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 deltoïd) - **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>Milestones²</th>
</tr>
</thead>
</table>
| **Week 1-2**
Dates: ______to _______
- Ice for pain and inflammation control
- Remove Sling TID for Pendulum exercises (Codman’s)²
- Modalities for pain and inflammation control as needed³
- Scar Mobilization when incisions are healed
- Joint Mobilization
  - If hypomobile - grade III/IV mobilizations
  - If normal - grade I/II mobilizations PRN
- PROM, AAROM exercises in all planes only to restrictions stated in milestones; **no IR in 0º ABD**.³,⁵
- Scapular control exercises³,⁴,⁶
  - Scap PNF
  - T-Band Rows, prone extension to plane of body
- Rhythmic stabilization exercises²,³,⁷
- Initiate HEP
- Sleep comfortably through the night wearing sling
- **PROM:**
  - ER/IR (90º ABD), HOR ADD: determined by the surgeon
  - Flexion, ABD: to tolerance up to 90º - 120º
  - Normal glenohumeral joint mobility
  - Normal scapulohumeral rhythm
  - No hypomobility or hypersensitivity of the scars

| Weeks 3-5
Dates: ______to _______

Total Visits: 6-9
- Begin PT 2-3 visits/week
- Continue sling use 24 hrs/day²
- D/C ABD pillow

- **PROM:**
- ER/IR (90º ABD), HOR ADD: determined by the surgeon
- Flexion, ABD: to tolerance up to 90º - 120º
- Normal glenohumeral joint mobility
- Normal scapulohumeral rhythm
- No hypomobility or hypersensitivity of the scars

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### Weeks 6-10

**Dates:** ______ to _______

**Total Visits:** 11-24

- D/C use of sling
- 1-3 visits/wk

**May begin increasing resistance of flexion week 7**

**May initiate behind the back IR (towel stretch) week 7**

**May initiate resistance with ABD week 9**

**May initiate resistance with ER week 9**

- **Progress ROM to milestones**
  - PROM → AAROM → AROM
- **Begin pain-free sub-maximal isometrics at 8 wks**
  - for flexion, extension, ABD, IR, ER
- **Progress to ABD in gravity minimized positions progressing to gravity resisted**
- **Progress to PRE’s for all other shoulder motions (flexion, extension, IR)**
  - Can begin PRE if pain-free with isometrics
- **Progress rhythmic stabilizations**
  - Progress scapular strengthening exercises
    - Progress serratus push-up plus to more horizontal surfaces
    - Bilateral ER/scap retraction in 0º ABD T-band
    - T-Band Rows
    - Prone mid-trap (MT) and low-trap (LT) exercises with scap retraction to plane of the body
    - Modify HEP accordingly

### Weeks 11-12

**Dates:** ______ to _______

**Total Visits:** 13-30

- 1-3 visits/wk

- **PRE’s for ALL shoulder motions**
- **Dynamic stabilization exercises**
  - Shoulder PNF
  - Inertial machine IR/ER beginning in less ABD/ER and progressing to more ABD/ER
- **Continue to progress scapular stabilization/strengthening exercises**
  - 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
  - Infraspinatus starting 8-12 weeks
  - Supraspinatus starting 12-16 weeks

- **Full A/PROM for all motions except IR in 0º ABD**
- **Maintain full A/PROM**
- **Independent with HEP**
- **Strength improving**

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<table>
<thead>
<tr>
<th>Weeks 13-18</th>
<th>Dates: <strong><strong><strong>to</strong></strong></strong>_</th>
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<tbody>
<tr>
<td>Total Visits: 19-36</td>
<td></td>
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<tr>
<td>• 1 visit/wk</td>
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<tr>
<td>• Progress strengthening program&lt;sup&gt;2,3&lt;/sup&gt;</td>
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<tr>
<td>• Progress dynamic stabilization exercises&lt;sup&gt;2,3,6,7&lt;/sup&gt;</td>
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<tr>
<td>o Progress rhythmic stabilizations to more challenging and functional positions</td>
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<tr>
<td>o Continue shoulder PNF</td>
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<tr>
<td>o Continue inertial machine progression</td>
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<tr>
<td>• Progress scap strengthening/stabilization exercises&lt;sup&gt;2,3,4,6&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>• PRN. NMES to supraspinatus and infraspinatus using guidelines at end of protocol&lt;sup&gt;8&lt;/sup&gt;</td>
<td></td>
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<tr>
<th>Weeks 19-28</th>
<th>Dates: <strong><strong><strong>to</strong></strong></strong>_</th>
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<tbody>
<tr>
<td>• Physical therapy is as needed for sport/work specific activities</td>
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<tr>
<td>• Continue strengthening and dynamic stabilization exercises as HEP and/or in PT prn&lt;sup&gt;2,3,6,7&lt;/sup&gt;</td>
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<tr>
<td>• Begin sport specific interval training program and/or throwing progression&lt;sup&gt;2,6,7&lt;/sup&gt;</td>
<td></td>
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<tr>
<td>• Progression of sport/work specific rehabilitation following soreness rules&lt;sup&gt;9&lt;/sup&gt;</td>
<td></td>
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<tr>
<td>• Return to sport/work</td>
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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.
References


Updated: May 20, 2009