Rehab Practice Guidelines for:
Repair of Large Rotator Cuff Tears

**Assumptions:**
1. Tears > 2.5 centimeters
2. No retraction
3. Arthroscopic assisted mini-open procedure

**Primary Surgery:**
- Repair of the supraspinatus & infraspinatus tendons
- Subacromial decompression

**Secondary Surgery (possible):** Distal clavicle excision

**Precautions:**
- For all passive IR/ER guidelines check with surgeon
- Primary repair (supraspinatus & infraspinatus) - NO BEHIND THE BACK INTERNAL ROTATION (TOWEL STRETCH)
- Primary repair – (subacromial decompression) - No heavy resisted flexion for 6 weeks
- Primary repair (supraspinatus & split deltoid) - No resisted abduction for 8 weeks
- Primary repair (supraspinatus & infraspinatus) - No resisted external rotation for 8 weeks
- No additional precautions for distal clavicle excision

**Expected # of visits:** 19-36

<table>
<thead>
<tr>
<th>Week Numbers</th>
<th>Treatment Strategies</th>
<th>Milestones</th>
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<tbody>
<tr>
<td><strong>Week 1-2</strong></td>
<td>- Ice for pain and inflammation control &lt;br&gt;- Remove Sling TID for Pendulum exercises (Codman’s)²</td>
<td>- Sleep comfortably through the night wearing sling</td>
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<td>Dates: ______ to _______</td>
<td>- Modalities for pain and inflammation control as needed³</td>
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<td>- No formal PT &lt;br&gt;- Use sling with ABD pillow 24 hrs/day²</td>
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<td>- No Driving</td>
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<td><strong>Weeks 3-5</strong></td>
<td>- Scar Mobilization when incisions are healed &lt;br&gt;- Joint Mobilization ³ &lt;br&gt; ⁰If hypomobile - grade III/IV mobilizations ⁰If normal- grade I/II mobilizations PRN</td>
<td>PROM:</td>
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<tr>
<td>Dates: ______ to _______</td>
<td>- PROM, AAROM exercises in all planes only to restrictions stated in milestones; no IR in 0º ABD.³,⁶</td>
<td>- ER/IR (90º ABD), HOR ADD: determined by the surgeon</td>
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<td>Total Visits: 6-9</td>
<td>- Scapular control exercises³,⁴,⁶ &lt;br&gt; ⁰Scap PNF ⁰T-Band Rows, prone extension to plane of body</td>
<td>- Flexion, ABD: to tolerance up to 90º - 120º</td>
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<td>- Begin PT 2-3 visits/week</td>
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<td>- Normal glenohumeral jt. mobility</td>
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<td>- Continue sling use 24 hrs/day²</td>
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<td>- D/C ABD pillow</td>
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<tr>
<td>Weeks 6-10</td>
<td>Dates: ______to _______</td>
<td>Total Visits:11-24</td>
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</table>
| **Initiate HEP** | **Progress ROM to milestones**<sup>2</sup>  
- PROM → AAROM → AROM | **No hypomobility or hypersensitivity of the scars**  
| | **Begin pain-free sub-maximal isometrics at 8 wks**<sup>3</sup>  
for flexion, extension, ABD, IR, ER | **Full A/PROM for all motions except IR in 0° ABD**  
| | **Progress to ABD in gravity minimized positions progressing to gravity resisted**<sup>4</sup> |  
| | **Progress to PRE’s for all other shoulder motions (flexion, extension, IR)**<sup>5,6</sup>  
- Can begin PRE if pain-free with isometrics |  
| | **Progress rhythmic stabilizations**<sup>2,3,6,7</sup> |  
| | **Progress scapular strengthening exercises**<sup>2,3,4,6</sup>  
- Progress serratus push-up plus to more horizontal surfaces  
- Bilateral ER/scap retraction in 0° ABD T-band  
- T-Band Rows  
- Prone mid-trap (MT) and low-trap (LT) exercises with scap retraction to plane of the body |  
| | **Progress rhythmic stabilizations**<sup>2,3,6,7</sup> |  
| | **Progress scapular strengthening exercises**<sup>2,3,4,6</sup> |  
| | **Modify HEP accordingly** |  
| | **PRE’s for ALL shoulder motions**<sup>2,3,6</sup> |  
| | **Dynamic stabilization exercises**<sup>2,3,6,7</sup>  
- Progress rhythmic stabilizations to more challenging and functional positions  
- Shoulder PNF  
- Inertial machine IR/ER beginning in less ABD/ER and progressing to more ABD/ER |  
| | **Continue to progress scapular stabilization/strengthening exercises**<sup>2,3,4,5,6</sup>  
- Progress current exercises by increasing resistance/reps/sets  
- Closed chain exercises  
- Quadruped or tripod rhythmic stabilizations  
- Prone LT, MT, HOR ABD  
- Prone rows  
- Standing D2 PNF with T-band |  
| | **PRN: NMES using guidelines at end of protocol**<sup>8</sup>  
- Infraspinatus starting 8-12 weeks  
- Supraspinatus starting 12-16 weeks |  
| | **Weeks 11-12** | **Maintain full A/PROM**  
| | **Initiate HEP** | **Independent with HEP**  
| | **May initiate behind the back IR (towel stretch) week 7** | **Strength improving**  
| | |  
| | **May initiate resistance with ABD week 9** |  
| | **May initiate resistance with ER week 9** |  
| | **May begin increasing resistance of flexion week 7** |  
| | **Total Visits: 13-30** |  
| | **1-3 visits/wk** |  
| | **Progress strengthening program**<sup>2,3</sup> |  
| | **Progress dynamic stabilization exercises**<sup>2,3,6,7</sup>  
- Progress rhythmic stabilizations to more challenging and functional positions |  
| | |  
| | **Weeks 13-18** | **MMT 5/5 all shoulder motions**  
| | Dates: ______to _______ | **Full shoulder ROM equal to the uninvolved side**  
| | **Total Visits: 19-36** |  
| | **Progress strengthening program**<sup>2,3</sup> |  
| | **Progress dynamic stabilization exercises**<sup>2,3,6,7</sup> |  
| | |  

**Notes:**
- **ROM** stands for range of motion.
- **A/PROM** stands for anterior/posterior PROM.
- **PNF** stands for Proprioceptive Neuromuscular Facilitation.
- **NMES** stands for Neuromuscular Electrical Stimulation.
- **ABD** stands for abduction.
- **ER** stands for external rotation.
- **LT** stands for low trap.
- **MT** stands for mid trap.
- **HOR** stands for horizontal orientation.
1 visit/wk
- Continue shoulder PNF
- Continue inertial machine progression

- Progress scap strengthening/stabilization exercises
- PRN, NMES to supraspinatus and infraspinatus using guidelines at end of protocol

**Weeks 19-28**

Dates: ______ to ______

- Physical therapy is as needed for sport/work specific activities
- Continue strengthening and dynamic stabilization exercises as HEP and/or in PT prn
- Begin sport specific interval training program and/or throwing progression
- Progression of sport/work specific rehabilitation following soreness rules

- Return to sport/work

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**Neuromuscular Electrical Stimulation (NMES) Guidelines**

- **Patient Positioning:** seated in a chair with arm in about 30° of elevation in scapular plane and neutral IR/ER using a mobilization belt to prevent movement.

- **Electrode Placement**
  - **Supraspinatus:** both pads placed superior to spine of scapula. One pad placed at the medial border of the scapula and one pad placed at lateral border of scapula. Avoid the upper trapezius as much as possible.
  
  - **Infraspinatus:** both pads placed inferior to the spine of the scapula. One pad placed at the medial border of the scapula and one pad placed at the lateral border of the scapula.

- **Parameters:**
  - **EMPI 300PV unit:** Pulse width= 400 microseconds, frequency= 75 pulse per second, on time= 12 seconds, off time= 50 seconds, ramp time= 2 seconds. Intensity to tolerance, goal of visible tetanic contraction.
  
  - **Versastim:** Pulse width=2500Hz, frequency=75 bursts per second, on time=12 seconds, off time=50 seconds, ramp time=2 seconds. Intensity to tolerance, goal of visible tetanic contraction.

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**References**


This Clinical Guideline may need to be modified to meet the needs of a specific patient. The model should not replace clinical judgment.

Updated: May 20, 2009