Tricks for increasing local pressure

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"Some joined up thinking is what we need!"
Standardised Bandaging

- Protocol based care enables health care professionals to put evidence into practice addressing what should be done, when, where and by whom at a local level.

- For a section of the population this management is sufficient and has a number of benefits in that it
  - Standardises care and reduces variation
  - Keeps the health care professional or service safe
  - Offers consistency which can be linked to education and competency

- However,
  - The patients condition needs a predictable course
  - This is not personalised care planning
  - It does not necessarily address the needs of the complex or difficult to heal patient group – they often need something different
  - It does not rely on expertise or insight
VeNUS IV trial  
Lancet 2014; 383: 871–79

Results

- 2-layer compression hosiery vs. 4LB
- 457 participants, equally effective at 99 days
- Judged to be venous if no other cause was suspected.
- Wholly or partly in gaiter region
- Tolerant of high compression (nurses judgement)
- 0.8 – 1.2 ABPI
- Variety of 4LB regimes: ‘had to deliver 40mmHg at the ankle’

Exclusion

- 2954 excluded
- 1713 Clinical reasons
- 464 could not tolerate high compression
- 183 exudate too high
- 102 Gross oedema
Examples of difficult ulcers and oedema

What makes them difficult?
Focus on difficult to heal ulcers

- The majority of venous ulcers heal with standard high compression
- Many are hard to heal despite seemingly consistent and optimal compression bandaging. Common clinical features include
  - Site of ulcer: retro-malleolar fossa, side of foot, dorsum of foot, base of toes
  - Abnormal shape of foot: thickened ankle, narrow gaiter and calf
  - Oedema: particularly localised and especially around the foot and ankle
  - Lack of tolerance
  - Other aetiologies: such as Sickle, and Vasculitis
  - Non-healing venous despite standard high compression: post thrombotic syndrome
  - Significant pain
  - Extensive atrophie blanche
  - Biomechanical changes in the foot with fixed ankle and altered gait
Traditional response

The traditional response to difficult to heal ulceration has tended to be to concentrate on:

- Standardising care
- There is the assumption that the compression being delivered is therapeutic and enough
- Changing the dressing being used
- Alternative and advanced modalities
- Strategies to improve patient well being
- Focussing on patient behaviours; blaming the patient for non concordance or lack of tolerance

….. Continue doing the same thing over and over, round and round
Developing a strapping technique

‘Compression strapping: the development of a novel compression technique to enhance compression therapy and healing for ‘hard-to-heal’ leg ulcers’

Int Wound Journal 8:474-83

Using strapping to increase local pressure.
Hopkins A, Worboys F, Partsch H 2013
Veins and Lymphatics. Vol 2, 12
Fan strapping
Sub-bandage pressure studies

B1 and medial retromalleolus  Lateral retromalleolus

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Medial retromalleolar fossa: No straps
Medial retromalleolar fossa: Fan straps

Resting  Dorsiflexion  standing
Tricks include

1. Creating **therapeutic** compression for the patient and limb:
   - More than a focus on BI or gaiter
   - Not increasing the layers unless required and tolerated
   - Tall men or PTS need very high compression

2. Creating compression that tackles the site of the ulcer and the application of local pressure
   - Supports anatomical structure

3. Adapting compression to the site or position of the oedema

4. A strategy to improve general mobility and function

5. A strategy for consistency
Enhancing Compression video

- Fran Worboys, Clinical Director
Sickle Cell ulceration

Note guttering
Wet malleolar ulcers

8 weeks later

5 months later
Strapping varieties
Chevron strapping
Acute Atrophie Blanche
Foot strapping
Forefoot ulceration

3 weeks later
Forefoot strapping

Fig 8 8cm to foot

Forefoot Straps x4
Withered calf, deformed feet and ankle
Impact of Pronation
When the Achilles or heel is at risk
Alternative straps

6 weeks later
Retro-malleolar Ulceration

- Overs 65 years of ulceration
The complex patient

- 65 year history
- The presence of scar tissue
- Gait deformity
  - Severe pronation
  - Reduced AROM
  - Leg length discrepancy
  - Frequent falls
What do patients say?

- That straps play an important role in their treatment.
- Recognise that each nurse applies differently.
- That it is the principle of supportive pressure, not the technique.
- That consistency of care and review is VERY significant.

They squeeze in the right place
They support my foot and ankle
They reduce my pain
My ulcer is healing
They work on the swelling
I feel more stable
It improves my walking

5
4
3
2
1
The significance of consistency
Thank you

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