The Management of Lower Limb Oedema

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Causes of oedema

• Venous stasis
• Lymphoedema
• Heart Failure
• Dependency
• Liver and kidney failure
• Medications
• Cellulitis
• Low protein
Under use of compression therapy means lost opportunities for healing wounds and improving patients' quality of life.
Revisit patient’s experience and expectations

- Experience of living with an ulcer
- Understanding of underlying cause and factors affecting healing
- Social and financial factors that affect healing
Wound Management

T = Debride necrotic tissue and/or slough

I = Control infection and or inflammation

M = Manage exudate, moist environment

E = Epithelial edge
Compression Therapy

- ↓ distension superficial veins
- Restores valve function
- ↑ blood flow in deep veins
- Supports calf muscle pump action
- ↑ venous & lymphatic return
- Reduces pain
- Improves skin condition
- Increases healing
Selecting compression therapy

• Compression bandages
• Compression wraps
• Compression hosiery
• Intermittent Pneumatic Compression
Clinical Decision for Bandage Choice

• Amount of compression required
• The shape of the leg
• Effectiveness for the individual patient
• Patient acceptability
• Cost effective
Materials: Bandage Stiffness

- Remains rigid as calf muscle contracts
- Generates ↑working pressure
- Active calf muscle ↑effectiveness
- Inelastic material or multiple layers
Criteria for compression bandaging

- Ankle circumference >18cm
- ABPI ≥ 0.8 - ≤ 1.2
- ABP1 ≤ 0.8 reduced compression on specialist advice
- ABP1 ≤ 0.5 contraindicated
- ABPI ≤ 1.2 further investigation
- No clinical signs of ischaemia
- No other contra-indications for compression
La Place’s Law Related to Compression Bandaging

- Limb circumference
- Number of layers
- Width of bandages
- Tension of bandages
Choice of bandage type
Compression wraps

- Can be applied by patient or carer
- Adjustable
- Removed for wound or skin care
- Removed every night
- Ease of application
- Fragile skin
- Compliance issues
Clinical Decision for Hosiery Choice

• Amount of compression required
• The shape of the leg
• Effectiveness for the individual patient
• Type of work
• Patient acceptability
• Affordable
Type of hosiery: circular knit hosiery

- Knitted cylinder with no seam
- Shear, silky materials
- Suitable for lower risk patients
Type of hosiery: flat knit hosiery

- Knitted flat and sewn together
- For high risk patients
- Distorted shaped limbs eg champagne bottle
- Can be designed to reduce cut in at ankle flexure and below knee
- Inelastic – improves venous return during walking
- Easier to apply
- Less aesthetically pleasing
Measuring and fitting

- Adequately trained
- Accurate measuring
- Oedema must be controlled
- Avoid pulling tape tight
- Financial advice on funding of hosiery
- Always check the fit of the hosiery
- Application and removal
Intermittent Pneumatic Compression

- Use multi-chamber sleeve
- Rapid inflation preferred
- For those who cannot tolerate compression
- Some evidence increases healing when used in conjunction with compression bandaging/hoisery
Considerations for venous stasis

- Evidence of venous stasis/disease
- Rule out ischaemia
- Look for other causes
- Monitor for skin cancers
- Control biofilm
- Effectiveness of calf muscle pump
- Control venous eczema
Treat venous eczema aggressively

• Assess all moisturizers being used as possible sensitivity
• Wash legs with water
• Mild eczema may respond to zinc paste bandages
• Topical potent steroid ointment daily
• Consider stopping compression bandaging
Considerations for lymphoedema

- Cause of lymphoedema
- Frequency of bandage changes
- Possible obstructions
- Type of bandaging
- Consider massage
- Other comorbidities
- Risk of infection
Considerations for heart failure

- Exacerbation of HF
- Signs & symptoms HF
- Dry weight – increase
- Check level of oedema
- Check BNP
- Is it safe to apply compression?
- Referral to specialist team
Considerations for dependant oedema

- No calf muscle pump action
- Lack of sensation
- Frequency of monitoring
- Very careful fitting of hosiery
- Frequency of follow-up with hosiery once healed
In summation

• Thorough comprehensive assessment of the patient
• Instigate compression early
• The most appropriate compression to fit the individual
• Assess for potential complications
• Appropriate referral


