

## **AC reconstruction Protocol: Dr. Rolf**

*The intent of this protocol is to provide the clinician with a guideline of the post-operative rehabilitation course of a patient that has undergone a AC reconstruction procedure for an AC joint reconstruction stabilization. It is no means intended to be a substitute for one's clinical decision making regarding the progression of a patient's post-operative course based on their physical exam/findings, individual progress, and/or the presence of post-operative complications. If a clinician requires assistance in the progression of a post-operative patient they should consult with the referring Surgeon.*

### **Progression to the next phase based on Clinical Criteria and/or Time Frames as Appropriate.**

### **Phase I – Immediate Post Surgical Phase (approximately Weeks 1- 4)**

#### **Goals:**

- Minimize shoulder pain and inflammatory response
- Protect the integrity of the surgical repair
- Achieve gradual restoration of passive range of motion (PROM)
- Enhance/ensure adequate scapular function

#### **Precautions/Patient Education:**

- No active range of motion (AROM) of the operative shoulder for 8 weeks
- No basic rotator cuff strengthening before 10 weeks post-op
- No heavy weight lifting for 6 months
- No excessive external rotation range of motion (ROM) / stretching. Stop at first end feel felt
- No passive external rotation >30 degrees for 4 weeks and no passive internal rotation >30 degrees for the first 4weeks
- No shoulder flexion >90 degrees for the first 4 weeks.
- Remain in sling, only removing for showering. Shower with arm held at side
- No lifting of objects with operative shoulder
- Keep incisions clean and dry
- Patient education regarding limited use of upper extremity despite the potential lack of or minimal pain or other symptoms

#### **Activity:**

- Arm in sling except when performing distal upper extremity exercises
- (PROM)/Active-Assisted Range of Motion (AAROM)/ (AROM) elbow and wrist/hand
- Begin shoulder PROM (do not force any painful motion)
  - Forward flexion and elevation less than 90 degrees
  - No passive Abduction
  - Internal rotation (IR) to less than 30 degrees at 30 degrees of abduction
  - External rotation (ER) in the plane of the scapula to less than 30 degrees

- Scapular clock exercises progressed to scapular isometric exercises begin at 2 weeks post-op
- Begin active shoulder shrugs in sling at 2 weeks post-op in limited painfree range of motion (Do not add any weights until 10 weeks post-op)
- Begin active scapular retraction in sling at 2 weeks post-op in limited painfree range of motion (Do not add any weights until 10 weeks post-op)
- Baby Cradle codman's exercise (surgical arm elbow bent and supported by the other arm) can begin at 2 days post-op and should be performed this way for the first 6 weeks.
- At 6 weeks post-operative codman's exercise can be performed in the normal fashion with the elbow extended and arm unsupported
- Ball squeezes
- Sleep with sling supporting operative shoulder, place a towel under the elbow to prevent shoulder hyperextension
- Frequent cryotherapy for pain and inflammation
- Patient education regarding posture, joint protection, positioning, hygiene, etc.

Milestones to progress to phase II:

- Appropriate healing of the surgical repair
- Adherence to the precautions and immobilization guidelines
- Achieved at least 90 degrees of passive forward elevation and 30 degrees of passive external rotation at 20 degrees abduction and 30 degrees of passive internal rotation
- Completion of phase I activities without pain or difficulty

## **Phase II – Intermediate Phase/ROM (approximately Week 4-8)**

Goals:

- Minimize shoulder pain and inflammatory response
- Protect the integrity of the surgical repair
- Achieve gradual restoration of PROM
- At 4 weeks post-op, patient can remove the pillow from the sling but still needs to wear the sling only
- To be weaned from the sling by the end of week 6-8
- Begin light waist level activities

Precautions:

- No active movement of shoulder till 8 weeks post-op
- No lifting with affected upper extremity
- No excessive passive external rotation/internal rotation ROM / stretching beyond 45 degrees prior to 6 weeks post-operative
- No excessive passive shoulder flexion beyond 135 degrees prior to 6 weeks post-operative

### **Early Phase II (approximately week 4-6):**

- Progress shoulder PROM (do not force any painful motion)
  - Forward flexion and elevation to less than 120 degrees for weeks 4- 6
  - IR to 45 degrees at 30 degrees of abduction for weeks 4-6
  - ER to 0-45 degrees at 30 degrees of abduction for weeks 4-6
- Continued Cryotherapy for pain and inflammation
- Continued patient education: posture, joint protection, positioning, hygiene, etc.

### **Late Phase II (approximately Week 6-8):**

- Progress shoulder PROM (do not force any painful motion)
  - Forward flexion, elevation, and abduction in the plane of the scapula to less than 135 degrees
  - IR to less than 50 degrees for weeks 6-8
  - ER to less than 60 degrees for weeks 6-8
- Progress to AA/AROM activities of the shoulder as tolerated with good shoulder mechanics (i.e. minimal to no scapulathoracic substitution with up to 90-110 degrees of elevation.)
- Begin rhythmic stabilization drills
- Continue AROM elbow, wrist, and hand

### **Late Phase II (approximately Week 8-10):**

- Progress shoulder PROM (do not force any painful motion)
  - Forward flexion, elevation, and abduction in the plane of the scapula to tolerance
  - IR to tolerance
  - ER to tolerance

At 8 weeks, begin shoulder AROM (no resistance until 8 weeks)

- Active sidelying ER
- Active elbow flexion (biceps)
- Active supine elbow extension (triceps)
- Active prone row to plane of body
- Active prone extension to plane of body
- Active sidelying ER
- Active supine shoulder flexion 90-20
- Progress to standing shoulder flexion to less than 90 degrees when they have normal mechanics without shoulder shrugging or hiking

Milestones to progress to phase III:

- Passive forward elevation at least 165 degrees
- Passive external rotation at least 75 degrees at 90 degrees abduction
- Passive internal rotation at least 50 degrees at 90 degrees abduction
- Active forward elevation at least 145 degrees with good mechanics
- Appropriate scapular posture at rest and dynamic scapular control with ROM and functional activities
- Completion of phase II activities without pain or difficulty

### **Phase III – Early Strengthening Phase (approximately Week 10 – Week 16)**

Goals:

- Normalize strength, endurance, neuromuscular control
- Return to chest level full functional activities
  
- Strengthen scapular retractors and upward rotators
- Initiate balanced strengthening program
  - o Initially in low dynamic positions
  - o Gain muscular endurance with high repetition of 30-50, low resistance 1-3 lbs)
  - o Exercises should be progressive in terms of muscle demand / intensity, shoulder elevation, and stress on the AC joint
  - o Nearly full elevation in the scapula plane should be achieved before beginning elevation in other planes
  - o All activities should be pain free and without substitution patterns
  - o Exercises should consist of both open and closed chain activities
  - o No heavy lifting or plyometrics should be performed at this time
    - Initiate full can scapular plane raises to 90 degrees with good mechanics
    - Initiate ER/IR strengthening using exercise tubing at 0° of abduction (use towel roll)
    - Initiate sidelying ER with towel roll
    - Initiate manual resistance ER supine in scapular plane (light resistance)
    - Initiate prone rowing at 30/45/90 degrees of abduction to neutral arm position
- Continued cryotherapy for pain and inflammation
  - Continued patient education: posture, joint protection, positioning, hygiene, etc.

Precautions:

- Do not overstress the AC joint capsule/ligaments with aggressive overhead activities / strengthening
- Avoid contact sports/activities
- Do not perform strengthening or functional activities in a given plane until the patient has near full ROM and strength in that plane of movement
- Patient education regarding a gradual increase to shoulder activities

Activity:

- Continue A/PROM as needed/indicated

Milestones to progress to phase IV:

- Passive forward elevation WNL
- Passive external rotation at all angles of abduction WNL
- Active forward elevation WNL with good mechanics
- Appropriate rotator cuff and scapular muscular performance for chest level activities
- Completion of phase III activities without pain or difficulty

## **Phase IV - Overhead Activities Phase / Return to activity phase (approximately Week 24)**

Goals:

- Continue stretching and PROM as needed/indicated
- Maintain full non-painful AROM
- Return to full strenuous work activities
- Return to full recreational activities

Precautions:

- Avoid excessive stress on AC joint
- With weight lifting, avoid tricep dips, wide grip bench press, and no military press or lat pulls behind the head. Be sure to “always see your elbows”
  - No overhead lifting above shoulder level.
  - No shoulder shrugs over 10-15 minutes
- Do not begin throwing, or overhead athletic moves until 6 months post-op or cleared by MD

Activity:

- Continue all exercises listed above
  - Progress isotonic strengthening if patient demonstrates no compensatory strategies, is not painful, and has no residual soreness
- Strengthening overhead if ROM and strength below 90 degree elevation is good
- Continue shoulder stretching and strengthening at least four times per week
- Progressive return to upper extremity weight lifting program emphasizing the larger, primary upper extremity muscles (deltoid, latissimus dorsi, pectoralis major)
  - Start with relatively light weight and high repetitions (15-25)
- May do pushups as long as the elbows do not flex past 90 degrees
- May initiate plyometrics/interval sports program if appropriate/cleared by PT and MD
- Can begin generalized upper extremity weight lifting with low weight, and high repetitions, being sure to follow weight lifting precautions.
- May initiate pre injury level activities/ vigorous sports if appropriate / cleared by MD

Milestones to return to overhead work and sport activities:

- Clearance from MD
- No complaints of pain or instability
- Adequate ROM for task completion
- Full strength and endurance of rotator cuff and scapular musculature for task completion
- Regular completion of continued home exercise program