Conservative Management of a Massive Rotator Cuff Tear and Partial Tear of the Long Head of the Biceps: A Case Report

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**Background**
- A rotator cuff tear (RCT) is a common injury to the shoulder musculature that increases in prevalence with age.
- RCT’s can be classified into five categories determined by the muscular involved:
  - Type A: supraspinatus & superior subscapularis
  - Type B: supraspinatus & entire subscapularis
  - Type C: supraspinatus, superior subscapularis & infraspinatus
  - Type D: supraspinatus & infraspinatus tears
  - Type E: supraspinatus, infraspinatus & teres minor
- Massive RCT is classified as >5cm in size, or complete tear of two or more tendons. Some massive tears may be considered irreparable due to the extent of tendon retraction, atrophy, arthritis and mobilization. Current literature supports the use of physical therapy (PT) as the primary conservative treatment method for irreparable RCTs.

**Case Description**
- The patient was a 76-year-old female who presented to PT with right shoulder pain due to nontraumatic, massive RCT.
- MRI results of her right shoulder:
  - Complete tear of the supraspinatus & infraspinatus
  - Delaminating full-thickness tear of the distal subscapularis
  - Subluxation & partial tear of the long head of the biceps tendon
  - Teres minor appeared frayed
- Patient was not a candidate for surgical intervention due to amount of tendon retraction & muscle atrophy. She began experiencing her shoulder pain six weeks prior to her PT initial evaluation.
- Reported pain down her right upper extremity that did not travel beyond her elbow & denied any numbness.
- Reported symptom provocation and impaired mobility while reaching overhead, driving, dressing, bathing and cooking.

**Timeline of Treatment**

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<th>Initial Evaluation</th>
<th>Week 1-2</th>
<th>Week 3-4</th>
<th>Week 4-5</th>
<th>Week 6-7</th>
<th>Week 8-9</th>
<th>Re-Evaluation</th>
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<tbody>
<tr>
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<td><strong>Therapeutic Exercise</strong></td>
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<td>Manual Therapy</td>
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<td>Home Exercise Program</td>
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<td><strong>Modalities</strong></td>
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<td>Incline Wall Crawls</td>
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<td>Seated AROM Shoulder Flexion</td>
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<td>Supine AROM Shoulder Flexion</td>
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**Arguments**
- DASH score: 54% Impaired
- NPRS: 5/10 at worst, 2/10 at best
- Impaired ROM, Strength, functional mobility
- Right shoulder flexion 75° with pain and compensation
- Patient reports sharp pain with overhead motion
- Patient demonstrated continued compliance with initial HEP
- Set back during week 3
- Modified POC due to pain limiting mobility
- Symptoms from set back subsided by Week 4
- DASH score: 31% Impaired
- NPRS: 2/10 at worst, 0/10 at best
- Right Shoulder Flexion 118° with mild pain and compensation
- Continued focus on improving shoulder strength and mobility
- Update HEP to alternating 2 day strength and conditioning program for upper extremity strength, mobility and stabilization
- Patient demonstrates improvements in overhead motion
- No treatment sessions during week 9
- Set back during week 9
- Increased pain when trying to place object on high shelf.
- Symptoms from set back subsided by Week 10
- DASH Score 27% Impaired
- NPRS: 1/10 at worst, 0/10 at best
- Right Shoulder Flexion 174° of pain-free motion
- Developed Final HEP

**Outcomes**

<table>
<thead>
<tr>
<th>Tests &amp; Measures</th>
<th>Initial Evaluation</th>
<th>Re-Evaluation</th>
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<tbody>
<tr>
<td>Shoulder AROM</td>
<td>Right</td>
<td>Left</td>
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<tr>
<td>Flexion</td>
<td>75° pain &amp; mild compensation</td>
<td>145°</td>
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<tr>
<td>Abduction</td>
<td>63° pain &amp; mild compensation</td>
<td>140°</td>
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<tr>
<td>Extension</td>
<td>40°</td>
<td>52°</td>
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<tr>
<td>Functional IR Reach</td>
<td>Patient able to reach C7</td>
<td>Patient able to reach T2</td>
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<td>Functional ER Reach</td>
<td>Patient able to reach L2</td>
<td>Patient able to reach T2</td>
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**Discussion & Conclusion:**
- Manual PROM and progressive AROM ther–ex. appeared to have the greatest benefit to the patient’s improved gross shoulder ROM.
- Further research is needed to compare the outcome of specific therapeutic interventions for improving shoulder mobility and strength for this patient.

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**References**