

Inland Orthopaedic Surgery & Sports Medicine

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Rehabilitation Protocol Following Anterior Surgical Stabilization Procedure

Modified from Matsen, Bach, Cohen, and Romeo

Phase 1: Weeks 0-4

Restrictions: These often are modified depending on individual situation.

•Shoulder Motion

- 140° of forward flexion
- 20° of external rotation
 - Initially with arm at the side
 - After 10 days, can progress to 40° of external rotation with the arm in increasing amounts of abduction, up to 45° of abduction.
- Active-assisted ROM only – No Passive ROM or Manipulation by the Therapist
 - Patients after an open stabilization procedure with a takedown of the subscapularis insertion are restricted from active internal rotation for 4 weeks
- Avoid provocative maneuvers that re-create position of instability (e.g., abduction – external rotation)

Immobilization

- Sling immobilization
 - 4 week duration – during day and especially at night

Pain Control

- Reduction of pain and discomfort is essential for recovery
 - Medications
 - Narcotics – for 7-10 days following surgery
 - NSAIDs – for patients with persistent discomfort following surgery
 - Therapeutic modalities
 - Ice, ultrasound, HVGS
 - Moist heat before therapy, ice at end of session

Motion: Shoulder

- Goals: Active ROM exercises only
 - 140° of forward flexion
 - 40° of external rotation with arm at side
 - After 10 days, can progress to external rotation with the arm abducted – up to 45° of abduction
 - No active internal rotation for patients following and open stabilization procedure with removal and subsequent repair of the subscapularis insertion
- Exercises
 - Begin with Codman pendulum exercises to promote early motion
 - Active ROM exercises

- Passive internal rotation to stomach for those patients restricted from active internal rotation

Motion: Elbow

- Passive – progress to active
 - 0-130° of flexion
 - Pronation and supination as tolerated

Muscle Strengthening

- Rotator cuff strengthening – within the limits of the active ROM exercises
 - Closed-chain isometric strengthening with the elbow flexed to 90° and the arm at the side
 - Internal rotation
 - No internal rotation strengthening for open stabilization group with removal and subsequent repair of subscapularis insertion before 6 weeks
 - External rotation
 - Abduction
 - Forward flexion
- Grip strengthening

Phase 2: Weeks 4-8

Criteria for Progression to Phase 2

- Minimal pain and discomfort with active ROM and closed-chain strengthening exercises
- No sensation or findings of instability with above exercises

Restrictions

- Shoulder motion: active ROM only
 - 160° of forward flexion.
 - 60° of external rotation
 - 70° of abduction
- Avoid provocative maneuvers that re-create position of the instability
 - Abduction- external rotation
- Note: For overhead athletes, the restrictions are less. Although there is a higher risk of recurrent instability, the need for full motion to perform overhead sports requires that most athletes regain motion to within 10 degrees of normal for the affected shoulder by 6 – 8 weeks after surgery

Immobilizations

- Sling – discontinue

Pain Control

- Medications
 - NSAIDs – for patients with persistent discomfort
- Therapeutic modalities
 - Ice, ultrasound, HVGS
 - Moist heat before therapy, ice at end of session

Motion: Shoulder

- Goals
 - 160° of forward flexion
 - 50° of external rotation
 - 70° of abduction
- Exercises
 - Active ROM exercises
- Note: For overhead athletes, the motion goals for the affected shoulder should be within 10° of normal

Muscle Strengthening

- Rotator cuff strengthening – within the limits of active ROM exercises
 - Closed-chain isometric strengthening with the elbow flexed to 90° and arm at side
 - Internal Rotation
 - No internal rotation strengthening for open stabilization group with removal and subsequent repair of subscapularis insertion before 6 weeks
 - External Rotation
 - Abduction
 - Forward flexion
 - Progress to light open-chain and isotonic strengthening with Therabands
 - Exercises performed with the elbow flexed to 90°
 - Starting position is with the shoulder in neutral position of 0° of forward flexion, abduction and external rotation
 - Exercises are performed through an arc of at least 45° in each of the five planes of motion – within the guidelines of allowed motion
 - Six color-coded bands are available; each provides increasing resistance from 1 to 6 pounds, at increments of one pound
 - Progression to the next band usually occurs in 2 to 3 week intervals. Patients are instructed not to progress to the next band if there is any discomfort at the current level.
 - Theraband exercises permit concentric and eccentric strengthening of the shoulder muscles and are a form of isotonic exercises (characterized by variable speed and fixed resistance).
 - Internal rotation
 - Hold internal rotation strengthening until 6 weeks for subscapularis repair group
 - External rotation
 - Abduction
 - Forward flexion
 - Strengthening of scapular stabilizers
 - Closed-chain strengthening exercises
 - Scapular retraction (rhomboids, middle trapezius).
 - Scapular protraction (serratus anterior).
 - Scapular depression (latissimus dorsi, trapezius, serratus anterior).
 - Shoulder shrugs (trapezius, levator scapulae).

Phase 3: Weeks 8-12

Criteria for Progression to Phase 3

- Minimal pain or discomfort with active ROM and muscle strengthening exercises
- Improvement in strengthening of rotator cuff and scapular stabilizers
- Satisfactory physical examination

Goals

- Improve shoulder strength, power, and endurance.
- Improve neuromuscular control and shoulder proprioception
- Restore full shoulder motion.
- Establish a home exercise maintenance program that is performed at least three times per week for both stretching and strengthening

Pain Control

- Medications
 - NSAIDs – for patients with persistent discomfort.
 - Subacromial injection: corticosteroid/ local anesthetic combination

- For patients with findings consistent with secondary impingement
- GH joint: corticosteroid/ local anesthetic combination
 - For patients whose clinical findings are consistent with GH joint pathology
- Therapeutic modalities
 - Ice, ultrasound, HVGS
 - Moist heat before therapy, ice at end of session

Motion: Shoulder

- Goals
 - Obtain motion that is equal to contralateral side.
 - Active ROM exercises
 - Active-assisted ROM exercises
 - Passive ROM exercises
 - Capsular stretching (especially posterior capsule)

Muscle Strengthening

- Rotator cuff strengthening – three times per week, 3 sets of 8-12 repetitions
 - Continue with advancing theraband strengthening
 - Progress to light isotonic dumbbell exercises
- Scapular stabilizer strengthening
 - Continue with closed-chain strengthening
 - Progress to open-chain strengthening

Upper Extremity Endurance Training

- Incorporated endurance training for the upper extremity
 - Upper body ergometer

Proprioceptive Training

- PNF patterns

Functional Strengthening

- Plyometric exercises

Progressive, Systematic Interval Program for Returning to Sports

- Golfers
- Overhead athletes not before 6 months
 - Throwing athletes
 - Tennis Players
- Maximum improvement is expected by 12 months; most patients can return to sports and full-duty work status by 6 months

Warning Signs

- Persistent instability
- Loss of motion
- Lack of strength progression – especially abduction
- Continued pain

Treatment of Complications

- These patients may need to move back to earlier routines
- May require increased utilization of pain control modalities as outlines above
- May require imaging work-up or repeat surgical intervention