

Title:

Pneumatic compression therapy- from the past to the present

Abstract:**Background;**

The international Society of Lymphology (ISL) (2003) recognises intermittent pneumatic compression (IPC) as an essential part of Complex Physical Therapy (CPT) and recommends it should be used in combination with Medical Lymphatic Drainage (MLD). The introduction of the LymphAssist™ cycle on the Flowtron® Hydroven 12 could reduce the need for this combined treatment and prove cost effective. This presentation, through a literature review, will demonstrate use and effectiveness of IPC. It will continue to provide evidence for the use of a new generation of IPC using the Flowtron® Hydroven 12 on the LymphAssist™ mode (which mimics medical lymphatic drainage). Research findings by the author have demonstrated that this device, used in combination with multi layer lymphoedema bandaging was as effective as standard best practice. 12 patients who required DLT were recruited to the study.

Results: At the commencement of treatment the treatment group had a severity of oedema weighting at 2.4 (0=mild, 1=moderate, 2=severe) and the control group at 2.0 therefore the treatment group started with slightly more severe lymphoedema. The study demonstrated that all patients had a reduction of limb volume and thickening. It demonstrated that limb volumes did not return to the pre treatment measurements at one month follow up in either group. There was a reduction of thickening of the tissues in both groups indicating a reduction of macromolecules. Additionally the Flowton Hydroven 12 on the LymphAssist™ mode was easy to use and pleasant for the patient.

Conclusion: The findings support the inclusion of the 'LymphAssist' to be used as part of standard lymphoedema management. As a feasibility study, outcome of this study was used to determine a power calculation. A sample size of 17 in each group was required to give a confidence level of 80% with a type I error of 0.05 and a sample size of 22 in each group would provide a 90% confidence and error of 0.05 with a type 1 error. Interestingly the initial recruitment of convenience sample was set at 20 patients in each group. Improvements in the randomisation and analysing upper and lower limb separately are recommended for further studies. In conclusion patients treated with Flowtron® Hydroven 12 using the LymphAssist™ mode experienced no greater limb volume reduction than patients treated with standard best practice lymphoedema treatment using MLD and multilayer bandaging.