

## **Secondary Arm Lymphoedema Treated with Endermologie-LPG:**

### **A Randomised Trial (interim analysis)**

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**Aim:** To describe the effectiveness of the Endermologie- LPG® technique, a non-invasive treatment involving mechanical manipulation of the lymphoedematous of arms following treatment for breast cancer.

**Study Sample:** 31 patients with secondary arm lymphoedema were randomly allocated to either the LPG® or MLD® treatment group on an intention to treat basis. Manual Lymphatic Drainage was used as the reference standard against which to determine outcome. An interim analysis is presented.

**Method:** Participants received either 25 minutes of LPG® technique using a standardised treatment procedure or 45 minutes of standardised MLD, followed by padded compression bandaging 4 days per week for 4 weeks. Both quantitative (limb fluid content using Bio-impedance and arm volume and circumference using perometry) and qualitative measurements were taken twice weekly, with a follow-up measurement 1 month after final treatment. Participants were encouraged to acquire a new compression garment after final treatment. During the follow-up period no other treatment for lymphoedema was utilised, except for pre-existing self-management routines and normal skin care programs.

**Results:** Only participants who have completed all aspects of the program are reported in this analysis. A neither a single LPG® nor MLD® had any immediate impact on the fluid content (measured by bio-impedance) of the limbs, however by the end of the first week (4 treatments) both groups showed very statistically significant reductions in fluid content compared to the baseline, this improvement continued for all four weeks of the study with the greatest and most significant reductions occurring at the end of the period. ( $p < .005$  LPG® group,  $p < .05$  MLD® group) Mean fluid reductions in the LPG group were greater than those in the MLD® group. Fluid reductions were maintained over the one month follow-up. Limb volume (measured by perometry) showed similar patterns with all reductions being statistically significant ( $p > .001$ ) for both the LPG® and MLD® groups. Subjectively patients in both groups also reported significant improvements and for some this was most important as was the impact of these changes on their quality of life and ability to undertake their activities of daily living.

**Conclusions:** A four week program of 25 mins LPG 4 times per week and a similar 45 minute program of MLD® (the current gold standard) achieve similar outcomes for the patients subjectively and objectively. LPG® resulted in a larger fluid reduction at the end of the 4 weeks compared with the MLD®. Arm volumes showed similar trends. LPG® and the MLD® treatments have a lasting effect with reductions being maintained for at least a month after the cessation of their treatment programs. LPG® treatment achieved a greater one month reduction. Of particular importance to patients are the significant changes in subjective symptoms and in quality of life and activities of daily living which were shown in the LPG® group