UNDERSTANDING CHRONIC OEDEMA

KEY PRINCIPLES FOR MANAGING CHRONIC OEDEMA WITH VENOUS LEG ULCERATION

RISK FACTORS

Venous causes:
- Hypertension
- History of deep vein thrombosis/post-thrombotic syndrome

Primary and secondary lymphatic causes:
- Congenital abnormalities
- Trauma (e.g. surgery)

Other causes:
- Cardiac disease
- Renal disease
- Obesity

HOW CHRONIC OEDEMA PROGRESSES

- Early stages: oedema usually presents as ‘pitting’ (indenting after pressure) that reduces overnight or with elevation
- Without appropriate treatment: tissues become hard as waste products accumulate due to lymphatic system’s inability to drain excess fluid; oedema does not reduce with elevation or rest
- Long-term: affected tissues become hard, fibrosed and non-pitting; oedema does not reduce with elevation or rest; pronounced limb-shape changes develop and skin folds become evident; risk of cellulitis increases

WHY SKIN IS AT RISK OF BREAKING DOWN

- Decreased bloodflow results in skin changes due to lack of nutrients to the skin
- Patient health status can result in inability/lack of motivation to carry out basic skin care (e.g. keeping skin clean, dry and well-hydrated)
- Due to lack of mobility, an increase in oedema, combined with fragile, taut skin, results in a risk of trauma from external devices (e.g. beds, chairs), which in turn increases the risk of cellulitis

MANAGING CHRONIC OEDEMA WITH A VENOUS LEG ULCER

- Undertake a complete, holistic assessment of the patient and limb
- Perform an ABPI (or consider TBPI or pulse oximetry) to determine any underlying causes of the condition and venous leg ulcer status
- Treat or refer the patient for specialist diagnosis (e.g. duplex ultrasound, if ABPI not available) or care for underlying medical condition(s)
- Initiate appropriate skin care to prevent skin breakdown
- Assess limb shape and level of oedema
- Seek to reduce oedema and reshape the limb with appropriate compression therapy (e.g. bandaging, circular-knit or flat-knit, ready-to-wear or custom-fit), depending on the level of oedema and limb-shape distortion
- Select appropriate compression and ensure the dressing is suitable for managing exudate volume (including use under compression) and the ulcer (see Pathway for Choosing Appropriate Compression and Wound Dressings)
- Keep in mind there may be more than one appropriate compression choice, so it is important to become familiar with the range of options
- Frequent reaplication of leg ulcer dressings and compression may be needed to monitor the skin and leg ulcer, and for appropriate absorption of exudate and reshaping of the limb
- To ensure patient concordance and optimise treatment outcomes, correct application of compression therapy is required. Compression bandaging should be applied only by trained practitioners
- A chronic oedema management plan must also include exercise and movement to enhance lymphatic and venous flows, plus long-term maintenance using compression hosiery to prevent further complications

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Pathway for Choosing Appropriate Compression and Wound dressings

**STEP 1 | Assess the leg for the key clinical signs of chronic oedema**
- Swelling does not reduce with limb elevation
- Duration of three months or longer
- Progression towards hard, non-pitting tissue

**STEP 2 | Assess the leg to determine ulcer aetiology**

**No venous ulcer/healed venous ulcer**

**Simple venous ulcer (e.g. small size, duration <12 weeks)**
- Goal: prevent skin breakdown, resolve oedema
  - Advise appropriate skin care
  - Prevent ulcer recurrence with graduated RAL compression class 2 hosiery (e.g. JOBST Opaque)

**Moderate oedema**
- Soft, pitting oedema may be evident but easily resolved
- Moderate oedema
  - Pitting less evident and no longer resolves easily; tissues more fibrous
- Severe oedema
  - Pitting is no longer evident; tissues are hard and fibrous; shape changes and skin folds may be evident. Refer to specialist if appropriate

**Severe oedema**
- Hard, non-pitting tissue
- Progression towards hard, non-pitting tissue
- Refer to specialist if appropriate

**Complex venous ulcer (e.g. critically colonised or infected)**
- Select appropriate wound dressing (e.g. Cutimed Siltec or Cutimed Sorbact)
- Select 4-layer bandage system delivering 40mmHg of compression (e.g. JOBST Comprifore) or compression hosiery system (e.g. JOBST UlcerCARE)

**Goal: address infection, resolve oedema**
- Select appropriate wound dressing (e.g. Cutimed Sorbact)
- Select 4-layer bandage system delivering 40mmHg of compression (e.g. JOBST Comprifore)

**Goal: address infection, reduce oedema**
- Select appropriate wound dressing (e.g. Cutimed Sorbact)
- Select 4-layer bandage system delivering 40mmHg of compression (e.g. JOBST Comprifore)

**PATHWAY FOR CHOOSING APPROPRIATE COMPRESSION AND WOUND DRESSINGS**

**Patient has chronic oedema**
- Select appropriate wound dressing (e.g. Cutimed Sorbact)
- Select 4-layer bandage system (e.g. JOBST Comprifore) or compression hosiery system (e.g. JOBST UlcerCARE)

**Patient does not have chronic oedema**
- Select appropriate wound dressing (e.g. Cutimed Siltec, or Cutimed Sorbact if infected)
- Select compression hosiery system (e.g. JOBST UlcerCARE Ready-to-Wear or JOBST UlcerCARE custom-fit)

**Venous leg ulcer present**
- Goal: heal ulcer and prevent development of oedema
  - Select appropriate wound dressing (e.g. Cutimed Siltec, or Cutimed Sorbact if infected)
  - Select compression hosiery system (e.g. JOBST UlcerCARE Ready-to-Wear or JOBST UlcerCARE custom-fit)

**Goal: maintain status; prevent oedema, skin breakdown and development of a leg ulcer**
- Advise appropriate skin care
- Prevent ulcer recurrence with graduated RAL compression class 2 hosiery (e.g. JOBST Opaque, JOBST Bellavar or JOBST Elvarex)

**Moderate oedema**
- Pitting is no longer evident; tissues are hard and fibrous; shape changes and skin folds may be evident. Refer to specialist if appropriate

**Mild oedema**
- Soft, pitting oedema may be evident but easily resolved

**Conclusion**
- Compression reduces oedema by aiding the calf muscle pump to improve venous return and by enabling excess fluid to be reabsorbed into the lymphatic system.
- Applying external pressure increases interstitial pressure, which encourages reabsorption; the greater the pressure, the greater the force that pushes fluid up the limb
- Continual assessment of the limb and adjustment of compression therapy helps ensure optimal treatment outcomes
- Exercise and movement are integral parts of a compression therapy treatment plan