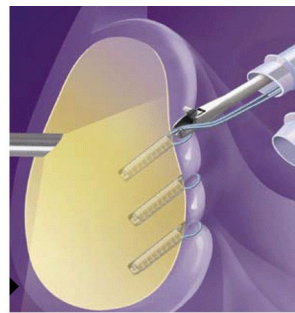


# Michael J. Muha, M.D.

## General Rehabilitation Guidelines

### *Program after Arthroscopic Anterior Instability Repair*

Includes Bankart Repair and Capsular Shift Procedures



### **Precautions:**

- **Basis**
  - Anterior inferior glenohumeral ligament is retensioned and secured to the glenoid rim
    - External rotation places further tension and may tear repair early on
    - Excessive forward elevation and abduction early on may also overly stretch inferior repair
    - Older patients tend to develop stiffness faster and have a more difficult time recovering motion in external rotation
  - Rotator interval may be closed as part of this procedure
  - Many patients will have a component of impingement due to improper scapular mechanics and cuff weakness resulting in poor humeral depression
- **Precautions**
  - Age-related motion precautions
    - <30 years old: no external rotation past neutral and no forward elevation past 90° for 4 weeks
    - >30 years old: no external rotation past 20° and no forward elevation past 120° for 4 weeks
    - no ER in abduction for 8 weeks
  - Assess patients for impingement type symptoms and scapular dyskinesis.
  - If impingement present then exercises must start in pain free range and progress toward increasing scaption as time progresses

### **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

### **General Principles and Guidelines**

- **ROM:** passive    active assisted    active
  - Restore normal proprioception and movement patterns (especially scapulothoracic)
- **Strength**
  - Should be pain free
  - Train muscle groups (force couples) rather than individual muscles
  - Incorporate contralateral therapy

- Isometric    eccentric    concentric
- Scapula Based Rehabilitation Program
  - Evaluate and correct postural alignment (lumbopelvic, thoracolumbar, scapulothoracic)
  - Clear soft tissue restrictions
  - Establish scapulothoracic stability focusing on scapular position and control
- **See attached exercise list**

**Outpatient Phase 1:** (Weeks 1 - 4)

- **ROM**
  - Pendulum exercises
  - Instruct in home program and begin glenohumeral ROM
    - Forward elevation and scaption
      - If <30: 90° until Week 3 and then progress to 120°
      - If >30: 120° immediately
    - External rotation in scapular plane
      - If <30: 0° until Week 3 and then progress to 20°
      - If > 30: 20° immediately
    - Internal rotation in scapular plane as tolerated
    - No extension
  - Grade I - II glenohumeral and scapular mobilizations
- **Strength**
  - Instruct in home program and begin closed chain submaximal isometrics in neutral abduction
    - Shoulder IR, ER, flexion, abduction
    - No extension isometrics
    - Elbow flexion, extension
  - Correct postural abnormalities and scapular position through muscle reeducation
  - Isometric scapular retraction and depression
  - Trunk extension/scapular retraction
    - Emphasize lower trapezius activation (elbow in back pocket)
  - Upper quarter pivots
- **Sling**
  - Sling or Ultrasling during the day and at night for 4 weeks
- **Other**
  - Instruct to don and doff sling
  - Decrease pain and inflammation and muscles guarding
  - Incision mobilization and desensitization

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

- **ROM**
  - Progressive increase in GH ROM
    - Forward elevation and scaption: increase in increments of 15° per week
    - May add pulley, table top stretch and wall climb
    - Add side-lying IR in abduction stretch and cross body adduction stretch for posterior capsule
  - Correct asymmetric capsular tightness
  - External rotation: increase in increments of 15° per week

- Approach contralateral ER and side by 8 weeks
- Wand exercises for ER stretches
- Begin ER in scapular plane but no ER in full abduction until Week 9
- At Week 7 can begin stretching into external rotation at 60° abduction. DO NOT force abduction and external rotation combination
- **Strength**
  - Increase strength and control of scapular stabilization and glenohumeral muscle synergy
  - Cuff Program: All cuff isotonic cuff strengthening begins at Week 7
    - Supraspinatus program: scaption in internal rotation, flexion, press-ups,
    - Begin active IR strengthening
    - Begin isotonic ER in adduction from full IR to neutral (side lying)
    - Focus on re-establishing muscular balance, particularly ER/IR muscle ratio
  - Scapular Program: Begin following at Week 7
    - Closed chain axial load (ball rolls on table top) to emphasize scapular positioning
    - As healing progresses and ROM returns may progress to wall wash
    - Scapular clocks with hand stabilized on wall at 90° (elevation, depression, protraction, retraction)
    - Scapular punches and dumps
    - Scapulothoracic and upper quarter coordination with PNF patterns
    - Scapular anterior and posterior elevation and anterior and posterior depression
    - Shrugs, seated rows, prone rows, low rows, chair press-ups, supine serratus anterior, lat pull downs, prone posterior deltoid, reverse corner pushups, push-up plus, biceps, and triceps
  - May use UBE especially in reverse for scapular strengthening
    - Increase resistance starting with minimal and progressing
  - Stress core strength
  - Begin lower body cardiovascular conditioning and endurance
- **Sling**
  - D/c use of sling/immobilizer
- **Other**
  - Modalities as indicated to control and decrease pain/inflammation/muscle guarding
  - Incision mobilization and desensitization

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

- **ROM**
  - Progressive return to full ROM and flexibility
  - Progress stretching into external rotation in 80-90 degrees abduction
  - Emphasize home program for four-quadrant capsular stretching
  - Include anterior chest wall stretching
  - Grade III and IV glenohumeral and scapulothoracic mobilization
- **Strength and control**
  - Advance concentric and stress eccentric cuff strengthening
    - Prone abduction in neutral and ER

- Prone scaption in neutral and ER
- Prone ER
- Prone posterior deltoid
- Dynamic strengthening at 90-90 position for external and internal rotation
- Advance eccentric and concentric scapular stabilization
  - Reverse corner pushups, wall angels
  - Lat pull downs with free weights,
  - Push-up plus
  - Scapular punches with various weights and positions
  - Shoulder dumps and diagonal punches with light hand weights
- Core based muscle synergy
- Progress PNF patterns
- Begin upper body ergometers beginning at low resistance and height below 90° and slowly progress to height at 140° flexion
- Plyometric training drills in throwing athletes

**Functional Phase:** (Weeks 13 - 16)

- Develop sport or work specific ROM
- Initiate isokinetic rotator cuff strengthening at high speeds for muscular endurance; i.e. 240 degrees/second X 30 second bout with 30 second rest, 300 degrees/second X 30 second bout with 30 second rest, etc.
- Initiate functional upper extremity proprioception/functional progression activities. Please refer protocol. For throwing athlete, if dominant arm, initiate short/long toss program with tennis ball progressing to full throwing for both distances and speed. Please refer to Interval Throwing Program
- Sport or work specific kinematics and exercises including one handed plyometrics
- Sport or work specific drills for quickness and agility, endurance and power
  - High resistance UBE
- Return to play

