Combined SLAP with Arthroscopic Rotator Cuff Repair
Large to Massive Tears = or > 3 cm

• *It is the treating therapist’s responsibility along with the referring physician's guidance to determine the actual progression of the patient within the protocol guidelines. For example- tendon to bone healing requires 12 weeks of healing and strengthening may need to be postponed.
• Size: small = < 1 cm, medium = 1-3 cm, large = 3-5 cm, massive = > 5 cm
• Always note if biceps tenodesis or repair has been performed – obtain surgical report.
• Note which rotator cuff muscle was repaired. Muscle actions: Supraspinatus-abduction assists external rotation with shoulder abduction, internal rotation with shoulder flexion. It is also a stabilizer. Subscapularis- internal rotation. Teres Minor-external rotation, transverse abduction and transverse extension. Infraspinatus-external rotation, transverse abduction, transverse extension.
• The following is assuming supraspinatus was repaired- adjust accordingly if another muscle was repaired.

Phase I - Immediate Post-Surgical Phase (Days 1-14)

Goals:
• Maintain Integrity of the Repair
• Gradually Increase Passive Range of Motion
• Diminish Pain and Inflammation
• Prevent Muscular Inhibition
• Promote tissue healing

General Precautions for Client:
• No lifting of objects
• No excessive shoulder extension
• No overhead motions
• No excessive ER/IR for 6-8 weeks unless directed by physician (with combined supraspinatus and infraspinatus tear/repair 8 weeks)
• Isolated subscapularis repair- See subscapularis repair protocol
• No supporting of body weight through hands or arms; no sudden jerking motions
• Keep incision dry and clean

Days 1 – 6:
• Sling or Abduction pillow brace
• Pendulum Exercises (20 cm in diameter) within PROM limitations
• Passive ROM
  • Flexion to 60°
  • ER/IR in Scapular Plane (pain-free ROM) - limit ER to 10-15° and IR ROM to 35°
• Wrist/Hand Gripping & ROM Exercises
  • No isolated biceps contractions (no active elbow flexion)
• Ice 15-20 minutes approximately 4-6x a day
• Sleep in sling or pillow brace

Days 7 – 14:
• Continue brace/sling use
• Pendulum Exercises (20 cm in diameter)
• Progress Passive ROM to Tolerance
  • Flexion to 75°
  • ER in Scapular Plane to 10-15°
  • IR in Scapular Plane to 35°
• Continue Hand ROM & Gripping Exercises
• Continue Use of Ice for Pain Control
• Continue Sleeping in Brace/sling until Physician Instructs
Phase II - Protection Phase (Day 15 – Week 8)

Goals:
- Allow Healing of Soft Tissue
- Do Not Overstress Healing Tissue
- Gradually Restore Full Passive ROM
- Re-Establish Dynamic Shoulder Stability
- Decrease Pain & Inflammation

Precautions:
- No sudden jerking motions
- No supporting of body weight through hands or arms
- No lifting/carrying heavy objects

Days 15 – 28:
- Continue Use of Sling or Brace (physician or therapist will determine when to discontinue)
- Passive Range of Motion to tolerance
  - Flexion to 90°
  - ER in the scapular plane to 25-30°
  - IR at 45° in the scapular plane to 45°
  - Abduction to 75-85 degrees
- Initiate scapular isometrics and scapular clock exercise end of week 3
- Continue all precautions- no lifting or excessive motion
- Continue Use of Cryotherapy as needed

Weeks 4-5:
- Active Assisted ROM Exercises (Based on Size of Tear)
  - ER/IR in Scapular Plane to 30-35°
  - External rotation at 45° abduction to 45-50° at 5 weeks
  - Internal rotation at 45° abduction to 55-60 at 5 weeks
  - ROM based on SLAP: Flexion to 90° week 4 and 120° at week 5 - *Therapist Provides Assistance by Supporting Arm (esp. with arm lowering) HEP of self
assisted or pulley. Beginning AAROM based on size of rotator cuff tear (medium week 4-5, large week 5-6, massive week 7-8)

- Submaximal pain free isometrics end of week 4
  - Shoulder Flexion with elbow bent to 90°
  - External Rotation
  - Internal Rotation
  - Extension
- Initiate prone rowing with arm at 30° degrees of abduction to neutral arm position
- Initiate prone shoulder extension with elbow flexed to 90° to neutral position
- Initiate isotonic elbow flexion/extension

**Week 6-8:**
- Continue AAROM and Stretching exercises, especially for movements that are not full
- UBE- begin with AAROM wk 6 and then progress to AROM wk 7
- Initiate active ROM exercises. Beginning AROM based on size of rotator cuff tear (medium 6 wks, large 6-8, massive 8-12 weeks) SLAP protocol begins this at 7 weeks
  - Initiate AROM external rotation with towel roll
  - Initiate ER/IR strengthening using exercise tubing (use towel roll) once AROM is WNL’s
  - Shoulder flexion in scapular plane in side-lying at week 6 or begin supine progress to semi-reclined and then upright
  - Shoulder abduction at week 8 (if no substitution pattern or pain is present)

<table>
<thead>
<tr>
<th>Phase III – Intermediate Phase (Weeks 8-16)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goals:</strong></td>
</tr>
<tr>
<td>- Full Active ROM</td>
</tr>
<tr>
<td>- Maintain Full Passive ROM</td>
</tr>
<tr>
<td>- Dynamic Shoulder Stability</td>
</tr>
<tr>
<td>- Gradual Restoration of Shoulder Strength</td>
</tr>
<tr>
<td>- Gradual Return to Functional Activities</td>
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</tbody>
</table>

**Week 8-9**
- Continue stretching and passive ROM (as needed to maintain full ROM)
- Continue dynamic stabilization drills
• Supine proprioceptive exercises- circles/alphabet
• Gentle IR stretch behind the back level week 8
• Progress active ROM and begin light strengthening program (bone anchor or massive tear hold until 12 weeks)
  o Side lying external rotation
  o ER/IR tubing
  o Forward flexion/scaption no resistance
  o Full can in the scapular plane to 90° elevation no resistance
  o Prone extension
  o Prone rowing
  o Prone horizontal abduction
  o Elbow flexion due to SLAP repair keep biceps strengthening very light until week 12
  o Elbow Extension

Week 10:
• Continue all exercise listed above

Week 12-16:
• Progress all exercises
  Therapist may initiate isotonic resistance during flexion and abduction if a bone anchor or massive tear
  **Patient must be able to elevate arm without shoulder or scapular hiking before initiating isotonics; if unable, continue dynamic rhythmic stabilization gleno-humeral joint exercises.
  **Be sure when progressing patient no residual pain is present following exercises

IV. Phase IV – Advanced Strengthening Phase (Weeks 16-26)

Goals:
• Maintain Full Non-Painful ROM
• Enhance Functional Use of UE
• Improve Muscular Strengthen & Power
• Gradual Return to Functional Activities

Week 16-20:
• Continue ROM & Stretching to maintain full ROM
• Self Capsular Stretches
• Progress shoulder strengthening exercises

Weeks 20-26:
• Gradually increase resistance but patient should exhibit no pain during or after exercise and no substitution pattern

Phase V – Return to Activity Phase (Weeks 26 -36)

Goals:
• Gradual Return to Strenuous Work Activities per MD clearance
• Gradual Return to Recreational Sport Activities per MD clearance

Week 26:
• Continue progression to sport and /or work activity per MD clearance
• May initiate light swimming per MD clearance

References:
Handbook of Orthopaedic Rehabilitation. 2007 Brotzman, S and Wilk, K
Cardiff and Vale University Health Board Physiotherapy protocols for shoulder Surgery
Source Journal of Orthopaedics & Sports Physical therapy volume 36 Number 2 February 2009

Last revised: 10/14
Returning to Functional Activities (Guidelines only)

Driving: Driving can usually be resumed at 6-8 weeks once AROM is WNL’s. MD/therapist will guide you.

Return to work: This will be dependent upon the patient’s occupation and the demands that their work will pose on their operated arm. In all cases the MD /or physical therapist should guide the patient.
Those in sedentary work may return 6-8 weeks.
Those returning to light duties may resume work at 8-10 weeks.
Those in physically demanding/ manual jobs may return at 4 months

Return to Leisure Activities:
Swimming – breast stroke 8-10 weeks other strokes 12-14 weeks except overhead stroke (with caution)
Golf - 3-4 months
Contact/impact sports - including football, martial arts 4-6 months

Initiation of Active ROM exercises of repair based on size of tear: If supraspinatus repair- no active abduction until week 6minimum regardless of surgical procedure.

<table>
<thead>
<tr>
<th>Surgical Procedure</th>
<th>Small Tear&lt; 1 cm</th>
<th>Medium Tear 1-3 cm</th>
<th>Large Tear 3-5 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini Repair</td>
<td>4-5 wks</td>
<td>6 wks</td>
<td>7-8 wks</td>
</tr>
<tr>
<td>Arthroscopic Repair</td>
<td>5 wks</td>
<td>6wks</td>
<td>Large 7-8</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Massive 8-12</td>
</tr>
<tr>
<td>Open Procedure</td>
<td>6 wks</td>
<td>6-8 wks</td>
<td>8-12 wks</td>
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</tbody>
</table>

Discontinuation of the sling: (AROM limitation still persists even if sling discontinued) MD may remove sling earlier.

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<td>4-5 weeks</td>
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<td>Massive 6-8 wks</td>
</tr>
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