

## **Arthroscopic Rotator Cuff Repair Protocol For Partial-Thickness Tear and Small Full-Thickness Tears**

This protocol was developed to provide the rehabilitation professional with a guideline of postoperative rehabilitation course for a patient who has undergone an arthroscopic rotator cuff repair of a partial-thickness or a small full-thickness rotator cuff tear. It should be stressed that this is only a protocol and should not be a substitute for clinical decision making regarding a patient's progression. Actual progression should be individualized based upon your patient's physical examination, individual progress and the presence of any postoperative complications.

The rate limiting factor in arthroscopic rotator cuff repair is the biologic healing of the cuff tendon to the humerus, which is thought to be a minimum of 8-12 weeks. Progression of AROM against gravity and duration of sling use is predicated both on the size of tear and quality of tissue and should be guided by referring physician. Refer to initial therapy referral for any specific instructions.

### **Phase I: Immediate Post Surgical Phase (Weeks 0-4)**

#### **Goals**

- Maintain/protect integrity of repair
- Gradually increase PROM
- Diminish pain and inflammation
- Prevent muscular inhibition
- Independence in modified ADLs

#### **Precautions**

- No active range of motion (AROM) of shoulder
- No lifting of objects, reaching behind back, excessive stretching or sudden movements
- Maintain arm in brace, sling – remove only for exercise
- Sling use for 4-5 weeks – repaired partial to small tear size
- No support of body weight by hands
- Keep incisions clean and dry

#### **Day 1 to 6**

- Use of Abduction brace/sling (during sleep also) – remove only for exercise
- Passive pendulum exercises (3x/day minimum)
- Finger, wrist, and elbow AROM (3x/day minimum)
- Gripping exercises (putty, handball)
- Cervical spine AROM
- Passive shoulder (PROM) done supine for more patient relaxation
  - Flexion to 110°
  - ER/IR in scapular plane < 30°
- Educate patient on posture, joint protection, importance of brace/sling, pain medication use early, hygiene
- Cryotherapy for pain and inflammation
  - Day 1-3: as much as possible (20 min/hour)
  - Day 4-7: post activity, or as needed for pain

#### **Days 7-35**

- Continue use of abduction brace until DC from physician.
- Continue with full time use of sling until end of week 4.
- Pendulum exercises

Begin PROM to tolerance (supine, and pain-free)  
May use heat prior to ROM  
    Flexion to tolerance  
    ER in scapular plane  $\geq 30^\circ$   
    IR in scapular plane to body/chest  
Continue elbow, hand, forearm, wrist and finger AROM  
Begin resisted isometrics/isotonics for elbow, hand, forearm, wrist and fingers  
Begin scapula muscle isometrics/sets, AROM  
Begin glenohumeral submaximal rhythmic stabilization exercises in “balance position (90-100° of elevation) in supine position to initiate dynamic stabilization  
Begin gentle rotator cuff submaximal isometrics (4-5 weeks)  
Cryotherapy as needed for pain control and inflammation  
May begin gentle general conditioning program (walking, stationary bike) with caution if unstable from pain medications.  
No running/jogging  
Aquatherapy may begin approximately 3 weeks post operative if wounds healed

### **Criteria for progression to next phase (II)**

Passive forward flexion to  $\geq 125^\circ$   
Passive ER in scapular plane to  $\geq 60^\circ$  (if uninvolved shoulder PROM  $> 80^\circ$ )  
Passive IR in scapular plane to  $\geq 60^\circ$  (if uninvolved shoulder PROM  $> 80^\circ$ )  
Passive abduction in scapular plane to  $\geq 90^\circ$   
No passive pulley exercise

### **Phase II: Protection and Protected Active Motion Phase (Weeks 5 to 12)**

#### **Goals**

Allow healing of soft tissue  
Do not overstress healing soft tissue  
Gradually restore full passive ROM (~ week 5)  
Decrease pain and inflammation

#### **Precautions**

No lifting  
No supported full body weight with hands or arms  
No sudden jerking motions  
No excessive behind back motions  
No bike or upper extremity ergometer until week 6

#### **Weeks 5-6**

Continue with full time use of sling/brace until end of week 4  
Gradually wean from brace starting several hours/day out progressing as tolerated  
Use brace/sling for comfort only until full DC by end of week 6  
Initiate AAROM shoulder flexion from supine position  
Progressive PROM until full PROM by week 6 (should be pain-free)  
May require use of heat prior to ROM exercises/joint mobilization  
Can begin passive pulley use  
    May require gentle glenohumeral or scapular joint mobilization as indicated to obtain full unrestricted ROM  
Initiate prone rowing to a neutral arm position  
Continue cryotherapy as needed post therapy/exercise

#### **Weeks 7-9**

Continue AROM, AAROM, and stretching as needed  
Begin IR stretching, shoulder extension, and cross body, sleeper stretch to mobilize posterior capsule (if needed)

Continue periscapular exercises progressing to manual resistance to all planes  
Seated press-ups  
Initiate AROM exercises (flexion, scapular plane, abduction, ER, IR) (should be pain-free) low weight – initially only weight of arm  
Do not allow shrug during AROM exercises  
If shrug exists continue to work on cuff and do not reach/lift AROM over 90° elevation  
Initiate limited strengthening program  
\*Remember RTC and scapular muscles small and need endurance more than pure strength  
ER and IR with exercise bands/sport cord/tubing with adduction pillow (under axilla)  
    ER isotonic exercises in side lying (low-weight, high-repetition)  
    Elbow flexion and extension isotonics

### **Criteria for progression to phase III**

Full AROM

### **Phase III: Early Strengthening (Weeks 10-16)**

#### **Goals**

Full AROM (weeks 10-12)  
Maintain full PROM  
Dynamic shoulder stability (GH and ST)  
Gradual restoration of GH and scapular strength, power and endurance  
Optimize neuromuscular control  
Gradual return to functional activities

#### **Precautions**

No lifting objects > 5 lbs, no sudden lifting or pushing  
Exercise should not be painful

#### **Week 10**

Continue stretching, joint mobilization, and PROM exercises as needed  
Dynamic strengthening exercises  
Begin light isometrics in 90/90 or higher supine, PNF D2 flexion/extension patterns against light manual resistance  
Initiate strengthening program  
    Continue exercises as above weeks 7-9  
    Initiate scapular plane elevation to 90° (patient must be able to elevate arm without shoulder or scapular hiking before initiating isotonic exercises. If unable then continue cuff/scapular exercises)  
    Full can (no empty can abduction exercises)  
    Prone rowing  
    Prone extension  
    Prone horizontal abduction

#### **Week 12**

Continue all exercise listed above  
May begin BodyBlade, Flexbar, Boing below 45°  
Initiate light functional activities as tolerated  
Initiate low level plyometrics (2-handed, below chest level – progressing to overhead and finally 1-handed drills)

#### **Week 14**

Continue all exercises listed above  
Progress to fundamental exercises (bench press, shoulder press)

### **Criteria for progression to Phase IV**

Ability to tolerate progression to low-level functional activities  
Demonstrate return of strength/dynamic shoulder stability

Reestablishment of dynamic shoulder stability  
Demonstrated adequate strength and dynamic stability for progression to more demanding work and sport-specific activities

#### **Phase IV: Advanced Strengthening Phases (Weeks 16-22)**

##### **Goals**

Maintain full non-painful AROM  
Advanced conditioning exercise for enhanced functional and sports specific use  
Improve muscular strength, power and endurance  
Gradual return to all functional activities

##### **Week 16**

Continue ROM and self-capsular stretching for ROM maintenance  
Continue progressive strengthening  
Advanced proprioceptive, neuromuscular activities  
Light isotonic strengthening in 90/90 position  
Initiation of light sports (golf chipping/putting, tennis ground strokes) if satisfactory clinical exam

##### **Week 20**

Continue strengthening and stretching  
Continue joint mobilization and stretching if motion is tight  
Initiate interval sports program (e.g., golf, doubles tennis) if appropriate