# SHOULDER, KNEE & SPORTS MEDICINE

# Superior Labrum, Anterior to Posterior (SLAP Tears)

The labrum is a fibrocartilaginous tissue that circles the peripheral rim of the glenoid (socket of the shoulder). The labrum functions as the attachment site of the shoulder capsule, the ligaments that run between the humeral head (ball) and glenoid (socket) of the shoulder to provide stability. The long head of the biceps tendon also attaches to the superior (upper) bony glenoid by its attachment through the superior (upper) labrum. Injury to the superior labrum is referred to as a SLAP lesion (tear), which stands for Superior Labrum, Anterior to Posterior (front to back). This tear may take the form of degenerative (wear and tear) fraying, a split in the labrum, or a complete separation of the labrum off the bony glenoid, with or without damage to the biceps tendon attachment. Superior labral separations also result in some lesser amounts of shoulder instability. Superior labral tears are sometimes difficult to see on MRI and are sometimes only found during arthroscopic surgery (See arthroscopic pictures below)



Normal Superior Labrum

Superior Labral Tear

#### **Frequent Signs and Symptoms**

- Pain in the shoulder, worse with overhead activities and especially with the arm in the late cocking phase of throwing
- Usually no pain at rest
- Intermittent mechanical shoulder symptoms such as locking, clicking, or snapping associated with pain
- Loss of velocity and accuracy when trying to throw in pitchers



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### **Etiology (Causes)**

- Repetitive throwing or overhead hitting motion
- Falling onto the outstretched arm
- Pulling of the arm backwards when overhead
- Sudden force applied to the biceps while contracted
- Direct blow to the shoulder with the arm in a throwing position

#### **Risk Factors**

- Contact sports (wrestling, football)
- Overhead sports (baseball, tennis, and volleyball)
- History of shoulder dislocation, subluxation, or injury
- Increasing age
- Poor physical conditioning (strength and flexibility)
- Inadequate warm-up before practice or play

#### Prevention

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
  - Shoulder and elbow flexibility
  - Muscle strength and endurance
  - Cardiovascular fitness
- Use proper technique when throwing.

#### Outcomes

Labral tears do not heal themselves because of their limited blood supply and the instability (continued motion) of the torn portion; and therefore, they typically require surgery. Physical exam findings are not sufficiently specific to reliably make the diagnosis of a labral tear. MRI and MR arthrograms (MRI following dye injection into the shoulder) are limited and will often fail to show clinically significant labral tears. Thus, after an acute shoulder injury with a history and physical findings consistent with a SLAP lesion, conservative treatment of physical therapy is often needed to either rule in or out the injury. After four to six weeks of proper shoulder therapy, the majority of milder sprains or strains (that do not need surgery) will improve and actual SLAP tears will continue to cause symptoms and produce pain with specific physical exam tests. Following surgical treatment, the lesion often heals and symptoms improve dramatically.



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#### **Potential Complications**

- Recurrence of symptoms, especially if activity is resumed too soon
- Failure of the SLAP repair to heal
- Risks of surgery, including infection, bleeding, injury to nerves, shoulder stiffness, shoulder and elbow weakness, inability to repair the labral tear, and re-tearing of the labral when repaired, post-traumatic arthritis
- Prolonged recovery for overhead athletes, especially throwers
- Persistent symptoms (typically significantly improved) for overhead athletes, especially throwers

#### **Treatment Considerations**

Arthroscopic surgery (using a camera through very small incisions or portals) is recommended if symptoms persist despite non-operative treatment. Surgery is performed arthroscopically to debride (clean and remove torn labral pieces and torn fragments not detached from the bone) or to repair the separated labrum back to the bone of the glenoid. Repair (reattachment) of the labrum is performed by placing suture anchors (absorbable) in the superior (upper) bony glenoid, passing the sutures (thread) connected to the anchors through the torn labral portion and tying the sutures securing the labral tissue back in place against the bone. If repair is undertaken, immobilization in a sling is required for 6 weeks to allow the labrum to heal back to the glenoid. After surgery and immobilization, physical therapy is recommended to regain shoulder motion, strength, and function.



Superior Labrum torn from Glenoid



#### Superior Labral Repair back to Glenoid



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#### **Possible Medications**

- Nonsteroidal anti-inflammatory medications, such as aspirin, ibuprofen, Motrin<sup>®</sup>, or Naprosyn<sup>®</sup>, Aleve<sup>®</sup>, or other minor over-the-counter pain relievers, such as acetaminophen, Tylenol<sup>®</sup>, may be helpful. Do not take nonsteroidal anti-inflammatory medications within 10 -14 days of surgery or following surgery and stop these medications if they cause any bleeding or upset stomach.
- Pain relievers are not prescribed after this type of injury but may be prescribed after surgery as necessary. Use only as directed.

#### Modalities (Heat and Cold)

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

### Notify My Office If Symptoms Worsen



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