Case Presentation:

**Background & Purpose**
- This case presentation describes the physical therapist examination, evaluation, and interventions for a patient with left upper extremity lymphedema

**Case Description**
- 55 year old female
- Left upper extremity lymphedema after surgery and chemotherapy for breast cancer
- Breast cancer in late 2013, bilateral mastectomy in January 2014
- Single lymph node removed; tested negative for cancer
- Presented swelling in left upper extremity
- Decreased range of motion
- Inability to complete functional tasks,
- Pain
- Decreased active and passive left shoulder flexion and abduction
- Difficulty reaching overhead

**Interventions**
- Patient received Complete Decongestive Therapy 2-3 times/week for a total of 9 visits
- Presenting with decreased edema of the trunk and left upper extremity
- Active and passive ranges of motion brought into functional ranges
- The patient reported a return to all functional activities, without pain or difficulty overhead
- The patient had about a 9% reduction in volume, according to the Matthews & Smith Formula

**Outcomes**
- Initial Visit
- Evaluation & patient education on lymphedema and upcoming treatment
- Visits 2 to 4
- Focus on decreased left upper extremity volume
- Manual lymph drainage applied to left upper extremity and trunk
- Self-manual lymph drainage emphasized due to decreased frequency of visits
- Multi-layer compression bandaging, therapeutic exercise, and skin care
- Visit 5
- First visit after breast reconstruction so patient was re-measured
- Deemed appropriate for compression garment; instructed in garment care, fit, donning, and doffing
- Visits 6 to 9
- Continued focus on decreasing limb size
- Increased emphasis on self-manual lymph drainage and at-home management/maintenance of symptoms
- Importance of skin care again emphasized
- Additional exercise progressions given
- Final measurements taken at visit 9

**Initial & Final Circumferential Measurements**

<table>
<thead>
<tr>
<th>Location</th>
<th>Distance from Anatomical Landmark</th>
<th>Left Upper Extremity Initial (cm)</th>
<th>Left Upper Extremity Final (cm)</th>
<th>Change (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metacarpals</td>
<td>On metacarpals</td>
<td>18.4</td>
<td>17.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Wrist</td>
<td>At the styloid process</td>
<td>16.2</td>
<td>14.9</td>
<td>1.3</td>
</tr>
<tr>
<td>Distal Forearm</td>
<td>8cm superior to styloid process</td>
<td>20.1</td>
<td>17.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Proximal Forearm</td>
<td>16cm superior to styloid process</td>
<td>25.8</td>
<td>22.7</td>
<td>3.1</td>
</tr>
<tr>
<td>Elbow</td>
<td>Taken at the elbow crease</td>
<td>26.7</td>
<td>24.7</td>
<td>2.0</td>
</tr>
<tr>
<td>Distal Upper Arm</td>
<td>8cm superior to the elbow crease</td>
<td>30.5</td>
<td>28.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Axilla</td>
<td>On the humerus, even with the superior aspect of the axilla</td>
<td>37.7</td>
<td>34.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>175.4cm</td>
<td>159.8cm</td>
<td>15.6cm</td>
</tr>
</tbody>
</table>

**Conclusion & Discussion:**
- Most studies recommend a frequency of 5x/week during the initial stage of treatment
- This was unattainable due to various factors
- This case study proves reductions in volume and circumference are still possible with suboptimal frequencies. The increased emphasis on the home program and self-care was due to the breast reconstruction in the middle of her treatments, likely lengthening the duration of treatment

**Plan of Care:**
- Complete Decongestive Therapy (CDT) is the gold-standard treatment
- Manual lymph drainage, Compression Bandaging, Therapeutic Exercise, and Skin Care & Skin Care Education
- Research recommends 5x/week
- This patient only able to attend 2-3x/week

**Before and After Photos**