



**QUESTION | I HAVE A 17 YEAR OLD RECREATIONAL ATHLETE, APPRENTICE MECHANIC. DURING A RUGBY TACKLE HE HAD HIS FIRST GLENOHUMERAL DISLOCATION. IT WAS REDUCED HOURS LATER UNDER GENERAL ANAESTHETIC. POST REDUCTION X-RAY SHOWS A HILL SACHS LESION.**

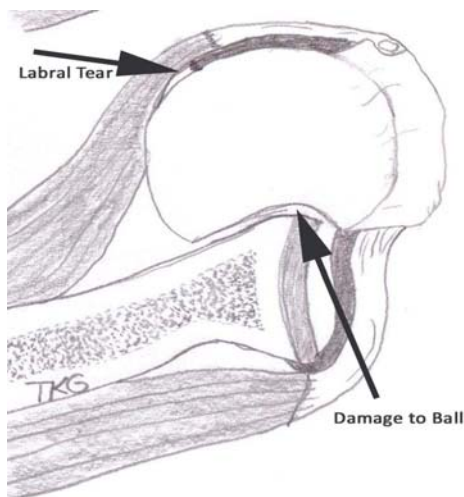
**SOME READINGS SUGGEST REFERRAL FOR INVESTIGATION/POSSIBLE TREATMENT FOR A BANKHART LESION TO REDUCE HIS LIKELIHOOD OF FUTURE DISLOCATION.**

**WHAT IS THE CURRENT THINKING ON THIS? WE LIVE IN A REGIONAL AREA AND MRI AND ORTHOPAEDIC OPINIONS REQUIRE TRAVEL.. WHAT IS THE RIGHT ADVICE FOR HIM?**

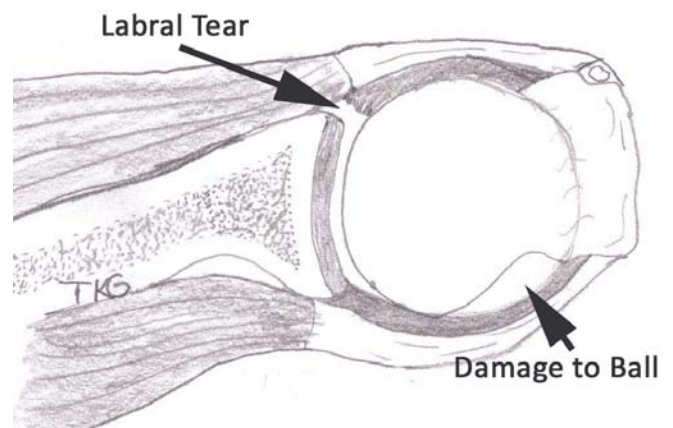
**ANSWER |**

The type of dislocation described above can be classified as a first-time anterior dislocation of the shoulder. This type of dislocation is far more common than posterior dislocations. With anterior dislocations, the arm is usually in an abducted and externally rotated position prior to dislocation, leading to a predictable pattern of injury to the labrum, capsuloligamentous structures, glenoid and humeral head. A Bankart lesion, a detachment of the anterior labrum from the glenoid, occurs in 90% of first time anterior dislocations. A Hill-sachs lesion, or depression of the humeral head from its engagement with the glenoid, occurs in 70% of first time dislocations. The permanent changes, along with capsular stretching, make further dislocations more likely to occur.

**Figure 1: Anterior Shoulder Dislocation**



**Figure 2: After Reduction of Shoulder**



The risk of recurrent instability is 26-95% after non-operative treatment. Generally, the risk is highest in patients younger than 20, and the recurrence rate will decrease with age. Each subsequent dislocation causes further stretching of the capsule and can cause further bone loss. Loss of bone at the anterior glenoid coupled with a Hill-sachs lesion makes surgical correction more complicated, requiring methods that restore bone in addition to tightening of the capsule.

First time dislocators will have a 10% risk of developing arthritis. Subsequent dislocations of the shoulder can cause further damage to the shoulder and increase the chance of developing arthritis.

Traditionally, first time dislocators were treated initially without surgery. Surgery was only considered for patients who demonstrated recurrent instability symptoms. The most common procedure was an open capsular shift. Current surgical options for first time dislocators include an arthroscopic or open soft tissue stabilization. When there is considerable bone loss, with defects on the glenoid or humeral side, surgery must address this bone loss to prevent failures. The most common procedure currently used to address glenoid bone loss is a Latarjet procedure. This is an open surgery where the coracoid is transferred to the anterior glenoid defect. This surgery has an increased morbidity as it is an open procedure with higher risk to neurovascular structures.

Recent thinking has tended toward surgery for first time dislocators. With first time dislocators, bone loss is usually minimal and an arthroscopic stabilization can be successful in restoring stability. Surgery will help to prevent subsequent dislocations and further bone loss, and thus help to avoid the need for a Latarjet procedure. Surgical stabilization will also reduce the risk of arthritis by preventing further dislocations and further damage to the cartilage.

Prospective randomized controlled trials in young patients have demonstrated a lower recurrence rate after arthroscopic stabilization compared to non-operative treatment. (47-75% ongoing instability after non-operative treatment vs. 10-11% after arthroscopic stabilization).

For the patient you describe, he is young, active and participates in contact sports. With suspicion of bone loss, I would assess the shoulder with an MR arthrogram to demonstrate labral tears and damage to bone. In addition a CT scan with 3d reconstructions and humeral head subtraction is indicated to quantify glenoid bone loss and assess for need of a bony reconstruction. Surgery would be recommended as his risk of recurrent dislocations is very high, and surgery will substantially reduce his risk of instability and further bone loss.

I would likely favour an open stabilization rather than arthroscopic in your patient. A recent prospective randomized study has demonstrated that patients with a Hill-Sachs lesion had a higher incidence of recurrent instability with an arthroscopic stabilisation<sup>3</sup>. In addition, an open stabilization may be favourable in a collision athlete as recurrence rates are lower with an open procedure.

Dr Todd Gothelf

#### *References:*

- 1. Kirkley A, Griffin S, Richards C, Miniaci A, Mohtadi N. Prospective randomized clinical trial comparing the effectiveness of immediate arthroscopic stabilization versus immobilization and rehabilitation in first traumatic anterior dislocations of the shoulder. Arthroscopy 1999;15(5):507–14.*
- 2. Bottoni CR, Wilckens JH, DeBerardino TM, D'Alleyrand J-CG, Rooney RC, Harpstrite JK, Arciero RA, et al. A prospective, randomized evaluation of arthroscopic stabilization versus nonoperative treatment in patients with acute, traumatic, first-time shoulder dislocations. Am J Sports Med 2002;30(4):576–80.*
- 3. Mohtaki N, Chan D, Hollinshead R, Boorman R et al. A Randomized Clinical Trial Comparing Open and Arthroscopic Stabilisation for Recurrent Traumatic Anterior Shoulder Instability. J Bone Joint Surgery, 2014; 96A (5):353-360.*