

## 9. PREVENTING RECURRENCE OF VENOUS LEG ULCERS

### What are the effective interventions to prevent recurrence of VLUs?

Ongoing management is considered essential in preventing recurrence of VLUs, as underlying venous disease remains a causative factor once an initial VLU heals. Referral to a vascular surgeon for assessment is appropriate, but beyond the scope of this clinical guideline (see discussion in section 9.3). Diligent maintenance of leg care and ongoing compression are recommended.

#### 9.1 Maintenance of leg care

##### Recommendation

***Maintaining practices that promote the health of legs may reduce the risk of VLU recurrence. (CBR)***

##### ***Practice points***

- Progressive resistance exercise may help to promote calf muscle function.<sup>65</sup>
- Regular moisturising of the lower limbs helps to maintain skin integrity.
- Elevation of the limbs when sitting and avoidance of standing for prolonged periods assists in controlling oedema.
- Support groups can promote uptake of and concordance with practices that help maintain skin integrity and provide long-term psychosocial support.

#### 9.2 Ongoing compression therapy

Compression therapy aims to promote venous return, reduce venous pressure and prevent venous stasis. Continuing compression therapy following healing of a VLU can help reduce the long-term effects of venous disease. More information on compression therapy is provided in the recommendation for the treatment of VLU (recommendation 8.5).

The recommendation on prevention of VLU recurrence was based on moderate-quality RCTs that were generally consistent.

##### Recommendation

Consider the continued use of compression therapy to reduce the risk of recurrence of VLUs. (Grade B)

##### **Caution**

Refer to the caution statement and the contraindications in the recommendation for use of compression therapy in the treatment of VLUs (recommendation 8.5).

##### **Practice points**

- There is minimal evidence to suggest that there is a superior compression system to prevent recurrence of VLUs.<sup>118,142</sup> Moderate- and low -quality RCTs suggest that medical-grade compression hosiery may be more effective than compression bandages in preventing ulcer recurrence (24% vs 53%,  $p < 0.05$ ).<sup>122</sup>

- The Expert Working Committee recommends that after healing has been achieved it is ideal that compression bandaging be maintained to the same degree for two to four weeks before changing to medical-grade compression hosiery.
- Mild to moderate compression may be as effective as higher compression in preventing ulcer recurrence. The Expert Working Committee's consensus is that compression of **18–40** mmHg will reduce the risk of ulcer recurrence. Patients should be offered the strongest compression that they can tolerate and manage.
- Patient acceptance of higher pressure medical-grade compression hosiery may be an issue. In one trial, more than 20% of participants wearing high-grade medical compression hosiery to prevent ulcer recurrence withdrew due to “stocking-related events”.<sup>143</sup> Another RCT reported that a more moderate grade compression was better tolerated than high-grade compression.<sup>142</sup> A patient survey indicated that patients were less likely to wear medical-grade compression hosiery if they were uncomfortable.<sup>144</sup>

Patients require education about the importance of wearing compression hosiery. Patient beliefs about the benefits of medical-grade compression hosiery in preventing ulcers may influence concordance. A survey found participants were more likely to wear stockings if they believed the stockings were worthwhile (OR 21, 95% CI 3.5 to 240,  $p=0.0002$ ) and if they believed ulcers would be prevented (OR 4.40, 95% CI 1.50 to 13,  $p=0.004$ ).<sup>144</sup>

Further practice points can be found under compression therapy for the treatment of VLUs (recommendation 8.5).

## Evidence summary

One good-quality Cochrane review<sup>142</sup> reported secondary outcome measures from moderate- to low-quality RCTs sponsored by product manufacturers. In one trial, 32% of participants who were non-compliant with stocking compression had recurrence of an ulcer within the five-year trial period, compared with 19% of participants who wore stockings on a daily basis. In the second trial, a post-hoc analysis found that the participants who were excluded from the trial due to inability to apply stockings experienced significantly greater recurrence of ulcers compared with those who participated in the trial (RR 2.58, 95% CI 1.33 to 5.01).<sup>142</sup> (Level I evidence)

A second, good-quality Cochrane review<sup>118</sup> reported one moderate- to low-quality RCT ( $n=233$ ) comparing compression with no compression for preventing recurrence of VLUs. There were no significant differences in likelihood of ulcer recurrence or time to recurrence within 12 months ( $p=0.38$ ) between a 4LB system and usual care. The trial was underpowered to detect a significant result. In another trial ( $n=30$ ) there were no cases of recurrence within six months in VLUs treated for 12 weeks with single-layer elastic bandaging, 4LB or a four-component compression with paste bandaging. There was no non-compression comparison group.<sup>118</sup> (Level I evidence)

One good-quality RCT<sup>143</sup> reported re-ulceration as a secondary outcome. Participants who had healed from a VLU were randomised to receive either no compression or below-knee compression stockings (35 to 45 mmHg graduated pressure) for up to 12 months. The group wearing stockings had a lower rate of reulceration (22.36% vs 54.3%,  $p$  value not reported). However, 22% of

participants in the compression stocking group withdrew from the trial due to undefined, stocking-related events.<sup>143</sup> (Level II evidence)

### **9.3 Venous surgery**

The underlying physiological problem responsible for the development of venous ulceration is venous hypertension. This hypertension is commonly due to reflux or obstruction in the venous superficial or deep system, which is a frequent clinical problem. Venous surgery for isolated superficial reflux or for mixed superficial and deep reflux does not improve healing rates, but is an important intervention to reduce the 12-month recurrence rate after healing of the ulcer. Other venous surgical procedures, such as deep vein valvular repair or replacement, or venous bypass operations, may have a role in reducing venous hypertension and thus reduce the venous ulcer recurrence rate.

It is recommended that all patients with venous ulceration should be reviewed by a surgeon with an interest in venous surgery to ensure all surgical management options have been considered.