

# Venous Leg Ulcers



These guidelines have been developed for health professionals caring for clients with venous leg ulcers. Diagnosis of the aetiology of a leg ulcer as venous should be undertaken by a health professional with expertise in the area.

For this summary, all recommendations have had their levels of evidence classified using the National Health and Medical Research Council levels of evidence, as follows:

Level I	Evidence from a systematic review or meta-analysis of at least two level II studies
Level II	Evidence from a well designed randomised controlled trial (for interventions), or a prospective cohort study (for prognostic studies)
Level III	Evidence from non-randomised studies with some control or comparison group (pseudo-randomised controlled trial; non-randomised experimental trial, cohort study, case-control study, time series studies with a control group; historical control study, retrospective cohort study)
Level IV	Evidence from studies with no control or comparison group

An additional rating of Expert Opinion (EO) has been added, for guideline recommendations which are consensus statements provided by a National or International Panel of experts in the area.

This is a summary of guidelines and evidence from the following sources, which should be accessed for further details as required:

1. Royal College of Nursing, *Clinical practice guidelines: The management of patients with venous leg ulcers*. 2006, London: RCN Institute, Centre for Evidence based Nursing, University of York.  
[www.rcn.org.uk/development/practice/clinicalguidelines/venous\\_leg\\_ulcers](http://www.rcn.org.uk/development/practice/clinicalguidelines/venous_leg_ulcers)
2. Registered Nurses' Association of Ontario, *Assessment and Management of Venous Leg Ulcers*. March 2004 ed. Registered Nurses' Association of Ontario 2004, Toronto, Ontario: RNAO.  
<http://rnao.ca/bpg/guidelines/assessment-and-management-venous-leg-ulcers>
3. Australian Wound Management Association, *Australian and New Zealand Clinical Practice Guidelines for Prevention and Management of Venous Leg Ulcers*, 2011, AWMA: Barton. ACT.  
[www.awma.com.au/publications/publications.php#vlug](http://www.awma.com.au/publications/publications.php#vlug)
4. Scottish Intercollegiate Guidelines Network, *Management of chronic venous leg ulcers. A national clinical guideline*, 2010, SIGN: Edinburgh.  
[www.sign.ac.uk/guidelines/fulltext/120/index.html](http://www.sign.ac.uk/guidelines/fulltext/120/index.html)
5. Moffatt CJ, Edwards L, Collier M et al., A randomised controlled 8-week crossover clinical evaluation of the 3M Coban 2 Layer Compression System versus Profore to evaluate the product performance in patients with venous leg ulcers. *International Wound Journal* 2008, 5:267-279.




## Assessment

1. Assessment of leg ulcers and Doppler ABPI assessments should be undertaken by health professionals with training in this area <sup>1-4</sup> (IV)
2. Clients with a leg ulcer should be screened for arterial disease, including:
  - examining pedal pulses
  - Doppler examination to check Ankle-Brachial Pressure Index is  $\geq 0.8$
  - compression therapy is contraindicated if ABPI less than 0.7 or higher than 1.2. An ABPI over 1.2 is unreliable and indicates further investigation is necessary. Referral for ultrasound duplex scanning may be helpful if there is uncertainty <sup>1,3,4</sup> (II)
3. A Doppler reassessment should be undertaken:
  - whenever starting compression therapy<sup>1</sup>
  - whenever changing type of compression therapy<sup>1</sup>
  - whenever an ulcer deteriorates<sup>1</sup>
  - for reassessment every 3 months<sup>1</sup> (III)
4. Measure ulcer area to monitor progress regularly, <sup>3,4</sup> every 4 weeks<sup>1</sup> (IV)
5. Referral to a specialist is needed when there is:
  - uncertainty in diagnosis<sup>3</sup>
  - a low or high ABPI<sup>1</sup>
  - complex ulcers e.g. multiple aetiology such as arterial, rheumatoid disease<sup>3</sup>
  - signs of infection<sup>3</sup>
  - deterioration of ulcer<sup>3</sup>
  - failure to improve after 3 months <sup>1,3,4</sup> (EO)

## Management

6. Where there are no contraindications, multilayer high compression bandage systems with adequate padding should be the first line of treatment for uncomplicated venous leg ulcers (ABPI  $\geq 0.8$ )<sup>1,4</sup> (I)
  - Four layer compression bandage systems result in a shorter time to healing than short-stretch bandage systems<sup>4</sup> (I)
  - One study found a two-layer (Coban™ 2 Layer) compression bandage system as effective for healing as a four-layer bandage system<sup>5</sup> (II)
  - Contraindications include ulcers of other or mixed aetiology, peripheral vascular disease, heart disease, peripheral neuropathy and/or an ABPI  $< 0.8$  or  $> 1.2$  <sup>3</sup> (EO)
7. Compression should be applied by a trained practitioner<sup>1-4</sup> (IV)
8. Protective padding should be used over bony prominences when applying compression <sup>2,3</sup> (EO)
9. When using elastic high compression bandages, the ankle circumference should be more than or padded to 18cms<sup>2</sup> (EO)
10. Irrigate the ulcer with a neutral, non-irritating solution, e.g. warm tap water or saline <sup>1-4</sup> (IV)
11. If present, removal of necrotic and devitalised tissue should be undertaken through mechanical, sharp, autolytic or biological debridement<sup>3</sup> (IV)
 

Sharp debridement should only be undertaken by appropriately trained practitioners<sup>4</sup> (EO)

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12. EMLA® cream can reduce the pain associated with debridement when there are no contraindications<sup>3</sup> (I)
13. Dressings should be simple, low adherent, low cost<sup>1-4</sup> and acceptable to the client<sup>1-3</sup> (I)
14. Dressings should maintain a moist wound-healing environment, manage wound exudate and protect the per-ulcer skin<sup>2,3</sup> (II)
15. There is no evidence that any one dressing type is better than another<sup>3,4</sup> (I)
16. Products that commonly cause skin sensitivity (e.g. lanolin, phenol alcohol, topical antibiotics) should not be used on leg ulcer clients<sup>1,2</sup> (EO)
17. There is insufficient evidence that
- topical negative pressure (II)
  - laser treatment (I)
  - therapeutic ultrasound (as opposed to ultrasound for debridement) (I)
  - electromagnetic therapy (II)
  - hyperbaric oxygen (II)
  - enzymatic debriding agents (II)
  - or skin grafting (II)
- speeds healing of venous leg ulcers<sup>1,3,4</sup>
18. Systemic antibiotics should not be used for ulcers that show no clinical signs of infection<sup>3</sup> (II)
19. Appropriate client education (written and/or verbal) may lead to improvement in knowledge of their condition and concordance with its management<sup>3</sup> (EO)
20. Recommend leg elevation and progressive leg exercises as part of the management plan<sup>3</sup> (EO)
21. Specialist leg ulcer clinics are recommended as the optimal community service<sup>4</sup> (II)
22. There is insufficient evidence to recommend aspirin<sup>4</sup>, (II)  
micronised purified flavanoid fraction<sup>4</sup> (II)  
or mesoglycan<sup>4</sup> (II)  
to increase healing rates.  
If there are no contraindications, pentoxifylline may promote healing<sup>3,4</sup> (II)

### Prevention

23. After healing, use of compression therapy (for life) reduces ulcer recurrence rates.<sup>1-4</sup>  
Class 3 compression (40mmHg and higher) is recommended if tolerated, otherwise the highest level of compression tolerated<sup>1,2,4</sup> (II)
24. Compression hosiery should be measured and fitted by a trained practitioner and replaced every six months<sup>2</sup> (EO)
25. Other recommended strategies to prevent recurrence include:
- venous investigation and surgery<sup>3,4</sup> (I)
  - regular follow-up and skin checks<sup>1,2</sup> (EO)
  - skin care, lower limb exercise and elevation of the affected limb<sup>1-4</sup> (EO)