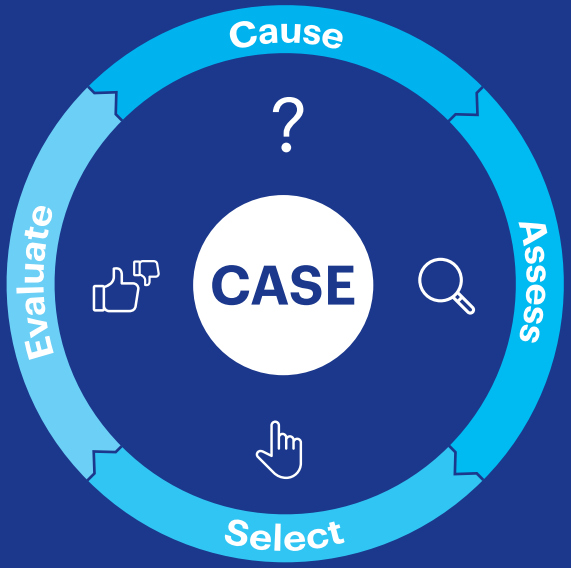
CASE

For Chronic Oedema



Supporting best practice - improving clinical outcomes

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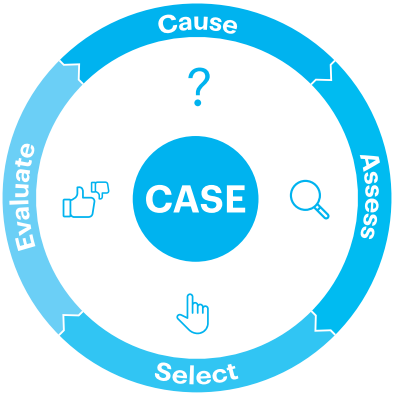
Introduction

Chronic oedema is an umbrella term for a swelling that has been present for three months or more, that is not relieved by elevation. It is a life-long condition and is caused by an accumulation of fluid in interstitial tissues, resulting in swelling. It may be in conjunction with vascular disease and due to the absence or dysfunction of vessels or lymph nodes, and is also known as lymphoedema.

Hypertension within the venous system can increase pressure in the lymphatic system and cause blockages. The lymphatics are responsible for returning 100% of fluid within the tissues back to the circulatory system, along with bigger molecules (i.e. proteins) and waste products.

Prevalence of chronic oedema (lymphoedema) is underestimated and often misunderstood. However a survey published in 2012 estimated that the population that may be affected was **3.99:1000** but with increasing age over 85 this prevalence then would increase to **12:1000.**[3]

Chronic oedema can affect the integrity of the skin causing many complications such as wounds, lymphorrhoea, and cellulitis, and so should be treated and managed promptly and effectively to prevent further deterioration.



Burden of chronic oedema

3.99 in every 1000 are diagnosed with chronic oedema[3]

By 2039, 3.5m people will be 85 years and over[6]

Higher prevalence above 85 years approx. **12 in every 1000[3]**

Skin damage to oedematous limbs may lead to ulceration

(Green, 2007)

Cause of Oedema

Holistic patient assessment is essential to identify the cause and optimise your patients ability to be treated and managed effectively.

Why does chronic oedema happen?

- Oedema builds when the balance is disturbed between:
    - Fluid exchange from blood capillaries and the interstitial tissues (spaces between the cells)
    - Fluid transportation via blood capillaries and the lymphatic system out of the interstitial spaces
- This results in more fluid entering the interstitial tissues than the venous capillaries and lymph vessels can absorb

How do the typical types of oedema occur?

- Due to overload
- Inadequate collection by lymphatics
- Insufficient lymphatics
- Lymph node obstruction
- Central vessel defects
- Abnormal lymphatic contractibility
- Reducing mobility - limb dependency
- Obesity
- Cancer treatments
- Surgery, trauma
- Skin disorders, burns

Conditions such as immobility and obesity are expected to increase expotentially in the next 10 - 15 years.[6]

Cause

Assess the Patient

- using the six S'

Patient assessment can be approached using the six S': **Story, Self-Care, Site, Skin, Size** and **Shape.**

CASE Assessment:

Patient Assessment aims to:

- Establish a diagnosis of condition and cause
- Identify any contra-indications of treatment (i.e. Peripheral Arterial Disease)
- Establish early cautions (i.e. circulatory disorders, infections such as cellulitis, mobility problems and loss of sensation)
- Develop a care and treatment partnership with the patient
- Set realistic goals
- Exclude arterial insufficiency

1. Story:

Full holistic assessment using the activities of daily living including:

- Medical history
- Nutrition and hydration
- Medication
- Pain
- Activities of daily living (does the patient go to bed at night? e.g. is the patient sleeping in a chair)
- Age related changes
- Psycho-social history
- Vascular history

2. Self-Care:

Self-care is a dynamic and empowering method of long-term management. However, to engage with their own care, the patient must be:

- Willing
- Health literate
- Central to decision-making
- Central to care delivery

3. Site:

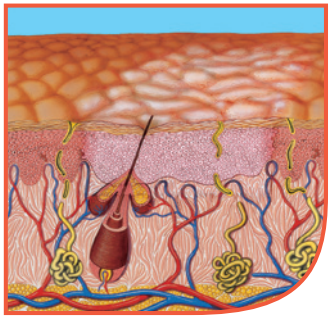
The location of chronic oedema gives clues to the possible underlying causes and informs where compression should be applied. Failure to examine the limb fully can create problems with management.

Assessment should include:

- How long has the oedema been present?
- Full limb assessment - from the groin down to the toes
- Both lower limbs should be examined for the presence of oedema, and compared to each other
- Look for signs of vascular insufficiency

Assess the Patient

- using the six S'



4. Skin:

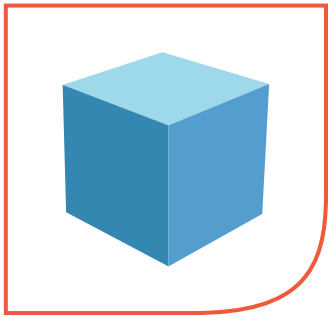
The following should be noted while assessing the skin:

- Dryness
- Sensitivities to topical treatment
- Signs of cellulitis (skin infection)
- Colour / circulation of the skin
- Pigmentation
- Fungal infections
- Hyperkeratosis
- Appearance of the skin
- Leaking of lymph fluid through the skin (lymphorrhoea)
- If a wound is present on the limb, a holistic wound assessment should be carried out
- Limb temperature

5. Size:

The size of the limb can influence compression choice and indicate the need for intensive therapy to reduce swelling before maintenance therapy.
Things to consider when assessing the size of the limb:

- Is the limb longer or shorter than average?
- Is the limb thinner or fatter than average? If the patient is obese, a bespoke compression garment may be necessary
- Is the patient wheelchair bound or immobile? Consider how any treatment options may interfere with transfers



6. Shape:

Shape of the limb influences treatment choices, and may signpost the need for referral.

- Is it regular or irregular? Like an inverted champagne bottle shape?
- Are skin folds present?
- Is the oedema pitting or non-pitting?
- Is the swelling confined to the feet / foot?
- Is swelling confined to the thigh(s)?
- Are the toes affected?

1. Story
2. Self-Care
3. Site
4. Skin
5. Size
6. Shape

Select - Compression Therapy

Decongestion Phase I

Aim to reduce limb volume, improve skin condition and address any wounds present.

- **Bandages**
  - Short-stretch bandages are inelastic and the most effective at reducing oedema
  - Initially bandage changes will be regularly needed due to oedema reduction
  - They are easy to apply but can be time consuming

- **Wrap compression systems**
  - Can be used as an alternative to bandaging
  - Enable the patient / carer to become self-sufficient
  - Can also be used for maintenance where the patient cannot tolerate or apply hosiery, or if the patient has a wound and you feel that by applying hosiery it may compromise the integrity of the dressing

	Wrap compression systems	Compression bandages
Suggested JOBST® solution	**JOBST® FarrowWrap® range**	**JOBST® Compri2 / JOBST® Comprifore**
Normal leg shape	✓	✓
Low to moderate exudate	✓	✓
High exudate*	✓	✓
Carer involvement	✓	✕
Limb distortion due to oedema	✓	✓
Self-caring patient	✓	✕
Deep skin-folds	✓	✓

*Case series has been developed to demonstrate super absorbent dressings were effectively used with JOBST® FarrowWrap® Strong variants

JOBST® FarrowWrap® Lite (20-30mmHg) can be considered for patient with mixed aetiology leg ulceration requiring reduced compression

JOBST® FarrowWrap® 4000 is indicated for the treatment of venous leg ulcers where minimal limb shape distortion is present

Adapted from best practice statement:
Holistic management of venous leg ulceration (2016)

Effective Decongestion - Phase I

Pre-decongestive phase

Effective decongestion resulting in the healing of leg ulceration, reduction in limb volume and improved skin condition.

Results of decongestion

This patient should now be assessed and a care plan put in place for long-term maintenance to manage her condition.

Images provided courtesy of Kendal Lymphology Centre.

Select - Compression Therapy

Maintenance Phase II

Aim to maintain limb shape and skin condition. Prevent rebound oedema with suitable compression hosiery

- **Circular-knit elastic hosiery**
  - Commonly used for the treatment of venous disease
  - Due to it's elastic nature it is most suitable for limbs of a regular shape
  - The higher compression classes of circular knits can be difficult to don due to the elastic nature of the hosiery
  - Readily available in off-the-shelf sizes
  - Aesthetically pleasing to the patient

- **Flat-knit hosiery**
  - More suitable for limbs with an irregular / distorted shape
  - Have a high level of static stiffness, therefore will contain oedema more efficiently than a circular-knit
  - Made-to-measure hosiery which allows for a more accurate and comfortable fit for the patient
  - Custom-made to fit the patient's exact anatomical shape
  - Should be considered were there is a risk of rebound oedema

Choosing the right type of compression

It is important to choose the right level of compression to ensure the optimum outcome is achieved for the patient whilst preventing incidences of cellulitis, lymphorrhoea (leaky legs), and rebound oedema.

Guide for the prevention of venous leg ulcer recurrence using RAL compression hosiery

	Circular-knit hosiery	**Wrap compression systems**	**Custom-fit, flat-knit hosiery**
Suggested JOBST® solution	**JOBST® ready-to-wear range**	**JOBST® FarrowWrap® range**	**JOBST® Elvarex® range**
Normal leg shape	✓	✓	✓
Limb distortion	✗	✓	✓
Mild to moderate swelling	✓	✓	✓
Risk of rebound oedema	✗	✓	✓
Patients ability to apply compression	Good	Poor*	Good

*Cost effective treatment solutions should be considered. However if a patient is unable to tolerate or apply compression hosiery, or is non-concordant, a wrap compression system can be utilised to provide a continuation of care

The Importance of Choosing the Right Type of Compression

- **Understand how different hosiery works**
  - **Circular-knit** hosiery has a high elasticity. The resultant effect is that the hosiery may not contain the oedema (depending on severity) and the limb will continue to swell. The leg may potentially break down due to a tourniquet effect in the areas, where the hosiery may cut in.
  - **Flat-knit** hosiery is less elastic and has a higher static stiffness that will reduce the possibility of rebound oedema. This hosiery is made-to-measure and is knitted flat and sewn together to create an anatomically correct garment. This lays flat against the skin and will not dig in at skin folds or cause a tourniquet effect.

- **Example of ill-fitting hosiery**

Hosiery creating tourniquet effect below the knee

Hosiery digging in at ankle fold

Skin break down and trauma due to a tourniquet effect

- **Example of well fitting hosiery**

Circular-knit

Flat-knit

Select

C

A

S

Recognised Compression Classifications

Class	German Standard RAL-GZ 387*	British Standard BS 6612	French Standard ASQUAL	US Compression Levels**
1	18-21mmHg	14-17mmHg	10-15mmHg	15-20mmHg
2	23-32mmHg	18-24mmHg	15-20mmHg	20-30mmHg
3	34-46mmHg	25-35mmHg	20-36mmHg	30-40mmHg
3 Forte***	34-46mmHg	-	-	-
4	49-70mmHg	-	>36mmHg	-
4 Super***	60-90mmHg	-	-	-
Testing Method	HOSY	HATRA	IFTH	-

† Reference: Lymphoedema Framework. Template for Practice: compression hosiery in lymphoedema. London: MEP Ltd. 2006
* Compression ranges as recommended by the International Lymphoedema Framework. Reference: Lymphoedema Framework Template for Practice: compression hosiery in lymphoedema. London: MEP Ltd., 2006
** No national standards for compression hosiery in USA; most popular compression classifications listed
*** Not listed in Template for Practice documents

Evaluation of Care

- Chronic oedema management should be re-evaluated continuously; a variety of treatment methods may be tried before a suitable method is found that suits the patient and will ensure that a positive clinical outcome is achieved
- A long-term treatment / management plan should be developed to ensure preventative treatment continues following reduction of oedema to prevent any rebound, e.g. compression garments and general care of the lower limb to include skin care exercise and regular reviews of the compression garments every 6 months
- The success of long-term management will all rest on getting the type and class of compression garment that is correct for the patient and that the patient will commit to wearing on a long-term basis
- Do not be disheartened if the first garment choice fails to meet your patients needs, this is common; understanding your patients' everyday needs and requirements can help you make the right selection for your patient to minimise any wastage or risk of compliance issues
- Provide information and education for your patients on their treatment / management plan to create a partnership approach that will aid compliance and improve clinical outcomes

If you would like further education on wound care and / or compression therapy, ask your Essity Account Manager about the Essity Academies. The training is modular-based so can be tailored to your needs and schedule. CPD certificates are provided.

Further information can be found online at **www.bsnmedical.co.uk/education**
Contact your local Essity Account Manager or call our Concierge Service on: **01482 670177**
or email: **concierge.service@essity.com**

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