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## **NONSURGICAL INTERNAL GLENOHUMERAL IMPINGEMENT / TYPE 2 SLAP TEAR REHABILITATION PROTOCOL**

### **Phase 1: Maximal protection – Acute phase**

#### **Goals**

- Relieve pain and swelling
- Decrease inflammation
- Retard muscle atrophy
- Maintain/increase flexibility

#### **Active rest**

- Eliminate any activity that causes an increase in symptoms (i.e. throwing, tennis, volleyball)

#### **Range of motion**

- Pendulum exercises
- Active-assisted ROM – limited symptom-free available range
  - Rope/pulley: flexion
  - L-bar: flexion with neutral external rotation

#### **Joint mobilizations**

- Grades 1 and 2
- Inferior and posterior glides in scapular plane

#### **Modalities**

- Cryotherapy
- Transcutaneous electrical stimulation (TENS), high-voltage galvanic stimulation (HVGS)

#### **Strengthening**

- Isometrics – submaximal
  - External rotation
  - Internal rotation
  - Biceps
  - Deltoid (anterior, middle, posterior)

### **Patient education and activity modification**

- Regarding activity, pathology, and avoidance of overhead activity, reaching, and lifting activity

### **Criteria for Progression to Phase 2**

- Decreased pain and/or symptoms
- Increased ROM
- Painful arc in abduction only
- Improved muscular function

### **Phase 2: Motion phase – subacute phase**

#### **Goals**

- Reestablish nonpainful ROM
- Normalize arthrokinetics of shoulder complex
- Retard muscular atrophy without exacerbation of pain

#### **Range of motion**

- Rope/pulley: flexion, abduction
- L-bar
  - Flexion
  - Abduction (symptom-free motion)
  - External rotation in 45° abduction, progress to 90° abduction
  - Internal rotation in 45° abduction, progress to 90° abduction
- Initiate anterior and posterior capsular stretching

#### **Joint mobilization**

- Grades 2,3,4
- Inferior, anterior, and posterior glides
- Combined glides as required

#### **Modalities**

- Cryotherapy
- Ultrasound/phonophoresis

#### **Strengthening exercises**

- Continue isometric exercises
- Initiate scapulothoracic strengthening exercises (see scapular exercise program)
- Initiate neuromuscular control exercises

### **Criteria for Progression to Phase 3**

- Painless active ROM.
- No shoulder pain or tenderness.
- Satisfactory clinical examination.

### **Phase 3: Intermediate strengthening phase**

#### **Goals**

- Normalize ROM
- Symptom-free normal activities
- Improve muscular performance

#### **Range of motion**

- Aggressive L-bar active-assisted ROM in all planes
- Continue self-capsular stretching (anterior-posterior)

#### **Strengthening exercises**

- Initiate isotonic dumbbell program
  - Side-lying neutral
    - Internal rotation
    - External rotation
  - Prone
    - Extension
    - Horizontal abduction
  - Standing
    - Flexion to 90°
    - Supraspinatus
- Initiate serratus exercises
  - Wall pushups
- Initiate arm ergometer for endurance

#### **Criteria for progression to phase 4**

- Full, nonpainful ROM
- No pain or tenderness
- 70% of contralateral strength

### **Phase 4: Dynamic advanced strengthening phase**

#### **Goals**

- Increase strength and endurance
- Increase power
- Increase neuromuscular control

#### **Isokinetic testing**

- Internal and external rotation modified neutral
- Abduction-adduction

#### **Initiate thrower's ten exercise program (when applicable)**

- Velocity spectrum 180°/sec to 300°/sec
- Progress from modified neutral to 90/90 position as tolerated

#### **Initiate plyometrics (late in phase)**

### **Criteria for progression to phase 5**

- Full, nonpainful ROM
- No pain or tenderness
- Isokinetic test that fulfills criteria
- Satisfactory clinical examination

### **Phase 5: Return to activity phase**

#### **Goal**

- Unrestricted, symptom-free activity

#### **Isokinetic test**

- 90/90 internal and external rotation, 180°/sec, 300°/sec

#### **Initiate interval activity program**

- Throwing
- Tennis
- Golf

### **MAINTENANCE EXERCISE PROGRAM**

#### **Flexibility exercises**

- L-bar
  - Flexion
  - External rotation
  - Self-capsular stretches

#### **Isotonic exercises**

- Supraspinatus
- Prone extension
- Prone horizontal abduction
- Internal and external rotation
- Neutral or 90/90 position
- D2 proprioceptive neuromuscular facilitation (PNF) pattern

#### **Serratus pushups**

#### **Interval throwing phase II for pitchers**

This protocol provides you with general guidelines for the rehabilitation of the patient with internal glenohumeral impingement syndrome +/- type 2 SLAP tear.

Questions regarding the progress of any specific patient are encouraged, and should be directed to Dr. Lervick at **952-944-2519**.

**REFERENCE:** Clinical Orthopaedic Rehabilitation, 2<sup>nd</sup> edition. SB Brotzman, KE Wilk. Mosby 2003.