

Efficacy of Manual Lymph Drainage in preventing Secondary Lymphedema following Breast Cancer Surgery

The results reported in a recent study published in the Journal of Lymphology¹ emphasized the significant effect of Manual Lymph Drainage (MLD) in preventing the onset of secondary lymphedema of the upper extremity on the operated side following breast cancer surgery. The study showed that prophylactic application of MLD administered immediately following breast cancer surgery helped to prevent or considerably alleviate secondary lymphedema of the arm irrespective of the method of breast cancer treatment.

The study included 67 women with an age range of 34-81 years, who underwent breast cancer surgery. 40 women received breast conserving therapy and 27 women underwent modified mastectomy. A total of 32 women received sentinel lymph node dissection (SLND) with an average of 2 lymph nodes removed (1-10), and 35 women underwent axillary lymph node dissection (ALND) with an average of 17 (8-29) lymph nodes removed during the procedure. In addition, 47 individuals underwent post-operative external radiation therapy, and 28 women received chemo, or endocrine therapy.

In 33 randomly chosen women (mean age 60.3 years) [MLD](#) was administered beginning on the second day, and for a duration of 6 months following surgery.

34 women (mean age 58.6 years) represented the control group and did not receive MLD, but were instructed in the application of self-Manual Lymph Drainage.

The individuals in both groups were of similar age and had no statistically significant differences in body mass index (BMI) and fat distribution prior to the surgery and 6 months after the surgical procedure.

Chemotherapy, endocrine therapy and radiation were applied to 39, 42, and 67% of the women who received MLD, respectively, and to 44, 56, and 73% of the women in the control group.

Starting on the second post-operative day individuals of both groups received a standard protocol of physical therapy exercises, and among the 33 randomly chosen women MLD was administered five times a week for the first 2 post-operative weeks, and twice a week from day 14 to 6 months following the surgery.

The MLD treatments were administered by the same therapist following the standard treatment protocol for secondary lymphedema of the upper extremity.

The volumes of both arms of all women participating in the study were measured using the water displacement method and taken before surgery and on days 2, 7, 14, and at 3 and 6 months following the surgery.

Compared with the arm volume before surgery, a significant increase in the arm volume (10%) on the operated side was observed among the women who did not receive MLD treatment at 6 month following the breast cancer surgery. In this control group the mean arm volume values on the operated side showed a continual increase beginning on the second post-operative day; at 3 months following surgery a 6% increase in volume was demonstrated, which increased to 10% in volume difference after 6 months; 70.6% of the individuals in the this group suffered from lymphedema at that time.

In the group of women who received MLD, mean arm volumes on the operated side increased on the second post-operative day and resolved by day 7 after surgery. At 6 months following breast cancer surgery, no increase in volume was evident and lymphedema of the arm on the operated side did not occur.

This study demonstrates the effectiveness of [MLD](#) in preventing the onset of secondary lymphedema irrespective of the type of surgery performed, the number of lymph nodes removed (ALND/SLND), and if radiation was applied. Furthermore, even though further studies are needed, this study shows that MLD applied directly following surgery for breast cancer and over a certain time, should be considered for the prevention of the onset of secondary lymphedema.

1. Zimmermann A, Wozniowski M, Szklarska A, Lipowicz A, Szuba A: Efficacy of Manual Lymph Drainage in preventing Secondary Lymphedema after Breast Cancer Surgery. *Lymphology* 45 (2012) 103-112