A Clinical audit of the Lymphflow Advance, Intermittent Pneumatic Compression Pump in the treatment of venous and lymphatic disease.

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Declaration of interest: This Poster presentation has been supported by Haddenham Healthcare ltd.

Introduction
There are a number of intermittent pneumatic compression (IPC) devices available for use in the management and adjunct treatment of lymphatic, venous and arterial disease. IPC has been used at Wolverhampton Lymphoedema Service (WLS) since 2005 on all patients who have limb oedema, undergoing decongestive treatment, instead of MLD. To date there has been 9000 interventions using IPC, however FG MLD ‘fit and flush’ technique is used where midline oedema is present.

IPC, is the application of external pressure, using single or multi chambers garments, which are inflated with air to actively compress the limb (Camerota & Aziz, 2009). The development of the Lymphflow Advance, enables perform focussed treatment on the lymphoedematous area using a variety of different cycles. It follows a retrograde cycle, proximal to distal and is underpinned by the latest theoretical thinking in MLD.

Aims
To evaluate the Lymphflow Advance and determine if the device is effective when used as part of decongestive lymphoedema treatment.

Methods
For the purpose of this presentation Limb volume data was collated to observe outcomes of treatment as part of DLT. Initially a search using the clinic database was performed to highlight all patients who had received IPC from April –August 2017. This highlighted 23 patients in total. On reading patient notes, 9 patients were identified as received treatment using the Lymphflow Advance instead of Hydroven 12 as part of decongestive lymphoedema therapy, in combination with lymphoedema compression bandaging and skin care. The 14 patients not used in this audit had received the treatment as part of ongoing maintenance or palliative care and did not have regular limb volume measurements taken.

Results
As detailed in Table 1, there were 8 females and 1 male being treated, with an average age of 62 years, range 41-84 years. 6 patients had bilateral leg oedema, with the largest leg being classed as the affected side for limb volume purposes. 3 patients had arm oedema following treatment for breast cancer. Patients attended for treatment daily for 2 weeks and were fitted with compression garments on day 10. Reducing sessions of treatment with the Lymphflow Advanced continued for the following 6 weeks in combination with skin care and compression hosiery. Limb Volumes were taken using a perimeter for legs and standard 4cm measurements with a pre tension tape measure for arms on days 1,5,10 and at a 6 week follow up appointment on completion of treatment.

Discussion
Previous feedback gained from 22 patients and therapist, utilised feedback forms containing 5 questions for both therapist and patients has been presented previously (Pugh, 2017). Results demonstrated that overall therapist felt that it was useful to have different cycles available for targeting treatment with 14 patients reporting that the LymphFlow Advance was much better than the previous IPC machine used. Furthermore, case studies in Lee et al (2016), demonstrated that the LymphFlow Advance was accepted as an alternative IPC device in treating patients. Wigg (2009) states that tissue softening and limb volume reductions are comparable to those achieved when using IPC instead of MLD. The use of intermittent pneumatic compression devices, which offer a retrograde or manual lymphatic drainage cycle as part of self-management at home demonstrated an increase lympathic flow by aiding re-establishment of lymphatic pathways (Furnival-

Conclusion
Ongoing evaluation continues to demonstrate that the Lymphflow Advance is comparable or better than previous devices in maintaining and reducing oedema and that having cycles which focus on specific areas are beneficial. In future a larger study in the form of a randomised controlled trial should be completed to enable statistically significant data analysis.

References available on request