

# Conservative Treatment of a Posterior Labrum Tear in College Football Athlete



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## Abstract

**Background:** The athlete was an 18-yr freshman college football defensive lineman, 187.9cm and 86.2kg. He reported with no prior medical history or injuries. Athlete suffered a posterior shoulder dislocation to his left arm during the first scrimmage of preseason training when a lineman fell on top of his outstretched arm. The dislocation was reduced by the team athletic trainer and he was unable to play for the duration of the scrimmage. The next day he practiced as tolerated in a shoulder brace during the and reported slight pain. However, the following day his pain had increased substantially. The athlete had no obvious deformities, no discoloration, and slight swelling on the posterior aspect of his shoulder. His active range of motion (AROM) had decreased and was measured as follows: forward flexion 42 deg, abduction 90 deg, extension 55 deg, external rotation 70 deg, internal rotation 24 deg. The majority of his pain occurred with flexion and internal rotation. The athlete complained of sharp pain in the back of his shoulder and feeling as if his shoulder was unstable. Due to his lack of motion his strength was not tested. Orthopedic clinical examination included O'Brien's and posterior apprehension test, which were both positive. **Differential Diagnosis:** Posterior labrum tear, Posterior shoulder instability, Supraspinatus strain, Posterior deltoid strain. **Treatment:** As a result of the athlete suffering from a complete shoulder dislocation and his demonstrated loss of AROM he was referred to the team physician and an MRI was ordered. The MRI revealed a posterior labrum tear. The athlete in consultation with the physician elected against surgery performed until end of the season. He was treated conservatively with pain modulation, ROM exercises, and strengthening of the shoulder stabilizing muscles, specifically the rotator cuff and scapular stabilizers. After 3 weeks of rehabilitation he returned to participation and his initial injury was reaggravated and he could not continue to play. Conservative treatment was resumed to decrease pain and increase ROM and surgery was decided to be in the best interest of the athlete to allow the athlete to return to the previous level of sports participation. **Uniqueness:** Posterior labrum tears are rare, but when they occur in sports will be seen mostly in contact/collision sport athletes. These athletes engage opponents with arms in front of their body causing them to become susceptible to posterior labrum tears. He opted to not have surgery and initiate a conservative treatment to return to play before the season ended. After three weeks he had regained his motion and strength and felt he could start practicing again. The athlete aggravated his injury and felt he could not play without undergoing surgical repair. Conservative treatment was resumed to reduce the athletes pain, restore full motion, and regain his strength. Research has demonstrated improvements with SLAP tears when treated non-surgically and this case allows posterior labrum tears to be evaluated for the improvements made using conservative treatment rather than surgical repair. **Conclusion:** This case explored the conservative treatment of an uncommon labrum tear and the possibility of returning to sports without surgery. In this case the conservative treatment was effective in decreasing pain and restoring the athlete's range of motion and strength. However, the return to the sport that caused the injury caused the injury to become further aggravated due to the nature of the sport. In contact sports it seems unlikely that a return to sports without surgery will be an effective form of treatment without causing further irritation to the injury.

## Introduction

The labrum is the fibrocartilaginous structure that stabilizes the glenohumeral joint. Glenoid labrum tears most frequently occur in throwing athletes due to the amount of stress placed on the soft tissue and osseous structures of the glenohumeral joint. The most common labrum tear is a superior labrum anterior to posterior tear (SLAP). SLAP tears occur most often in conjunction with microtrauma and overuse from overhead sports.

## Introduction cont.

Posterior labrum tears are less frequent and occur more commonly in contact athletes. Contact athletes often receive a posterior force to their shoulders due to tackling with their arms outstretched. There can be factors that contribute to a labrum tear occurring, such as a weak rotator cuff or scapular dyskinesia. Glenoid labrum tears are often treated with surgery to repair the torn labrum; however, conservative treatment has also been shown to be effective in the treatment of labrum tears.

## Purpose

One domain of athletic training is treatment and rehabilitation. This case demonstrates the importance of conservatively treating injuries that will need surgical intervention. Conservative treatment can allow the athlete to return to play prior to surgery as well as allow for a quicker recover post-surgery

## Patient Demographics

- 18-year old male
- 86.2 kg and 187.9 cm
- Left hand dominant
- Division III collegiate football player
- No previous history of injury

## Differential Diagnosis

- Posterior labrum tear
- Posterior shoulder instability
- Supraspinatus strain
- Posterior deltoid strain

## Physical Findings

- Athlete complained of shoulder feeling unstable
- Point tender along posterior aspect of shoulder joint
- Active range of motions deficits in flexion, abduction, external rotation, and internal rotation
- Majority of pain occurring with flexion and internal rotation
- (+) O' Brien' s test
- (+) posterior apprehension test

## Treatment

Initial treatment included active assisted range of motion exercises and isometric strengthening. A low frequency electrical stimulation machine was applied over the area of the injury for controlling pain and reduction of swelling. The athlete' s rehabilitation exercises progressed to strengthen the rotator cuff and scapular stabilizers. The athlete received rehabilitation daily for 3 weeks before attempting to return to play. The athlete aggravated his injury and felt he could not play without undergoing surgical repair but did not want to have surgery until after the season had ended. Conservative treatment was resumed to reduce the athletes pain, restore full motion, and regain his strength.

## Uniqueness

Posterior labrum tears are the least common tear of the labrum and are most likely to occur in contact athletes who engage their opponents with arms in front of the body.<sup>1</sup> Research has demonstrated improvements with SLAP tears when treated non-surgically and this case allows posterior labrum tears to be evaluated for the improvements made using conservative treatment rather than surgical repair.

## Conclusion

This case report explored the conservative treatment of an uncommon labrum tear and the possibility of returning to sports without surgery. In this case report the conservative treatment was effective in decreasing pain and restoring the athlete' s range of motion and strength. However, the return to sport that caused the injury caused the injury to become further aggravated due to the nature of the sport. In contact sports it seems unlikely that a return to sports without surgery will be an effective form of treatment without causing further irritation to the injury

## References

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