

LABRUM TEARS OF THE SHOULDER

Overview:

What is the glenoid labrum?

The shoulder joint is known as a “ball and socket” joint. The “ball” is the head of the humerus (upper arm bone) and the “socket” is called the glenoid. The glenoid is a very shallow socket, and this allows the shoulder to be an extremely mobile, multidirectional joint. However, this motion comes at the expense of stability. The glenoid labrum is a rubbery gasket, which surrounds the glenoid and deepens the socket. This helps to make the shoulder joint more stable. The labrum also serves as the site for attachment of the shoulder joint capsular ligaments, which give the shoulder most of its stability, and is an anchor for the tendon of the long head of the biceps muscle.



Interactive Shoulder v1.0 © 2000 Primal Pictures Ltd.

How does the glenoid labrum get injured?

The front part of the glenoid labrum can be torn acutely when the shoulder is dislocated and the humerus is pushed anteriorly (in front of the body). This type of labral tear is called a “Bankart” lesion, and can result in anterior shoulder instability or recurrent dislocations. This is due to the tearing away of the “labral bumper” on the front of the socket which allows the ball to continue sliding forward and off the edge when ones’ arm is raised away from the body in a throwing motion. Shoulder dislocations leading to Bankart lesions can also result in tearing of the ligaments within the shoulder joint, which leads to further instability.



Bankart lesion – seen with dislocations

A less common form of injury involves the superior aspect of the labrum, which serves as an anchor for the tendon of the biceps muscle. This type of lesion is known as a “SLAP” lesion (Superior Labrum Anterior-Posterior). This pattern of injury most commonly results from a compression force, such as falling on an outstretched arm. It may also occur from a traction injury, such as a sudden pull on a heavy object, or an attempt to hold onto something overhead in order to prevent a fall. The glenoid labrum may also be injured by a direct blow, or slowly over time from repetitive overhand throwing motions. Symptoms may also develop without any history of trauma at all

Classification of SLAP lesions:

Type I:



Type 1 SLAP

The edge of the superior labrum shows fraying and degeneration, but is not detached from the glenoid. The biceps tendon anchor also remains firmly attached. Often clicking occurs with motion.

Type II:



Type 2 SLAP

The labrum and biceps anchor are detached from the glenoid and arch away from the neck of the glenoid. This type of tear can cause symptoms of instability. These are often repaired and require a longer postoperative rehabilitation.

Type III:

The superior labrum has a bucket-handle tear, but the remainder of the labrum and biceps anchor remains attached to the glenoid. This can cause catching or locking with motion of the shoulder.

Type IV:



Type 4 SLAP

Bucket-handle tears of the superior labrum extend into the biceps tendon. Portions of the flap are can move and catch in the joint. The remainder of labrum/tendon stays attached to the glenoid.

Symptoms:

The most common symptoms people will have with a labral tear are pain, often with overhead activities, locking/catching/popping or grinding in the shoulder joint. Some people may experience pain while lying on the affected shoulder, decreased range of motion, or weakness. Pain at night is suspicious for a rotator cuff tear, not a labrum tear. Positional pain, such as putting on a coat, or pulling up the bedcovers, suggests rotator cuff or biceps impingement.

Diagnosis:

Glenoid labrum tears are difficult to diagnose on physical examination and also currently available imaging studies. X-rays will be normal. A high quality MRI may suggest a labral tear, but cannot tell for certain. Selective injections of cortisone can be helpful in narrowing the differential diagnosis. However, the only way to reliably and definitively diagnose these lesions is at the time of arthroscopy, when the labrum can be directly visualized.

Treatment:

Non-surgical treatment is available for labrum tears, and includes NSAIDs (aspirin, ibuprofen, etc.) and rotator cuff strengthening exercises to increase shoulder support and stability. Generally, the most successful treatment is surgical. At the time of

arthroscopy, shoulder stability must be carefully assessed for hidden deficits. The method of surgical repair will depend on what is found at the time of arthroscopy, and how unstable the shoulder is found to be. Depending on the type of SLAP lesion-particularly Type 2 tears- direct repair of the tear may be more successful and yield better long-term results than has simple trimming or debridement. Type 1, 3 and 4 type tears are generally best treated with trimming. Ultimately, the treatment depends on the type of tear and whether there is any blood supply and chance for healing. Occasionally, the biceps tendon may need to be reattached or released.

Recovery:

After operative **repair** of a SLAP lesion, the arm will be kept in a sling and gentle “pendulum” exercises will be prescribed for the elbow, wrist, and hand. After 3-4 weeks, strengthening of the biceps muscle can begin with 3-5 pound weights. Stressful biceps activity is not permitted for the first three months.

Trimming of a labrum tear has a much easier recovery and requires only the use of a sling for comfort for a few days. Rehabilitation starts immediately and return to full function occurs in 6-12 weeks.

References:

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