Nonoperative Rehabilitation for Multi-Directional Instability

This multi-phased program is designed to allow the patient/athlete to return to their previous functional level as quickly and safely as possible. Each phase will vary in length for each individual depending upon the severity of injury, ROM/strength deficits, and the required activity demands of the patient.

1. PHASE I – ACUTE PHASE

Goals: Decrease pain/inflammation
Re-establish functional range of motion
Establish voluntary muscular activation
Re-establish muscular balance
Improve proprioception

- **Decrease Pain/Inflammation**
  - Therapeutic modalities (ice, electrotherapy, etc.)
  - NSAIDS
  - Gentle joint mobilizations (Grade 1 and II) for neuromodulation of pain

- **Range of Motion Exercises**
  - Gentle ROM exercises – no stretching
  - Pendulum exercises
  - Rope and pulley
    - Elevation to 90 degrees, progressing to 145/150 degrees flexion
    - L-Bar
      - Flexion to 90 degrees, progressing to full ROM
      - Internal rotation with arm in scapular plane at 45 degrees abduction
      - External rotation with arm in scapular plane at 45 degrees abduction

Progressing arm to 90 degrees abduction

- **Strengthening Exercises**
  - Isometrics (performed with arm at side)
    - Flexion
    - Abduction
    - Extension
    - External rotation at 0 degrees abduction
    - Internal rotation at 0 degrees abduction
    - Biceps
    - Scapular isometrics
      - Retraction/protraction
      - Elevation/depression
    - Weight shifts with arm in scapular plane (closed chain exercises)
    - Rhythmic stabilizations (supine position)
      - External/internal rotation at 30 degrees abduction
      - Flexion/extension at 45 and 90 degrees flexion

****Note:** *It is important to refrain from activities and motion in extreme ranges of motion early in the rehabilitation process in order to minimize stress on joint capsule.*

- **Proprioception/Kinesthesia**
  - Active joint reposition drills for ER/IR

2. PHASE II – INTERMEDIATE PHASE

Goals: Normalize arthrokinematics of shoulder complex
Regain and improve muscular strength of glenohumeral and scapular muscle
Improve neuromuscular control of shoulder complex
Enhance proprioception and kinesthesia

Criteria to Progress to Phase II:
- Full functional ROM
- Minimal pain or tenderness
- "Good" MMT

- **Initiate Isotonic Strengthening**
  - Internal rotation (sidelying dumbbell)
  - External rotation (sidelying dumbbell)

- Scaption to 90 degrees
- Abduction to 90 degrees
- Prone horizontal abduction
- Prone rows
- Prone extensions
- Biceps
- Lower trapezius strengthening

- **Initiate Eccentric (surgical tubing) Exercises at Zero Degrees Abduction**
  - Internal rotation
  - External rotation

- **Improve Neuromuscular Control of Shoulder Complex**
  - Rhythmic stabilization drills at inner, mid, and outer ranges of motion (ER/IR, and Flex/Ext)
  - Initiate proprioceptive neuromuscular facilitation
    - Scapulothoracic musculature
    - Glenohumeral musculature
      - Open kinetic chain at beginning and mid ranges of motion
        - PNF
        - Manual resistance
          - External rotation
            - Begin in supine position progress to sidelying
            - Prone rows
        - ER/IR tubing with rhythmic stabilization
      - Closed kinetic chain
        - Wall stabilization drills
          - Initiated in scapular plane
          - Progress to stabilization onto ball
          - Weight shifts had on ball
    - Initiate core stabilization drills
      - Abdominal
      - Erect spine

- Gluteal strengthening

- **Continue Use of Modalities (as needed)**
  - Ice, electrotherapy

3. PHASE III – ADVANCED STRENGTHENING PHASE

Goals: Enhance dynamic stabilization
Improve strength/endurance
Improve neuromuscular control
Prepare patient for activity

Criteria to Progress to Phase III:
- Full non-painful ROM
- No pain or tenderness
- Continued progression of resistive exercises
- Good to normal muscle strength

- **Continue Use of Modalities (as needed)**

- **Continue Isotonic Strengthening (PRE's)**
  - Fundamental shoulder exercises II

- **Continue Eccentric Strengthening**

- **Emphasize PNF Exercises (D2 pattern) With Rhythmic Stabilization Hold**

- **Continue to Progress Neuromuscular Control Drills**
  - Open kinetic chain
    - PNF and manual resistance exercises at outer ranges of motion
  - Closed kinetic chain
    - Push-ups with rhythmic stabilization
      - Progress to unsteady surface
        - Medicine ball
        - Rocker board
      - Push-ups with stabilization onto ball
      - Wall stabilization drills onto ball

- **Initiate Isokinetics**
  - Abduction/adduction

- Internal/external rotation

- **Program Scapular Neuromuscular Control Training**
  - Sidelying manual drills
  - Progress to RS and movements (quadrant)

- **Emphasize Endurance Training**
  - Time bouts of exercise 30-60 sec
  - Increase number of reps
  - Multiple boots bouts during day (TID)

4. PHASE IV – RETURN TO ACTIVITY PHASE

Goals: Maintain level of strength/power/endurance
Progress activity level to prepare patient/athlete for full functional return to activity/sport

Criteria to Progress to Phase IV:
- Full non-painful ROM
- No pain or tenderness
- Satisfactory isokinetic test
- Satisfactory clinical exam

- **Continue all exercises as in Phase III**

- **Initiate Internal Sport Program (if appropriate)**

- **Patient Education**

- **Continue Exercise on Fundamental Shoulder Exercise II**