Tears of the glenoid labrum fibrocartilage, AKA superior labral anterior to posterior (SLAP) lesions, are suspected clinically or noted on magnetic resonance (MRI) imaging. Damage including fraying (Grade I), tearing (Grades II-IX), or detachment of the fibrocartilaginous ring (labrum) that attaches to/surrounds the glenoid fossa (Andrews et. al.1985). The diagnosis can be made through a detailed history determining the onset of symptoms and mechanism of injury (trauma, repetitive overhead use injury, or dislocation) and thorough shoulder examination. (Snyder et. al. 1990). If the non-operative therapy fails and symptoms persist that prevent sports activities or activities of daily living, then this would indicate the need for operative treatment.

History

- Traumatic tears can occur in traction/torsion and compressive injury mechanisms.
- Repetitive overhead motions can increase the risk for SLAP tears.
- SLAP tears can occur in a degenerative setting within the aging population.
- Patient reports vague, deep shoulder pain and mechanical clicking with exacerbating activities.
- Patients may experience night pain, which is a common complaint with several shoulder pathologies.
- Patients usually have decreased symptoms at rest.
- Patients can have painless shoulder clicking that has progressively become painful.
- Patient may or may not have a history of shoulder injuries.

Physical Examination Findings

Physical examination of SLAP lesions can be difficult as they often present with other shoulder pathologies (Instability). Clear the cervical spine and neurovascular etiologies of shoulder pain.

Observation/Posture	AROM	Palpation
Usually unremarkable but may have a "flatness" or fullness anteriorly. Observe scapulothoracic motion and identify any scapular winging.	Restrictions vary from subclinical restrictions to significant reductions depending on the degree of the tear. Typically noted at terminal combined abduction and external rotation.	• Shoulder tenderness is usually not present but may be noted around the bicep long head insertion with the arm in extension and internal rotation. • Painful joint play may be noted with inferior glide, but pain is poorly localized and is typically deep in nature.

Labral Tear Orthopedic Tests

Combinations of at least three positive SLAP lesion tests may be clinically useful in diagnosing a SLAP lesion with greater accuracy than those reported for MRI/MRA. (Clark et al. 2019)

- Biceps Provocation (Speed's) *
- Biceps Load Test (I&II) *
- Anterior Slide Test
- O'Brien *
- Crank
- Clunk
- Passive Compression*
- Passive Distraction

Instability Orthopedic Tests

- Load and Shift
- Apprehension
- Faegin Test
- Relocation/Release
- Dugas Test
- Sulcus Sign/Test

Ancillary Tests

- Laboratory studies are not useful.
- The role of imaging is to provide structural information to influence therapeutic decision-making. X-Rays are the first imaging approach and should include Grashey, axillary and "Y" views.
- **MR arthrogram (MRA)** (sensitivity 82%-100%) and specificity (71%-98%) is performed to evaluate the shoulder that does not respond to a course of conservative care. A paralabral cyst found on MRI is a diagnostic clue for a SLAP tear (Gupta et. al. 2015). MRI documented SLAP lesions can be present in up to 72% of middle-aged, asymptomatic patients. (Schwartzberg et. al. 2016)

There are numerous types of labral tears:

- **Type I** – Fraying of the superior labrum with intact biceps anchor.
- **Type II** – Fraying of the superior labrum with detached biceps anchor (anterior, posterior and combined anterior/posterior)
- **Type III** – Bucket handle tear of the superior labrum with intact biceps anchor
- **Type IV** – Bucket handle tear of the superior labrum with detached biceps anchor (remains attached to the torn labrum)
- **Type V** – Type II + Bankart lesion
- **Type VI** – Type II + unstable flap either anteriorly or posteriorly
- **Type VII** – Type II + anterior extension inferior to the MGHL
- **Type VIII** – Type II + posterior labrum extension
- **Type IX** – Circumferential labrum tear
- **Type X** – Type II + reverse Bankart lesion

Treatment Options

Type I treated conservatively

- The emphasis of care is to decrease pain, improve overall function, increase pain free active range of motion, improve shoulder segmental motion, and improve any mechanical faults.
- Nonoperative and operative management yields successful results for many patients; however, treatment success is highly dependent upon the patient's functional level and treatment goals (Charles et. al. 2018).
- *NOTE*: Nonoperative management should be considered for initial treatment. Studies demonstrate non-operative management is successful for 22 to 85% of patients (Shin et. al. 2017)

Types II-IX are usually surgical and fail conservative care

- Candidates and should be referred for surgical intervention.

Manual Therapy

- Shoulder manipulation/mobilization can be utilized based upon directional preference.
- Soft tissue techniques can be incorporated if tender muscles are present (PIR, Pin and Stretch, Ischemic Compression)

Exercise

- Exercises usually begin by starting with proximal scapular stabilization and within a pain free range of motion (Codman arm swings, broomstick exercises, and wall walk/table walks).
- Shoulder isometrics (flexion, extension, internal rotation, external rotation, adduction, and abduction) can then be added followed by a scapular stability program for overall shoulder strength.
- As pain range of motion increases and pain decreases, incorporating work/sport specific exercises can be added.

Activity Modification

- Avoid painful motions which may exacerbate the symptoms.
- Focus on staying within a pain free zone.

Common Treatment Duration

- 6-12 weeks

Other options

- Pharmaceuticals: NSAID's
- Corticosteroid injections
- Surgery
- Acupuncture/dry needling

Potential ICD 10 Codes	DDX List for this Condition
• **S43.43** = Superior Glenoid Labrum Lesion • **S43.439** = SLAP Lesion of Unspecified Shoulder • **M75.80** = Other Shoulder Lesions, Unspecified Shoulder	• Biceps tendinopathy • Glenohumeral internal rotation deficit • Rotator cuff tears • Arthritis • Shoulder Impingement • Instability • Scapulothoracic dyskinesia • AC joint pathology

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