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.

I. 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/protractions
- 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

II. 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

### III. 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 bouts bouts during day (TID)

IV. 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