Success of Rehabilitation and Nonoperative Management in Athletes With Multidirectional Shoulder Instability (MDI)

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I. Introduction:
Shoulder laxity is a common finding in many shoulders in the athletic world. This can be genetic or acquired over the years of preparation. Many sports have had a selective process (i.e., swimming or gymnastics) that may suggest an advantage to the athlete who has these characteristics. It is not always clear whether this is one of the factors that permits success or as the result of years of preparation. Either way, these findings are common and generally not painful or disabling.

Repetitive strain can make a shoulder painful. Short periods of rest or alternation of the training can often resolve the minor problems.

The more disabled shoulder has been termed MDI. Here the shoulder has symptomatic increased translation in multiple directions. This is combined with symptomatic inferior subluxation, often termed a sulcus sign. When increased inferior symptomatic translation is combined with anterior/posterior or both, this patient has MDI.

II. Role of Nonoperative Treatment
The most popular initial treatment for MDI is nonoperative management. Surgery on “loose-jointed” athletes is often disruptive to schedules and takes an extended period to resolve. The result of surgery is often a return to joint laxity, and one wonders if the time off during recovery was the reason for success. Also, the contralateral asymptomatic shoulder is a curiosity of why one shoulder is painful and the other is well accepted. Careful history, physical, and imaging should look for contributing causes of pain.
Although stopping the offending activity is a component, one should not let the athlete rest, due to risk of deconditioning.

Goals:
- Rest painful area from repetitive risky strenuous positions
- Maintain range of motion: passive and active
- Scapular mechanics
  - Stability, strengthening
  - Avoid winging during forward elevation
- Core strength
  - Kinetic chain
- Rotator cuff strength
  - Tendon capsular attachments

III. History
Onset of symptoms
Prior history of injury and treatment
Cervical or additional location of symptoms (i.e., radiculopathy)
Subjective stiffness
Training programs
Schedules of events

2. Physical Findings
Area of tenderness
Scapular dyskinesis
Cuff weakness
Sulcus signs
Provocative testing

3. Imaging
Radiographs
MRI imaging
  - with and without contrast
Ultrasound cuff evaluation
EMG/NCV – selective individuals with radiculopathy
VI. **Scapula**
Represents the major link of the glenohumeral joint to the axial skeleton

Scapular dyskinesis: is this a symptoms or a cause (or both)?
- Dynamic or static winging
Reduce contractures
  - Pectoralis minor

**Dynamic stabilization**
- Trunk and hip extension exercises
- Scapular retraction exercises
- Axial load closed chain strengthening

V. **Cuff Management**
Release of contractures
Internal/external rotator strengthening: cuff coupling
Rotator interval
- Moderate stretch
- Improve proprioception
Combine strengthening with larger stabilizing muscle groups
  - i.e. serratus
  - pectoralis
  - latissimus
  - trapezius
  - rhomboid
References: