

# Care Manager and Care Worker Course

Self-Paced Learning Manual





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#### INTRODUCTION

Welcome to the Chronic Oedema Care Manager and Care Worker Course. This manual will provide you with information on the structure of the course, and notes for all the powerpoint videos you will watch as you make your way through the self-paced component.

#### **COURSE STRUCTURE**

#### Self-paced online

The self-paced online learning component is delivered via the Lymphoedema Education Solutions learning management system. This component is compulsory and will prepare you for the face to face session. It is estimated that it will take approximately 3 hours to complete. The modules need to be completed before the

face to face session and this is a prerequisite.

#### Face to face session

Note Care Managers do not need to complete the face to face session.

The 3.5-hour practical component will enable the participants to become confident and competent in the following.

- Applying a below-knee medical compression garment and removing it.
- Using a donning device to put on and take off a below-knee medical compression garment.
- Applying a foot and leg wrap and removing it.
- Manual lymphatic drainage of the lower leg.
- · Assisting with exercise program.

#### **Timetable**

1.00 - 1.05	Introduction
1.05 - 1.20	Skin care and activities of daily living
1.20 - 1.40	Exercise
1.40 - 2.20	1.40 - 1.50 Demonstration of manual lymphatic drainage 1.50 - 2.05 Group 1 practice 2.05 - 2.20 Group 2 practice
2.20 - 3.05	Compression garments  2.20 - 2.30 Demonstration of putting on and taking off a compression garment with gloves  2.30 - 2-40 Group 1 practice putting on and taking off a compression garment with gloves  2.40 - 2-50 Group 2 practice putting on and taking off a compression garment with gloves  2.50 - 2.55 Demonstration putting garment on with Easy On  3.55 - 3.05 Half group practice with Easy On and half group perform 2nd practice putting garment on with gloves

3.05 - 3.20	Afternoon tea
3.20 - 3.40	Switch over tasks
3.40 - 4.40	Wraps 3.40 - 3.50 Demonstration of putting on and removing a foot and leg wrap 3.50 - 4.10 Group 1 practice putting on and removing a foot and leg wrap 4.10 - 4.30 Group 2 practice putting on and removing a foot and leg wrap

#### **COURSE ASSESSMENT**

Assessment is included in both the self-paced learning and the face to face components of the course.

# Self-paced online learning assessment

The modules include formative online quizzes that participants must achieve 80%. They have 3 attempts to complete each quiz.

#### Face to face session assessment

The participant must reach a level of competency in the following:

- Applying a below-knee medical compression garment and removing it.
- Using a donning device to put on and take off a below-knee medical compression garment.
- Applying a foot and leg wrap and removing it.
- Manual lymphatic drainage of the lower leg.

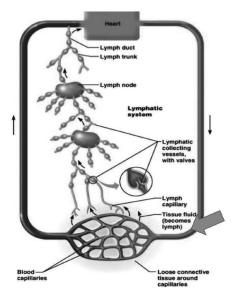
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## The Lymphatic System

Maree O'Connor





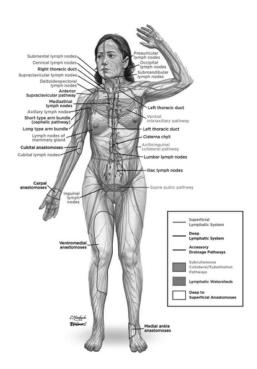
## Blood-Lymph Loop

- Blood travels from the heart to arteries to capillaries to veins, then back to the heart.
- Lymphatics are a One-way circulation (but fluid travels in loops)



#### The Lymphatic System

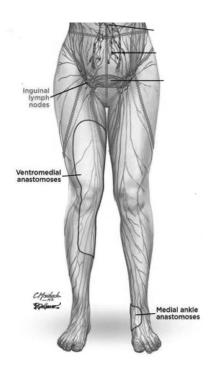
- Network of tissues, vessels and glands (nodes)
- · Regulates the fluid around the cells
- Vital role in our immune system
- Fluid in the vessels called lymph
- Filters about 15 litres of fluid each day.
- That is three times more than the blood.



Lymphatic System

The garbage disposal system of your body!

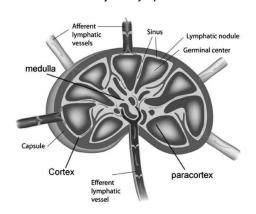




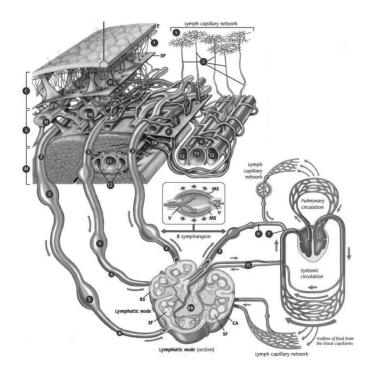
# Lymph Nodes

- Clean up the lymph before it re-enters the bloodstream, by sieving out, trapping and destroying foreign materials;
- Monitor the lymph for signs of infection in the body, playing a vital role in our immune system
- Produce cells to fight infection

#### Anatomy of a Lymph Node







## Veins & lymphatic vessels move fluid by:

- · Small muscles in the walls of the vessels
- By pressure from surrounding muscles squeezing the veins & lymphatics (called Muscle Pump or Calf Pump)
- By pressure changes in the chest (called Thoracic Pump)
- By gravity. Lying flat helps vein & lymphatic flow
- Valves in veins & lymphatics keep the fluid moving in the right direction.



# Calf Pump

- Muscles in the leg are activated in a sequence that squeezes fluid upwards, during the gait cycle.
- Lymph nodes in joint areas are compressed by the movements.







## Elderly Swollen Legs How big a problem is it?

Maree O'Connor



# Chronic oedema

Fluid swelling present for more than 3 months which is not fully resolved by overnight elevation.



#### Chronic oedema is common in the elderly

- Health service users were screened in Derby UK 2012
- 3.93/1000 -all ages.
- over 65 yo 10% had chronic oedema
- over 85 yo 29% had chronic oedema
- · 22% with CO had had a admission for cellulitis
- 40% with CO had a concurrent ulcer
- Average age of onset = 68 yo



Chronic oedema in the aging population

#### The International Lymphoedema Framework

Published their results of their LIMPRINT study (an international epidemiological study on chronic oedema)



UK community nursing study 2541 patients assessed

1440 (56.7%) were considered to have chronic oedema.

The mean age for CO

- Women 78.6
- Men 72.9

Source: Moffatt, Christine J., et al. "Prevalence and Risk Factors for Chronic Edema in U.K. Community Nursing Services." Lymphatic Research and Biology, vol. 17, no. 2, 2019, pp. 147–154., doi:10.1089/irb.2018.0086.





#### Australian study

Site 1 – Three residential care facilities 54% of participants had swelling

Site 2 - Community-delivered aged care services 24% of participants had swelling

Site 3 - Hospital setting (facility-based prevalence study)

28% of participants had swelling

Site 4 - A wound treatment centre (specific patient population)

100% of participants had swelling

Source: Gordon, Susan J., et al. "LIMPRINT in Australia." Lymphatic Research and Biology, vol. 17, no. 2, 2019, pp. 173–177., doi:10.1089/lrb.2018.0087.





### Pilot study

Oedema identification pilot study, Home Care, Catholic Care, Sydney

- Over 200 home care clients assessed
- 45% have some form of oedema



#### Impact of Chronic Oedema

- · Legs feel heavy, so people walk less. Balance deteriorates.
- · Gait impact of stiff joints caused by swelling.
- · Poor footwear choices.
- Falls risk increases.
- Wounds more common 40% with CO had a concurrent ulcer
- · Cellulitis more common 22% with CO had had a admission for cellulitis
- Reduced mobility contributes to social isolation
- Reduced workplace & family participation





# Elderly Swollen Legs What are the causes?

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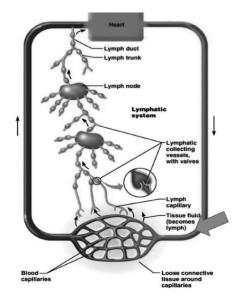




Chronic oedema comes in many forms Does it matter?

Best care of swollen legs is based on understanding the cause.



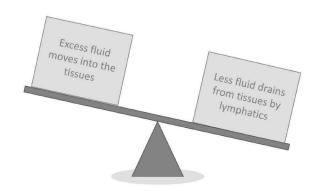


## Blood-Lymph Loop

- · Blood travels from the heart to arteries to capillaries to veins, then back to the heart.
- Lymphatics are a One-way circulation (but fluid travels in loops)
- Immune role of lymphatics

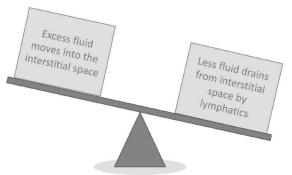


In healthy legs the circulation is in balance
In swollen legs too much fluid stays in the tissues



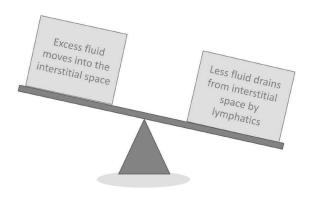


- Chronic venous insufficiency
- Heart failure
- · Kidney disease
- Liver disease
- Low protein in the blood
- · Certain medications
- Obesity



\*Calf Pump/Thoracic Pump failure





#### Lymph vessels damaged by:

- Cancer
- Surgery
- Radiotherapy
- Infection cellulitis
- Medications Blood pressure medicine
- Genetic disorders of lymphatics
- Degeneration of overloaded lymphatics



\*Calf Pump/Thoracic Pump failure

# What drives the return circulation?

Heart pumps blood in arteries. We can feel the pulse/pressure waves.



## Veins & lymphatic vessels move fluid by:

- · Small muscles in the walls of the vessels
- By pressure from surrounding muscles squeezing the veins & lymphatics (called Muscle Pump or Calf Pump)
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## Calf Pump

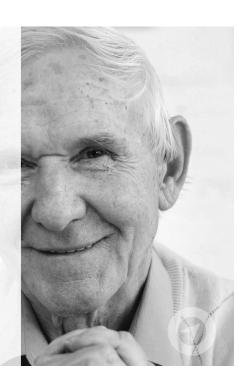
- Muscles in the leg are activated in a sequence that squeezes fluid upwards, during the gait cycle.
- Lymph nodes in joint areas are compressed by the movements.





## Effects of aging

- Impaired circulation can reduce tissue oxygen & nutrient supply to organs
- · Accumulated injuries including surgeries
- Reduced bone density and reduced muscle mass
- · Joint degeneration can cause stiffness, gait change & pain
- · Gut absorption of nutrients less efficient. Consider healthy eating/ dental issues
- · Multiple medications increases the risk of sideeffects including oedema





## Impact of aging

- Slowed healing
- · Blood & lymph vessel degeneration
- Loss of sensation
- Cognitive loss
- Less reserve in cardiac / liver / renal function





# Case Study

### Alfred - aged 94

- · Shuffling gait
- · Low respiratory excursion
- 'Dependency' legs hang down as he spends most of the day sitting in his chair
- Reduced muscle bulk
- · Both feet & ankles swollen

## Calf Pump

Muscles in the leg are activated in a sequence that squeezes fluid upwards, during the gait cycle.



# Plan for Alfred

- · Check up with GP (heart, lungs).
- Blood tests to check for any problems
- Nutrition Vit D, Vit C, zinc, Protein
- · Check for tinea
- · Good skin care
- His swelling is due to poor drainage because of Calf Pump failure
- Frequent short walks to increase Calf Pump activity. Improve activity/ mobility and strength.
- Compression for persistently swollen lower legs





## Chronic oedema is easily managed

- Identify contributing factors. Check bloods, heart & medications.
- Improve general factors nutrition, activity/pain, resting in bed, continence care.
- Improve skin & nail condition
- Safe protective shoes
- Compression therapy comes in many forms



#### Chronic Oedema & Cellulitis

- Cellulitis is much more common, and more likely to be recurrent when people have chronic swelling
- Fluid drained by healthy lymphatic vessels is screened for infection when it passes through lymph nodes. In chronic swelling the screening is impaired, so cellulitis is more common.
- Bouts of cellulitis can damage the lymph vessels and make the chronic oedema more severe
- Managing the chronic swelling with compression reduces the risk of cellulitis returning.



#### Healthy Skin and Toenails



Treat tinea between toes



Look for nail tinea & infections

There are many presentations of swelling in the legs, and it is common in the elderly.

It interferes with normal daily activities.

It can be easily managed.

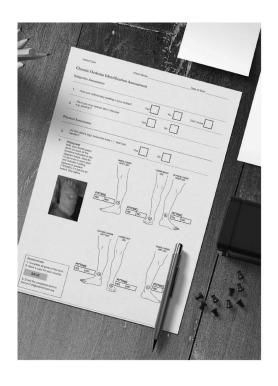




## Chronic Oedema Identification and Assessment in the Aging Population

Maree O'Connor



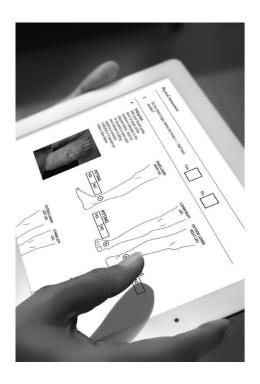


## Oedema Identification Assessment Form

All older people should be screened for oedema in the legs

It is based on the ILF LIMPRINT form. Completed by the clients Care Manager Made up of subjective and objective components







# Subjective Assessment

- 1. Have you noticed any swelling in your ankles?
  - Yes / No / Don't know
- 2. Have you ever noticed this in the past? Provide some examples
  - End of day
  - When it's a hot day
  - · Does socks or stockings leave a mark
  - After flights



## Physical Assessment - Observe

- It is important to view the legs as part of this screening tool.
- The client will need to take off their shoes and socks / stockings so below the knee, including feet and ankles, are visible
- Does the clients legs and feet look swollen

It may only be on one side.





## Physical Assessment -Tinea and Toe Nails

- · Put disposable gloves on
- Does the client have tinea?
- Separate the toes with your fingers and look for red, flaky or a split in the skin.
- Is it itchy between the toes?

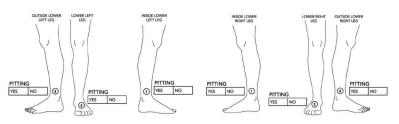
Check the toe nails. Do you need to refer to a podiatrist?





## Physical Assessment – Pitting Test

- · With the disposable glove on
- With your thumb press down on each of the locations indicated in the diagram. Hold for 10 seconds in each spot and indicate if pitting oedema is present (YES/NO)



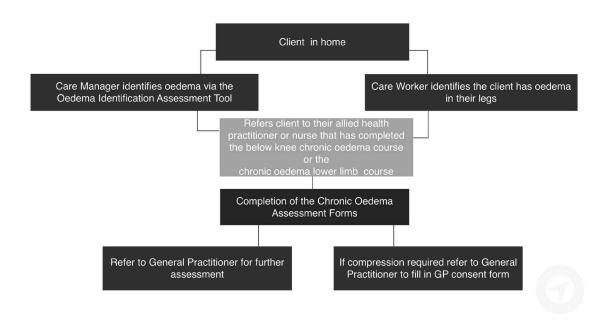




# Chronic Oedema Referral Pathway in the Aging Population

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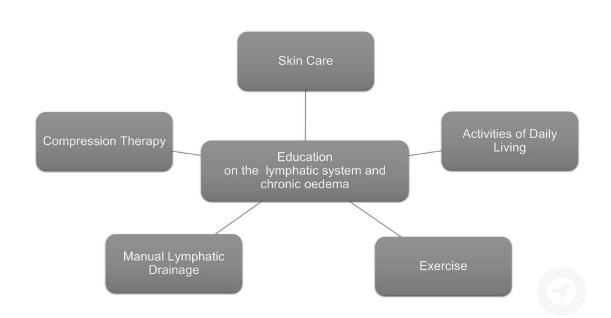




# Management of Below Knee Chronic Oedema

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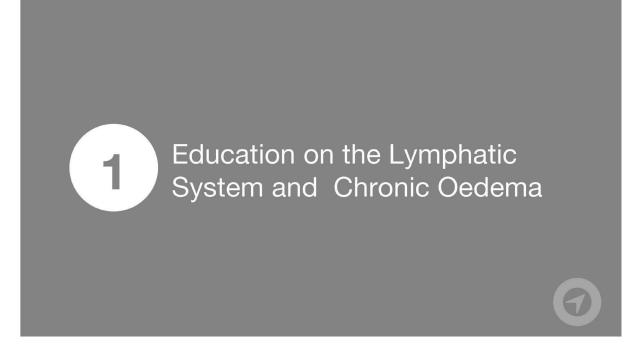






## Management of Below Knee Chronic Oedema - Education



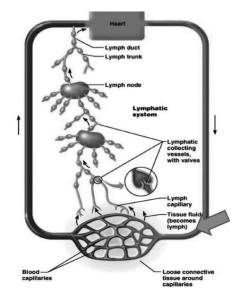




# Topics to discuss with your client

- How does fluid move through our bodies?
- What is the lymphatic system and its components?
- How does lymphatic fluid move through the lymphatic system (including the influence of the muscle contraction)?
- What is the function of the lymphatic system?
- What is lymphoedema / chronic oedema and how does it progress?

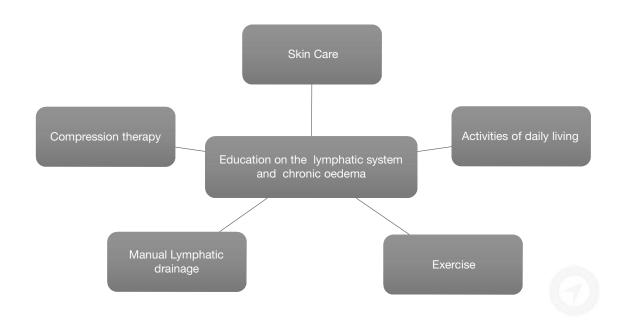


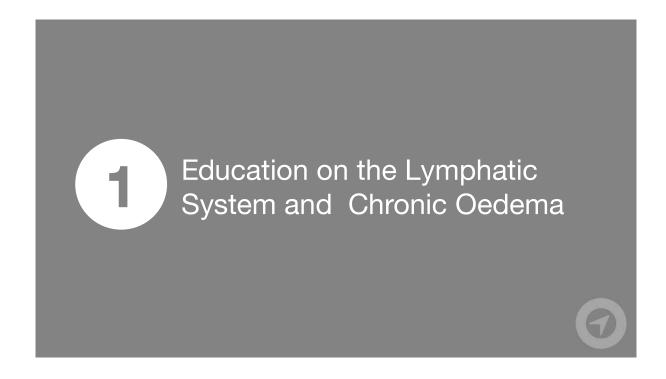


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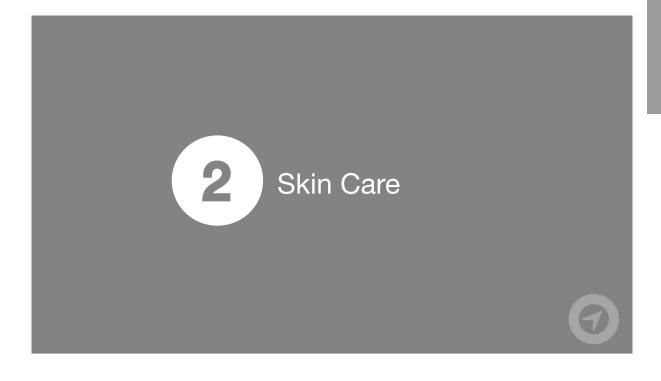


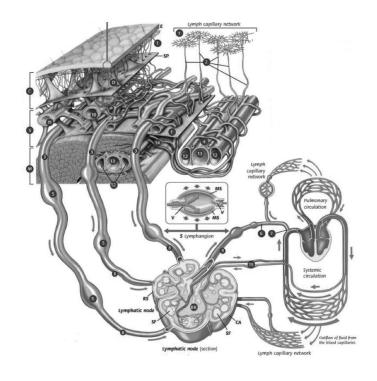


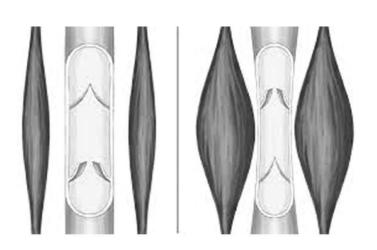
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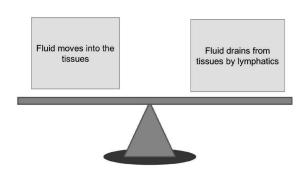
Videos and posters are included in this module which may assist you



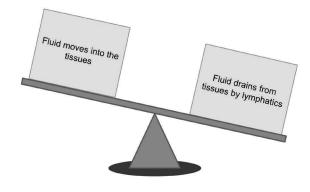




#### In healthy legs the circulation is in balance



In swollen legs too much fluid stays in the tissues





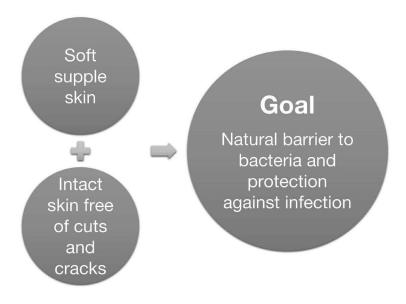




### Skin

- The skin contains 70% of the lymphatic
- Healthy skin is essential for the movement of lymphatic fluid
- Skin is a barrier to the outside world
- When it is dry or cracked bacteria can enter and cause infection











# In grown toe nails and tinea

#### Treat appropriately:

- Refer to a podiatrist
- · Dry between toes carefully
- Antifungals for at least 1 month after the tinea ceases
- Cotton socks
- · Treat the shoes

# Caring for your skin

- · Aim for products that are similar to the pH of the skin between 4 and 6
- Throw away the bar of soap as it often too acidic and may irritate the skin. Use liquid soap instead
- The dryer the skin use thicker moisturisers such as creams / ointments compared with lotions which are thinner















- · When moisturising after a shower or bath slightly damp skin will allow it to penetrate more easily.
- Wearing a compression garment choose petroleum free products. Petroleum can break down the compression garment fibres.
- · Can't reach use Easy Reach





- 1. Make sure clothes don't cut in such as socks and
- 2. Shoes should provide good support for the foot. If there is swelling on the top of the foot a shoe with laces may be better than a court shoe



# 3 Activities of Daily Living





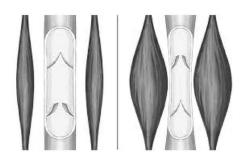
- It is important to sleep in a bed.
- When sitting try and elevate the legs as high as possible.
- Don't sit for prolonged periods of time.
- Don't stand in the one spot for long periods.



- In the garden protect your skin by wearing slacks and covered in shoes.
- Keep active.







## The Muscle Pump

- The calf muscle contraction helps move fluid through both the lymphatic and venous system.
- It is important that the client is walking properly with a heel strike
- Balance issues can influence your clients walking
- Refer if you have any concerns

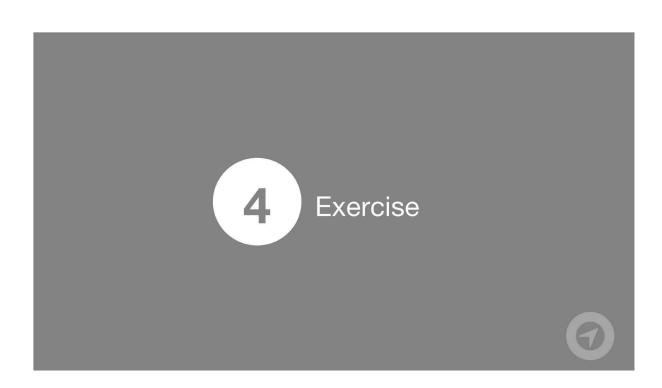


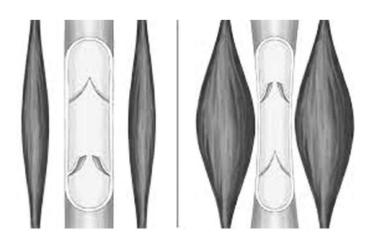




## Management of Below Knee Chronic Oedema - Exercise











It is essential that you get your clients moving

- Sitting exercises
- Walking use a simple pedometer and the track steps.
- Sports such as bowls



### Strengthening and Balance

- Muscle loses size and strength as we get older, which can contribute to fatigue, weakness and reduced tolerance to exercise.
- This is caused by a number of factors working in combination, including: Muscle fibres reduce in number and shrink in size
- Maintaining strength is one of the most important ways to ensure the individual will retain your independence.
- Older people often have poor balance due to loss of muscle strength and joint flexibility, as well as reduced vision and reaction time.
- · These factors impact on gait and the muscle pump



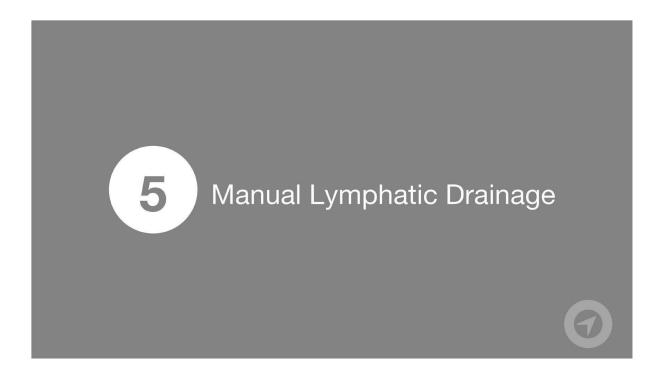




## Management of Below Knee Chronic Oedema - Massage

Maree O'Connor





### Manual lymphatic drainage

- The techniques of MLD are designed to increase the movement of lymph fluid.
- Movement is towards lymph nodes or areas free of oedema.
- It shouldn't cause any redness to the skin.









## When shouldn't you massage?

- · Skin infection
- · If the client is unwell consult the allied health practitioner or nurse that has been trained in oedema management.
- · BE CAREFUL with fragile skin

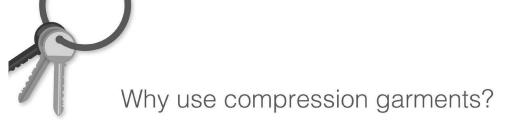




# Compression Garments for the Ageing Person

Keys to success





- ✓ Compression garments remains the mainstay of treatment in venous and lymphatic disease.
- ✓ It increases the blood returning in the venous system by assisting the muscle pump
- ✓ Encourages drainage of lymph from the leg because of the muscle pump and because of graduated compression.





### Styles

Below knee garments for mild oedema Commonly used styles are:

- Below knee with or without grip top
- Toe pieces

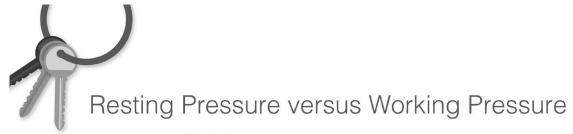




### Night-time Compression Comfiwave

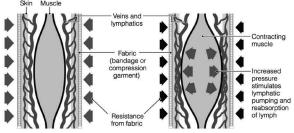
- Provides safe, night-time compression -can also be used in palliative care
- Soft and breathable 100% cotton against the skin and seamless design ensures maximum comfort.
- Comfiwave's wave patterning gives it high air permeability for coolness and stretch





### Resting pressure

The bandage or compression garment applies a constant pressure to the skin when the limb is at rest.



### Working pressure

Working pressure – when muscles contract and expand (eg during exercise) they press against the resisting bandage and the pressure inside the limb increases temporarily

Lymphoedema Framework. Best Practice for the Management of Lymphoedema. International consensus. London: MEP Ltd, 2006.

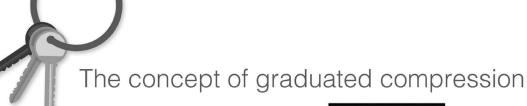


# Elastic versus Static Stiffness

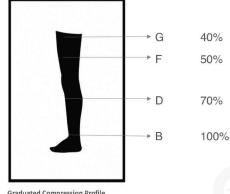
- Flat knit garments allow a higher working pressure and lower resting pressure than do circular knit.
- Generally, this is most effective for managing chronic oedema, especially for problem shapes.
- Conversely, circular knit garments exert a lower working and higher resting pressure which might not be tolerated as comfortably by the wearer (eg at knee or ankle).







- The greatest pressure is applied at the ankle.
- In compression garments, 100% of the stated compression will always be at the smallest circumference.



Graduated Compression Profile Copyright © Haddenham Healthcare 2016



Medical Practitioner Clearance for Compression Therapy



# Contraindications / Precautions for Compression

- · Severe cardiac failure
- Blood supply disturbances
- Be careful with levels of compression with PVD, diabetes
- Untreated DVT (clot)
- · Numbness or paraesthesia.
- Infection
- Fragile / sensitive skin



# Effective communication

- Emotional time most people would prefer not to wear a garment
- Slowly introduce the concept, work together
- Have goals
- Dynamic process
- · Reiterate the importance of compression





## When to wear the garments

### Mild lymphoedema

- Garments need to be worn during the day
- Ideally applied first thing in the morning
- Most clients can remove them for the night but there are also night-time compression options
- For some they only need to wear them whilst doing certain activities
  - · exercise,
  - hot day





### When wearing garments...

- · Ensure fabric of garment evenly distributed along limb.
- Do not roll top down ease excess fabric along length using rubber gloves.
- No creases or wrinkles 'elastic bands' stop lymphatic flow.





Garments should feel firm and supportive but NOT:

- Painful
- · Cause toes to change colour such as purple or blue
- The client should be aware of what graduated compression is, stronger at the ankle than compared to the knee.
- If client closes their eyes where do they feel the strongest compression?

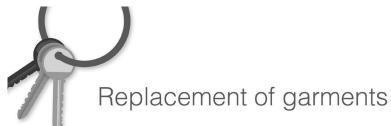




If the client experiences:

- · Severe pain
- Numbness
- Blue toes
- · Pins and needles
- Increase in swelling ( foot or toes)
- They should check that the garment is fitting correctly and adjust if required.
- It may be due to lack of activity such as sitting for a long period of time and should ambulate.
- If these tips don't help they should remove their garment and contact the health practitioner in your organisation that manages oedema.





- Regularly 4 to 6 months.
- · 2 sets of garments one to wear and one to wash.
- · Garments lose their elasticity and effectiveness over time.
- · Have new garments at the beginning of summer
- · Replace if:
  - Loose
  - Stretched
  - Worn
  - · Has holes
  - · Broken threads



- Wash the garments after each wear. This helps to re-tension the garment to improve its fit
- · Handwash the garment or wash in a hosiery bag or pillow case on a gentle cycle using a maximum washing temp of 30 degrees (not hot water)
- · Use a mild pure liquid laundry detergent and rinse the garment out wll. Do not use powder, wool mix or hand soap.
- Roll or place the garment in between towels to remove excess water (don't wring)
- DO NOT BLEACH





### Care of garments

- Avoid petroleum based or Vitamin E creams / lotions as they may cause the elastic to deteriorate.
- Some products may be used under a compression garment for example NAQI brand Cica cream and Body Screen.
- · Dry the garment flat in the shade.
- Do NOT tumble dry or dry near direct heat or in the sun.
- · Do not dry-clean.



- Garments need to be firm fitting to do their job.
- · This means putting garments on and taking them off may be difficult.
- This difficulty may prevent some people wearing garments.
- Flat knit is often easier to don and doff compared with circular knit.





- Use rubber gloves (check the tread on the gloves)
- Put on first thing in morning when limb at its
- · Some need to put the garment on before they get
- · Shower and moisturise at night
- · Use Steve Glide





#### Aids

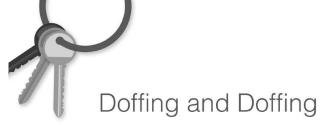
- · Reduce friction
- · Reduce effort in pulling on garment
- Good for those with weak grip strength
- Tender legs
- · Fragile skin

Gripping Pads such as Haddenham rubber mat

Naqi Body Screen absorb into

allow time for it to the skin





Devices to assist your client to put on and take off their compression garments independently

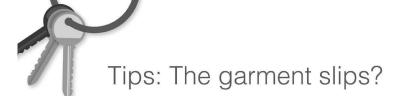




### Devices to help carers

Watch this video and discover the convenience of the Steve+ easyON as a tool for putting on compression stockings on somebody else.





To help keep it up try:

- · Readjusting during the day, it will need to be pulled
- · Body glue. Use stripes and in various spots

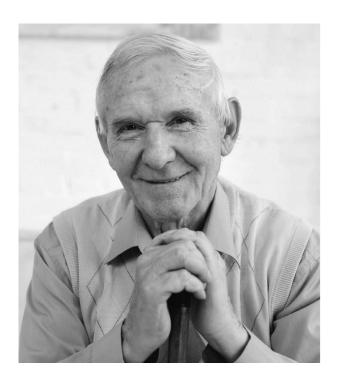




## Tips: Out and about

- Below knee compression garments come in beige and black.
- Be careful with shoes that they support the top of the foot.
- If wearing socks over the top of garment remember loose tops.





# Effective communication

Education and support when the client starts to wear garments

- Vascular precautions
- Expectation of need to pull up / adjust
- Support graded tolerance couple of hours per day.
- Discuss progress/ success / difficulties



When in doubt, ask for help





### Compression Wraps for the Ageing Population





### Indications for wrapping devices

- · Skin severely compromised
- Additional compression
- Exacerbation management
- Fluctuating oedema due to other comorbidities eg palliative care

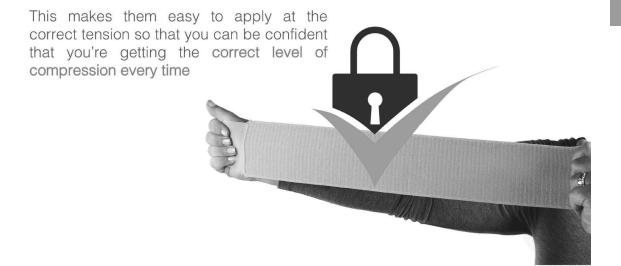




Medical Practitioner Clearance for Compression Therapy



The mechanically limited stretch of the bands gives them an easy to feel "lock-out" or "end stretch"



Three parts

The Easywrap compression used individually or in combination



Easywrap garments consist of overlapping, singlelayer textile bands that are worn over a protective antimicrobial liner.

These bands are secured by fasteners that are easy to attach and are engineered to be conforming and low profile.

Easywrap's unique weave ensures bands do not neck or kink making it easier to achieve a 50% overlap and consistent graduated compression.





### Adapts to limb reduction

Easywrap's UK patent pending technology provides all the benefits of classic short stretch technology whilst the elastic in the bands maintains more consistent compression as the limb reduces.



### Ensuring the correct fit of wraps

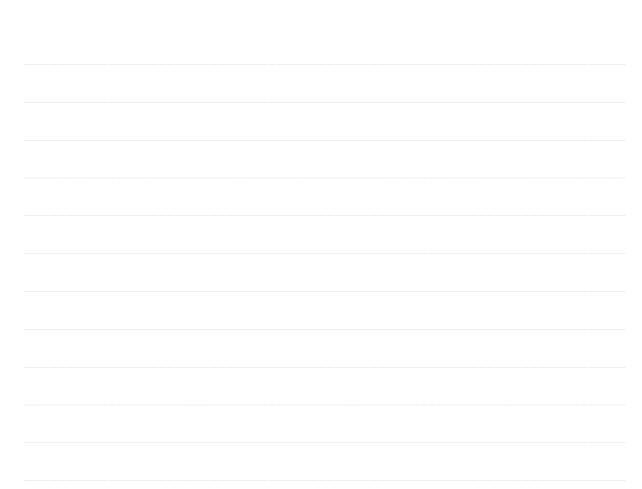
- · Apply the wraps as per the instruction manual /
- · Apply the wraps with 50% overlap.
- Check the client after the wraps have been fitted and get them to walk around and adjust as required.
- Don't have edges digging into joints.







What's Wrong?



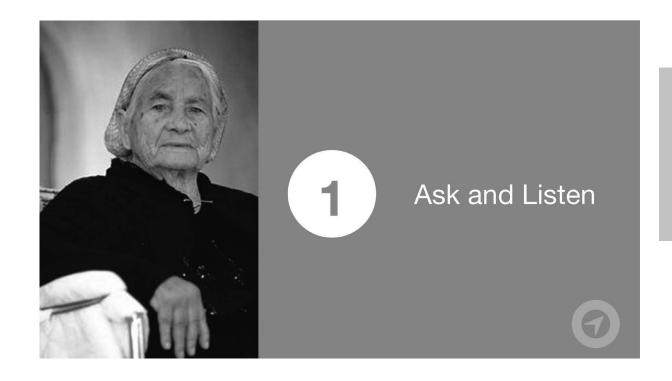


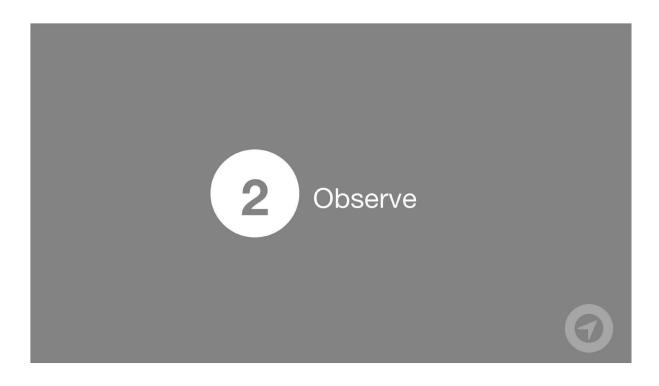


# Management of Below Knee Chronic Oedema – Your Role

Maree O'Connor













In grown toe nails and tinea

Treat appropriately:

- Refer to a podiatrist
- · Dry between toes carefully
- Antifungals for at least 1 month after the tinea ceases
- · Cotton socks
- Treat the shoes































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When in doubt, ask for help



Lymphoedema Education Solutions work with health professionals to enable them to further their training and skills in lymphoedema management and care.

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