



Accelerate

## Transforming wound and lymphoedema care

# Intermittent thigh compression – can this adjunct therapy support venous leg ulcer healing?

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### Introduction

Venous leg ulcers can be hard to heal, can reoccur and be persistent for months. An 82-year-old gentleman previously known to our service via our multi-disciplinary clinic presented with a new ulceration to the right medial gaiter measuring 8.5cm x 2cm (17cm<sup>2</sup>). He had a 10-year history of lymphovenous disease and gravitational dermatitis.

After slow healing for 9 months with the local service, this gentleman started to attend our Complex Wound Clinic once a week in which he then started on the intermittent pneumatic compression alongside his below knee compression bandaging.

### Method

On week one the patient commenced the intermittent pneumatic compression to the thigh and for this evaluation the therapy was used for a total of 16 weeks or until healed for 2 hours each day. A patient diary was kept regarding the time the unit was used and any additional supporting information as to comfort and ease of use.

Intermittent pneumatic compression is a therapeutic technique used in medical devices. It includes an air pump and inflatable cuff for the thigh in a system designed to improve venous circulation in the limbs of patients who suffer oedema or are at risk of deep vein thrombosis or pulmonary embolism<sup>2</sup>.

### Discussion

This is a very positive evaluation, however it may be that the daily elevation was a critical factor in enabling rapid healing. The device was considered easy to use by the patient and supports care at home with self-management. The patient is required to elevate the limb whilst the cuff is in situ for 2 hours per day which encourages a rest period further aiding venous return. This could be a contributory factor to the success in leg ulcer healing.

### Results

Week one	The wound measured 17cm <sup>2</sup>
Week four	The wound had signs of epithelial tissue which had bridged across
Week five	There was significant reduction in wound size to 0.25cm <sup>2</sup>
Week six	The wound had fully healed

### Conclusion

This gentleman had a slow healing leg ulcer that appears to have been prompted to heal with an adjunct intermittent pneumatic compression device to his thigh.

### References

- 1 Harding K, et al. (2015) Simplifying leg ulcer management. Consensus recommendations. *Wounds International*.
- 2 Morris R J, (2008) Intermittent pneumatic compression systems and applications, *Journal of Medical Engineering & Technology*, 32:3, 179-188.

