Summary of Recommended Guideline

Venous Leg Ulcers: Assessment and Management

Key Highlights from the Recommended Guideline

- Diagnose venous leg ulcers by a combination of clinical examination and measurement of a reliably taken Ankle Brachial Pressure Index (ABPI).
- Treat uncomplicated venous leg ulcers with graduated compression bandaging and exercise.
- Reassess periodically and educate the patient about measures to decrease recurrence.

Scope: Health professionals who treat patients with venous leg ulcers.

How should I assess a patient who presents with a leg ulcer?

- Do a complete history and physical exam. [Level of evidence: C]
- Look for the following typical signs to confirm whether the etiology of the leg ulcer is venous, arterial, or mixed. [Level of evidence: C]

<table>
<thead>
<tr>
<th>Venous etiology</th>
<th>Arterial etiology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shallow moist ulcer</td>
<td>Punched out appearance</td>
</tr>
<tr>
<td>“Gaiter” area (lower half of leg</td>
<td>Base of wound dry, pale, poorly perfused</td>
</tr>
<tr>
<td>around and above ankle)</td>
<td>Cold legs and feet (in warm environment)</td>
</tr>
<tr>
<td>Edema</td>
<td>Shiny, taut skin</td>
</tr>
<tr>
<td>Eczema</td>
<td>Dependent rubor</td>
</tr>
<tr>
<td>Ankle flare</td>
<td>Pale or blue feet</td>
</tr>
<tr>
<td>Lipodermatosclerosis</td>
<td>Gangrenous toes</td>
</tr>
<tr>
<td>Varicose veins</td>
<td></td>
</tr>
<tr>
<td>Hyperpigmentation</td>
<td></td>
</tr>
<tr>
<td>Atrophie blanche</td>
<td></td>
</tr>
</tbody>
</table>

- Record the ulcer’s surface area at regular intervals. [Level of evidence: B]
  - Maximum length and width or tracing onto a transparency are useful methods.
- Diagnose venous leg ulcers by a combination of clinical examination and measurement of a reliably taken Ankle Brachial Pressure Index (ABPI). [Level of evidence: A]
- Include urinalysis, blood glucose level in your investigations. [Level of evidence: C]
- Assess the patient and family’s ability to manage self-care of the ulcer; consider functional, cognitive and emotional status. [Level of evidence: C]
- If you have training in the technique, carry out a Doppler ultrasound measurement of ankle-brachial pressure index (ABPI) to rule out peripheral arterial disease; if not, refer for this test. [Level of evidence: B]
How should I manage a patient who has a venous leg ulcer?

- Ensure that you assess and treat the patient’s pain which may present with either venous or arterial disease. [Level of evidence: B]
- Cleanse the ulcer with warm tap water or saline; do not use products containing lanolin, phenol alcohol or topical antibiotics, which can cause skin sensitivity. [Level of evidence: C]
- Use simple, low-adherent, inexpensive dressings that are acceptable to the patient; no particular dressing has been shown to encourage healing. [Level of evidence: A]
- Keep the wound moist to promote cell migration, proliferation, differentiation and neovascularization. [Level of evidence: A]
- Assess for infection; treat with an appropriate technique of debridement and wound cleansing. [Level of evidence: A]
  - Consider systemic antibiotics if there is clinical evidence of cellulitis (e.g. fever, increasing pain or erythema, purulent exudate), not merely colonization with bacteria. [Level of evidence: C]
  - Do not use topical antiseptics such as iodine, topical antibiotics or antibacterial agents since these can cause sensitization. [Level of evidence: B]
- Treat uncomplicated venous ulcers and venous eczema with graduated compression bandaging and exercise. [Level of evidence: A]
  - Use high compression if ABPI ≥ 0.8 and the ulcer is clinically venous. [Level of evidence: A]
    - Apply pressure of 35-40 mm Hg at the ankle graduating to half the ankle pressure at the calf if the leg is normally shaped. [Level of evidence: C]
  - Ensure that the compression bandage is applied by a trained individual who understands its practical aspects and risks. [Level of evidence: A]
    - Use with caution in the elderly and those with diabetes or connective tissue disease. [Level of evidence: C]
    - If the wound is infected, modify the compression regimen until the infection resolves. [Level of evidence: C]
  - Prescribe graduated compression stockings for life. [Level of evidence: B]
  - Use external compression (e.g. with pneumatic compression pumps) for patients with chronic venous insufficiency. [Level of evidence: A]
  - Prescribe exercises to improve function of the blood vessels (intensive controlled walking), the upper ankle joint and the calf muscle pump. [Level of evidence: A]
- Consider complementary therapies to decrease ulcer size:
  - Hyperbaric oxygen (if the patient does not have diabetes or atherosclerosis). [Level of evidence: A]
  - Therapeutic ultrasound (for chronic venous ulcers). [Level of evidence: A]

How do I monitor progress and adjust treatment of the patient with a venous leg ulcer?

- Reassess the ulcer and re-measure its surface area regularly to monitor progress [Level of evidence: B]
  - Every 3 months or less if the ulcer is not resolving. [Level of evidence: C]
  - Every 6 months if the ulcer is resolving. [Level of evidence: C]
- Repeat the ABPI, ensure that the compression stockings are replaced and reinforce patient education about managing the condition.
What secondary preventive measures should be taken to prevent a venous ulcer from recurring?

- Aim to reduce the rate of recurrence by regular monitoring of the ABPI, ongoing use of compression stockings, avoidance of over-the-counter formulations or products that sensitize the skin and avoidance of accidents or trauma to legs. [Level of evidence: C]
- Advise the patient that: [Level of evidence: C]
  - Compression stockings are for life
  - The affected limb should be kept elevated above the level of the heart when resting
  - Keep exercising (e.g. to maintain the mobility of the ankle joint)
  - Keep the skin well cared for
  - Visit you at the first sign of skin breakdown or if there is any trauma to the leg

Levels of Evidence

The levels of evidence used to grade the recommendations in this guideline are as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level A</td>
<td>Evidence obtained from at least one randomized controlled trial or meta-analysis of randomized controlled trials.</td>
</tr>
<tr>
<td>Level B</td>
<td>Evidence from well designed clinical studies but no randomized controlled trials.</td>
</tr>
<tr>
<td>Level C</td>
<td>Evidence from expert committee reports or opinion and/or clinical experience or respected authorities. Indicates absence of directly applicable studies of good quality.</td>
</tr>
</tbody>
</table>

The above recommendations were derived from the following GAC endorsed guideline:


Rating (out of 4): 🍊

Endorsed Date: March 2007
Planned Review Date: March 2010

Ontario Guidelines Advisory Committee
500 University Ave., Suite 650,
Toronto, ON M5G 1V7
Telephone: 1-888-512-8173
Fax: 416-971-2462
Email: contact@gacguidelines.ca

www.gacguidelines.ca