li>One layer of blue/yellow line tubular stockinette</li> <li>3 rolls of wool padding</li> <li>One layer of blue/yellow line tubular stockinette</li> <li>Two layers of Actico or short stretch 10cm x 6m</li> </ul>	Stop leaking  Provide comfort and support  Reduce oedema	<ul style="list-style-type: none"> <li>As above</li> <li>Apply second layer of Short Stretch Bandage inelastic (<b>10cm width</b>) at <b>full stretch</b> in an opposite spiral application from the base of the toes up the leg with a 50% overlap up to the knee.</li> <li>Apply toe bandages if toes are swollen. See document 'Lymphoedema/Chronic Oedema Toe Bandaging Care Plan'. Or consider using toe caps</li> </ul> <b>ARTERIAL ASSESSMENT IS COMPLETED PRIOR TO COMPRESSION APPLICATION</b>		

**\*\*REFER TO LOCAL LYMPHOEDEMA SERVICE FOR ONGOING ADVICE AND SUPPORT**

## Lymphoedema/Chronic Oedema Toe Bandaging Care Plan

<b>PATIENT NAME:</b>		<b>DATE OF BIRTH:</b>	<b>THERAPIST NAME:</b>	<b>DATE:</b>
PROBLEM	GOAL	INSTRUCTIONS		PHOTOGRAPHS
	To manage toe oedema  Or  To prevent toe oedema	<ul style="list-style-type: none"> <li>Wash leg in emollient/ointment/lotion and apply moisturising cream _____</li> <li>Apply 4cm bandage and anchor with a loose turn around the base of the forefoot. This bandage may be folded in half.</li> </ul> <p><b>BANDAGES TYPES:</b> HOSPIFORM / MOLLELAST/ K-BAND</p>	    	
ADDITIONAL INFORMATION	AIMS	<ul style="list-style-type: none"> <li>Take the bandage across the dorsum of the foot up to the big toe, wrap around the base of the toe nail – use light tension only</li> <li>While applying the bandage to each toe – ensure all skin is covered and up to the base of the toe nail as shown. Do not bandage the little toe as it rarely swells.</li> <li>See appropriate treatment plan to apply multi-layer Lymphoedema Bandaging if required or follow care plan for leg ulcer management as directed by the Tissue Viability Nurse/District Nurse.</li> </ul>		

**\*\*REFER TO LOCAL LYMPHOEDEMA SERVICE FOR ONGOING ADVICE AND SUPPORT**

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