Intermittent thigh compression – can this adjunct therapy support venous leg ulcer healing?
Published by: Accelerate CIC | acceleratecic.com | February 2020 – Wound Care Today

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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[1]. 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^2). 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[2].

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^2
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^2
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.*

Week 1: **On assessment**

Week 6: **healed**