



**TWIN CITIES ORTHOPEDICS**

*Excellence in Research and Education*

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## **NONSURGICAL MULTIDIRECTIONAL SHOULDER INSTABILITY REHABILITATION PROTOCOL**

The program will vary in length for each individual depending on several factors:

- Severity of injury.
- Acute versus chronic condition.
- ROM/strength status.
- Performance/activity demands.

Return to sport criteria:

- Absence of pain
- Full range of motion
- Little to no apprehension
- Imaging with magnetic resonance imaging (MRI) may be considered in the patient evaluation, depending upon individual presentation

### **Phase 1: Acute Motion Phase**

#### **Goals**

- Reestablish nonpainful ROM.
- Retard muscular atrophy.
- Decrease pain/inflammation.

#### **Decrease Pain and Inflammation**

- Therapeutic modalities (e.g., ice, electrotherapy).
- Gentle joint mobilization.

#### **Range of Motion Exercises**

- Pendulums
- Circumduction
- Rope and Pulley
  - Flexion
  - Abduction to 90 degrees, progress to full ROM
- L-Bar
  - Flexion
  - Abduction
  - Internal rotation with arm in scapular plane.
  - External rotation with arm in scapular plane. (progress arm to 90 degrees of abduction as tolerated)
- Posterior capsular stretching.
- Upper extremity ergometer.

**Shoulder hyperextension is contraindicated.**

### **Strengthening Exercises**

- Isometrics
  - Flexion
  - Abduction
  - Extension
  - Internal rotation (multi-angles)
  - External rotation (scapular plane)
- Weight shifts (closed-chain exercises).

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

- Full ROM.
- Minimal pain or tenderness.
- "Good" MMT of internal rotation, external rotation, flexion, and abduction.

### **Phase 2: Intermediate Phase**

#### **Goals**

- Regain and improve muscular strength.
- Normalize arthrokinematics.
- Improve neuromuscular control of shoulder complex.

#### **Initiate Isotonic Strengthening**

- Flexion
- Abduction to 90 degrees.
- Side-lying external rotation to 45 degrees.
- Shoulder shrugs
- Extension
- Horizontal Adduction
- Supraspinatus
- Biceps
- Push-ups

#### **Initiate Eccentric (Surgical Tubing Exercises at 0° Abduction)**

- Internal rotation
- External rotation

#### **Normalize Arthrokinematics of the Shoulder Complex**

- Continue joint mobilization.
- Patient education of mechanics and activity modifications of activity/sport.

#### **Improve Neuromuscular Control of Shoulder Complex**

- Initiation of PNF
- Rhythmic stabilization drills

#### **Continue Use of Modalities (As Needed)**

- Ice, electrotherapy modalities.

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

- Full nonpainful ROM
- No palpable tenderness.
- Continued progression of resistive exercises.

### **Phase 3 : Advanced Strengthening Phase**

#### **Goals**

- Improve strength, power, and endurance.
- Improve neuromuscular control.
- Prepare patient/athlete for activity.

#### **Capsular Stretches**

- Address joint imbalances as necessary

#### **Continue Use of Modalities (As Needed)**

#### **Continue Isotonic Strengthening (Progressive Resistance Exercises)**

#### **Continue Eccentric Strengthening**

#### **Emphasize PNF**

#### **Initial Isokinetics**

- Flexion-extension
- Abduction-adduction
- Internal-external rotation
- Horizontal abduction/adduction

#### **Initiate Plyometric Training**

- Surgical tubing
- Wall push-ups
- Medicine ball
- Boxes

#### **Initiate Military Press**

#### **Precaution**

- Avoid excessive stress on anterior capsule.

### **Criteria for Progression to Phase 4**

- Full ROM
- No pain or palpable tenderness.
- Satisfactory isokinetic test.
- Satisfactory clinical examination.

## **Phase 4: Return to Activity Phase**

### **Goals**

- Maintain optimal level of strength, power and endurance.
- Progressively increase activity level to prepare patient for full functional return to activity/sport.

### **Continue All Exercises as in Phase 3**

### **Continue Capsular Stretches**

### **Initiate Interval Program**

### **Continue Modalities (As Needed)**

### **Follow-up**

- Isokinetic test.
- Progress interval program.
- Maintenance of exercise program.

This protocol provides you with general guidelines for the nonsurgical or in-season rehabilitation of the patient with multidirectional glenohumeral instability

The frequency of visits may be determined mutually by the patient, therapist, and athletic trainer depending upon patient comfort level, progress, and understanding of the home program.

Specific changes in the program will be made by the physician as appropriate for the individual patient. Patients with persistent instability may be candidates for further evaluation and/or surgical intervention.

Questions regarding the progress of any specific patient are encouraged, and should be directed to Dr. Lervick at **952-456-7111**.

### **REFERENCE:**

Clinical Orthopaedic Rehabilitation, 2<sup>nd</sup> edition. SB Brozman, KE Wilk. Mosby 2003.