

# Objectifying Effect of OMT on a Patient with Post-Mastectomy Lymphedema

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## Introduction

Hypothetically, osteopathic manipulative treatment (OMT) improves rib cage excursion and lymph flow. Our goal is determining whether OMT influences rib cage excursion and decreases arm circumference in a patient with post-mastectomy lymphedema.

## Case

A 67-year-old female with a history of bilateral mastectomy and left axilla lymph node dissection developed sudden onset left arm lymphedema after exercise.

With a two camera surface topography instrument, baseline rib cage excursion at rest and with maximal effort was performed. She was evaluated for somatic dysfunction and treated with OMT. Afterwards, measurements were repeated.

Protocol was repeated 6 weeks later.

Treatments focused on rib cage and upper extremities with particular attention to scar tissue, thoracic inlet and axilla. Techniques included myofascial release, articular, and direct muscle energy.

## Results

Rib cage excursion increased with resting breathing following both treatments ( $OMT_1=50.4\%$ ,  $OMT_2=29.9\%$ ) with noted improved symmetry of motion in lower rib cage following the first treatment (baseline difference=7.9mm; post-OMT difference=0.3mm). After both treatments, rib cage excursion decreased with maximal effort breathing ( $OMT_1=-6.45\%$ ,  $OMT_2=-20.2\%$ ) with improved symmetry following the first treatment (baseline difference=8.7mm; post-OMT difference=5.6mm). Arm circumference measurements at the mid upper arm diminished from 32 to 31 cm.

## Discussion

Consistent increase in rib cage excursion at rest following OMT may correlate with improved lymphatic function, thus potentially decreasing upper extremity lymphedema. Decreased excursion with maximal effort breathing may be in part due to change in effort, relaxation secondary to OMT, or increased efficiency in mechanics. Findings warrant further research to better determine the clinical impact of OMT on this patient population and to understand mechanisms of action.