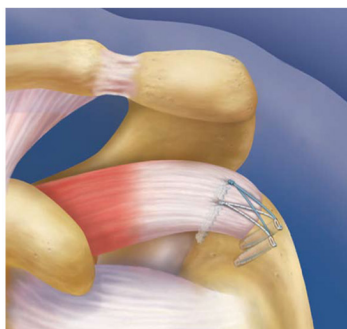


## General Rehabilitation Guidelines

### *Rotator Cuff Repair*

#### Protocol for Isolated Supraspinatus Tear



**Samir Patel, MD**

#### **Precautions:**

- *Basis*
    - Tendon healing back to bone is a slow process that requires many weeks under tension free conditions
      - New collagen synthesis takes up to 100 days
    - The success of rotator cuff repair depends on certain factors including tear size, tissue quality, tension on the repair and whether or not the deltoid was taken down as part of the repair
      - Surgeon will specify specific precautions depending on these factors
  - *Precautions*
    - No active use of the shoulder for 8 weeks
  - **NOTES:** if biceps tenodesis included in surgery then no resistive elbow flexion or supination for 6 weeks
    - PROM and AROM okay
- Rehab otherwise dictated by cuff procedure

#### **Prehabilitation**

- Instruct in application of ice and encourage use as much as tolerated within a 24 hour period for first week. If using ice packs, encourage to ice 20-30 minutes every 3-4 hours while awake
- Instruct in pendulum exercises to be performed 2-3 times per day starting immediately following surgery
  - These should be followed by cryotherapy session
- Instruct in basic progression of rehabilitation program and expectations for time course to recovery
- Arrange follow-up physical therapy appointment on 7<sup>th</sup>-10<sup>th</sup> day post-op to correspond with physician's post-operative evaluation

#### **Outpatient Phase 1:** (Weeks 1 – 4)

- **ROM**
  - Instruct in home program, and begin, self-assisted ROM
    - Forward elevation in scapular plane to 140° supine with contralateral arm assist
      - Perform with palm up to externally rotate repair from under acromion
    - External rotation in adduction to 40° with stick/wand
    - IR in scapular plane as tolerated; no IR behind back
    - No IR in abduction, extension or cross body adduction
  - Joint mobilization of glenohumeral joint and scapulothoracic junction grades I/II as dictated by patient's tolerance.
  - Instruct in home program and begin cervical, elbow and wrist ROM and grip strengthening
    - If biceps tenodesis performed then no resistance with elbow flexion
- **Strength**
  - Instruct in home program and begin scapular retraction and depression
    - No shrugs

- Instruct in home program and begin postural control exercises
- **Sling:**
  - between exercise sessions, arm should be kept in sling, including at night
  - **Note:** the rotator cuff receives a better blood supply when the shoulder is slightly away from the body so encourage the use of a towel roll under the arm when in a resting position
- **Other**
  - Instruct to don/doff sling while maintaining precautions
  - Incision mobilization and desensitization techniques
  - Modalities to decrease pain, swelling and inflammation (no e-stim)
- Notes: home exercise program should be done 2-3 times per day with cryotherapy 15-20 minutes after each session

### **Outpatient Phase 2:** (Weeks 5 - 8)

- **ROM**
  - Progressive return to full forward elevation, abduction and external rotation at side
  - Begin use of pulleys to assist with forward elevation with hand supine to externally rotate humerus away from acromion
  - May add table top stretch for forward elevation but no wall walking
  - Start gentle posterior capsule stretches with cross body adduction and side lying internal rotation in abduction
  - Begin external rotation at 45°
  - Can begin AROM in IR/ER with no resistance
  - Joint mobilization of glenohumeral joint and scapulothoracic junction. Can progress to Grades III/IV as dictated by patient's tolerance.
- **Strength: Start at Week 7**
  - Instruct in home program and begin progressive supine two-hand press
    - Start with hands close together and progressively widen
  - Instruct in home program and begin low level isometrics IR/ER (not flexion, abduction or extension)
    - Start rotation isometrics in modified neutral (non-impingement position)
  - Continue scapular retraction and depression exercises and add shrugs
  - Lower body aerobic conditioning
- **Sling**
  - At Week 5 may discontinue use of sling in daytime with precaution of no lifting arm away from body
  - Continue to wear sling at night to protect arm

### **Outpatient Phase 3:** (Weeks 9 - 12)

- **ROM**
  - Progressive return to full ROM
  - At 8 weeks may begin internal rotation stretch behind back
  - ER in progressive degrees of abduction
  - Continue joint mobilization as indicated
- **Strength**
  - Include low level isometrics in flexion, extension and abduction
  - Initiate Theraband isotonic strengthening program to include IR/ER with shoulder in modified neutral position, periscapular musculature

- No isotonic flexion, scaption or abduction
  - Low level isotonic biceps and triceps strengthening with elbow supported
  - Theraband for scapular strengthening with rows, shrugs and punches
  - Assess for and correct substitution patterns
- **Sling**
  - May discontinue completely

#### **Outpatient Phase 4:** (Weeks 13 - 16)

- **ROM**
  - Continue flexibility training with active range of motion
  - Emphasize posterior capsular flexibility and scapular mobility
  - Add anterior chest wall stretching
- **Strength**
  - Begin progressive resistive rotator cuff and periscapular strengthening
  - Submaximal isometrics in all planes
  - Include supraspinatus isotonic strengthening with thumb up to 70-80 degrees and progress to above shoulder height if can be accomplished pain-free and without compensatory hiking of scapula or shoulder
  - Progress IR/ER isotonics to 90 degrees if can be accomplished pain-free and without compensatory hiking of scapula or shoulder
  - **Notes**
    - Resistance must be added gradually to promote contractile remodeling
    - Multiple angle: start and low level and progress to horizontal as strength improves
    - Submaximal resistance to painful motions should be used until the motions are pain free
    - Emphasis early should be on lower weight and higher repetition to foster muscle hypertrophy
  - Progress scapular stabilization program
    - Forward and reverse UBE starting with low resistance and progressing
    - Serratus, latissimus, trapezius, rhomboid and pectoralis strengthening
  - May start upper extremity proprioception and functional progression activities as indicated
  - Two-handed plyometrics: ball toss – chest pass, overhead pass, diagonals

#### **Outpatient Phase 5:** (Functional Phase)

- Continue strengthening program with progressive increase in resistance
- Can initiate isokinetic internal rotator/external rotator strengthening in plane of scapula.
- Progress to Phase II/III functional upper extremity proprioception and functional progression activities.
- Return to functional activities
- Work/sport specific conditioning to enhance endurance and coordination
  - One-handed plyometrics
  - Eccentric cuff strengthening
  - Large muscle strengthening: lat pull downs, bench press, military press
- UBE at higher resistance