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Scapular Fracture in an Ice Hockey Player

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OBJECTIVE
Ice hockey is a fast and aggressive sport. Due to deliberate collisions and fighting, a hard playing surface, and sharp skates, ice hockey players are at high and distinctive risk to injury. The way in which ice hockey players collide with, or check, one another, makes the shoulder vulnerable. About 8.6-21.9% of injuries sustained in ice hockey involve the shoulder. Acromioclavicular joint sprains and anterior glenohumeral dislocations are most common. This case presents a 25-year-old male collegiate ice hockey player who sustained a recurrent right-sided glenohumeral dislocation after being checked from behind with his arm abducted and extended. Following reduction and referral, x-ray and CT scans detected a scapular spine fracture. The objectives for this case include recognizing the mechanism for scapular fractures, signs and symptoms versus common dislocations and identifying factors in strong interprofessional relationships.

MEDICAL HISTORY
The athlete previously had two to three glenohumeral dislocations on the right side, fractured his right clavicle in 2014 and has a right-sided grade three acromioclavicular separation that was not repaired. He also has intermittent, long-term corticosteroid use to treat an auto-immune condition though he reports not taking the medication at least three months prior to this injury.

DIFFERENTIAL DIAGNOSIS
Differential diagnoses included an anterior glenohumeral dislocation, potential labral damage, or a fracture to the shoulder girdle.

RELATED LITERATURE
Scapular fractures are extremely rare injuries comprising 1 - 2.2% of all fractures. They make up 3-5% of fractures to the shoulder girdle and 0.5% of sports related fractures. Their rarity can be attributed to the scapula being a well-protected and well-located bone. The most common landmarks to fracture, consisting of 62-98% of scapular fractures, are the body and glenoid neck. These sites are followed by the glenoid, acromion, and spine respectively. Scapular spine fractures are 6% of all scapular fractures. High energy, direct trauma is the mechanism for 90% of scapular fractures. They are a common complication in those who have had a total shoulder arthroplasty and 50% of them occur in motor vehicle accidents (MVA). Since scapular fractures are infrequent in sports, research on scapular fractures in sports medicine literature is extremely limited. There are surgical and conservative treatment options for scapular fractures, but the best course is debated and remains case dependent. There is no evidence-based gold standard treatment available for the management of scapular fractures.

TREATMENT
Initial treatment included reduction of the glenohumeral joint on the second attempt, sling immobilization, ice, 500mg of Tylenol, and physician referral. A conservative course of treatment, including immobilization and physical rehabilitation was chosen. Rehabilitation focused on restoring shoulder range of motion (ROM) and strengthening the rotator cuff. After one month, the athlete had normal ROM, full strength, and was permitted to skate and stickhandle with no contact. The athlete released for full participation 2.5 months post-injury and returned to competition within three months.
**DEVIATION FROM EXPECTED/UNIQUENESS**

Scapular spine fractures make up 0.6-0.12% of all fractures.\textsuperscript{6-15} This patient population is made up of geriatric patients, those who have had total shoulder arthropyathy, or those who have been in an MVA. \textsuperscript{6-7,9-10,13} Scapular spine fractures are scarce in young, healthy, collegiate athletes making this case unique.

**CONCLUSION**

Due diligence in vetting potential differential diagnoses is imperative when performing evaluations and athletic trainers are obligated to consider each possibility, common and rare, when faced with recurrent injuries. This case highlights how interprofessional collaboration helped an athlete recover from a rare injury despite lack of evidence to support a standard treatment. Working collaboratively with other health care professionals provides patient first, high quality care.

**KEY WORDS:** Scapular Fracture, Ice Hockey, Interprofessional Practice, Scapular Spine
REFERENCES


