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Presented here are abstracts from a recently completed study by the Stanford University Center for Lymphatic and Venous Disorders. The study evaluates the use of Pneumatic Sequential Compression for the treatment of postmastectomy lymphedema.

The Stanford University Center for Lymphatic and Venous Disorder is the foremost institution in the country studying the treatment of lymphedema. Bio Compression pumps were used exclusively in this study.

AN EVALUATION OF ADJUNCTIVE INTERMITTENT PNEUMATIC COMPRESSION IN THE ACUTE TREATMENT OF POSTMASTECTOMY LYMPHEDEMA

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We investigated the safety and efficacy of adjunctive intermittent pneumatic compression (IPC) for the acute decongestive therapy of post-mastectomy lymphedema. Twenty-three patients were randomized to decongestive lymphatic therapy (DLT) with (Group II) or without (Group I) IPC. DLT included manual lymphatic drainage, bandaging, and exercise, performed daily. In Group II, 30 minutes of IPC was performed daily at 40-50 mm Hg. Arm volume was assessed by tank volumetry.

In Group I, the 11 patients achieved 26% acute arm volume reduction; in Group II, the 12 patients achieved a mean volume reduction of 45.3% (p,<0.05). There were no complications attributable to either DLT or IPC. Conclusion:, IPC is generally safe and well-tolerated and appears to provide synergistic benefit when used with DLT in the acute decompressive approach to post–mastectomy lymphedema.

EVALUATION OF INTERMITTENT PNEUMATIC COMPRESSION AS ADJUNCTIVE MAINTE-NANCE THERAPY IN POSTMASTECTORMY LYMPHEDEMA

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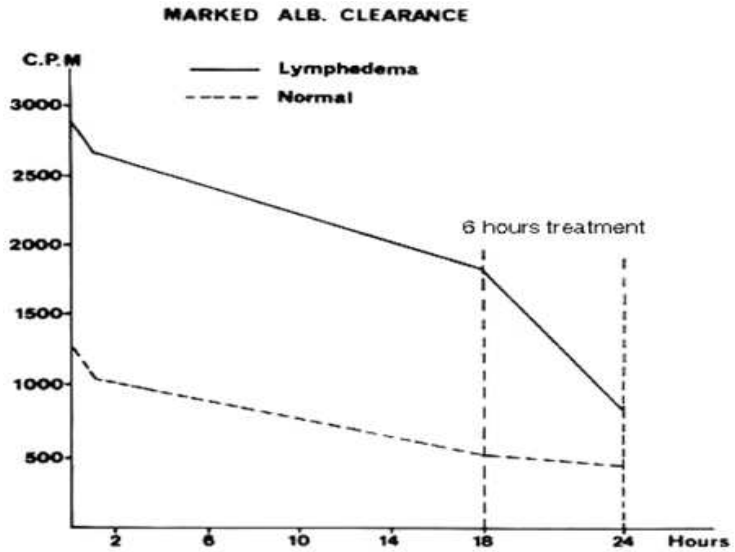
We studied the safety and efficacy of intermittent pneumatic compression therapy as an adjunct to standard de-congestive lymphatic therapy in patients with stable post-mastectomy arm lymphedema.
Study design: Randomized, cross-over, 2 month study with 6 month follow-up
Patients and methods: 29 patients with postmastectomy arm lymphedema and without evidence of active cancer were enrolled. Patients were randomized into two groups.

Patients assigned to Group I were asked to continue their routine maintenance therapy with use of a Class II compression garment and self–applied manual lymphatic drainage (MLD); patients assigned to Group II were asked to use the intermittent pneumatic compression (IPC) pump for 1 hour daily (40-50mmHg) in addition to conventional therapy (garments + MLD). All patients crossed over to the alternate therapy after one month. Patients who elected to continue chronic use of the pump were evaluated after 6 months. Clinical evaluation was performed at the beginning of the study, after the first and the second month and after six month follow-up. The evaluation included tank volumetry, skin tonometry, and measurement of range of motion.

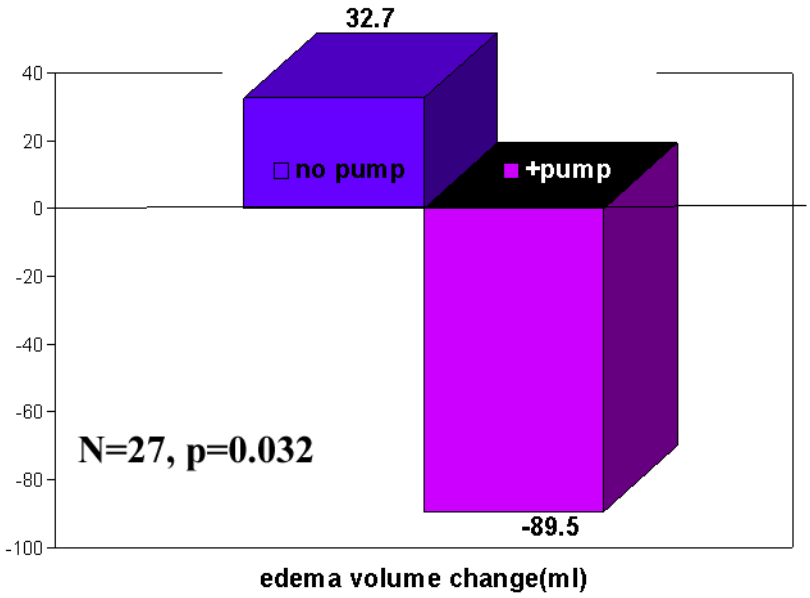
Results: *27 patients completed the study. Two patients voluntarily withdrew.*
There was a mean volume reduction of 89.5 ml during the month with IPC and volume increase of 32.7 ml during the month of routine maintenance therapy. The difference was statistically significant ($p<0.05$). There was no difference in tonometry results. Of the 21 patients who completed chronic use of IPC, 19 were available for analysis. After 6 months, there was a further average volume reduction of 29.1 ml (not statistically significant). No adverse effects of IPC were observed.

Conclusion: *Intermittent pneumatic compression is safe and well tolerated and may offer additional benefit for patients with postmastectomy lymphedema.*

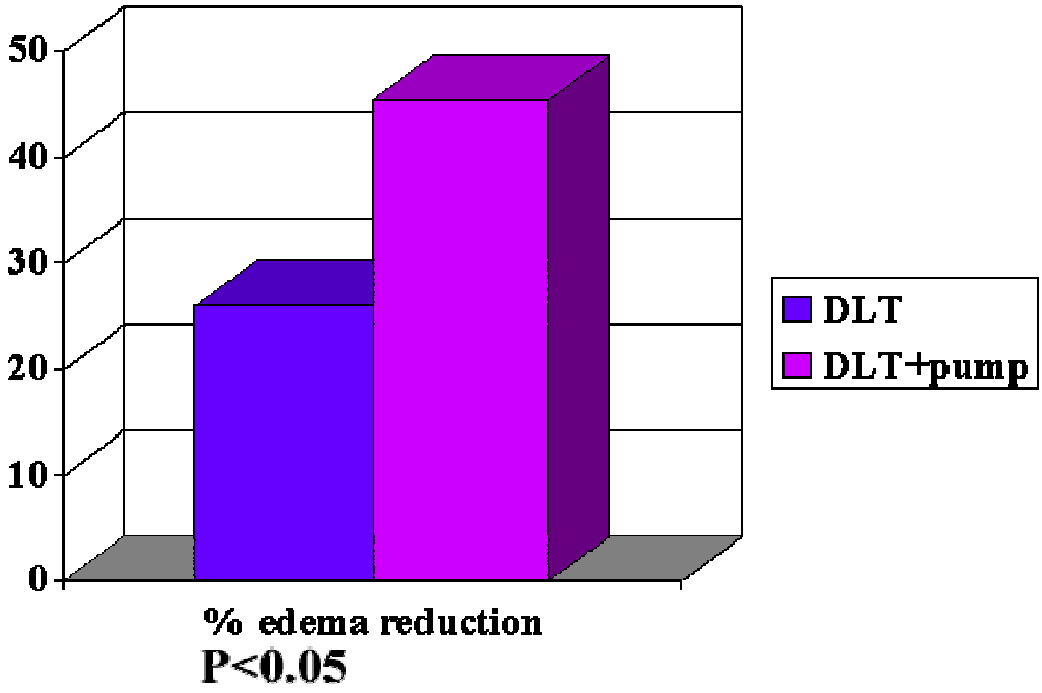
SIMULATION OF LYMPHATIC FLOW BY SEQUENTIAL PNEUMATIC COMPRESSION



PNEUMATIC COMPRESSION IN POSTMASTECTOMY LYMPHEDEMA MAINTANCE STUDY RESULTS



Pneumatic compression in postmastectomy lymphedema Acute TX results



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