A Novel Technique for the Treatment of Scapular Body Fractures with Associated Glenohumeral Dislocation Treated with Contoured Oral Maxillofacial Reconstruction Plate

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Purpose: Scapular body fractures with glenohumeral dislocations are rare injuries that only account for 3% to 5% of all fractures to the shoulder girdle. To date, there are no fragment-specific instrumentation systems that address irregular scapular body fracture patterns. We present a novel technique for the treatment of a scapula body fracture with glenohumeral dislocation utilizing an intraoperatively contoured oral maxillofacial reconstruction plate.

Methods: In this case presentation, a 64-year-old alcoholic male presented to our institution with a 2-week history of atraumatic left shoulder pain and swelling and imaging demonstrating a scapula body fracture with glenohumeral dislocation. The patient was placed in lateral decubitus position; a modified, extensile Judet approach was performed; and a window was utilized through a defect in the deltoid to further expose the fracture anteriorly. The patient was found to have a massive rotator cuff tear that was repaired with #2 FiberWire utilizing a marginal convergence technique. Bone tunnels were created across the clavicle and distal acromial arch and secured with FiberWire to approximate the acromial-clavicular joint. The scapular spine and body fracture were visualized, prepared, and a 2.7-mm oral maxillofacial reconstruction plate was contoured to the entire scapular spine extending out to the tip of the acromion. The plate was fixed with 2.7-mm cortical screws and reinforced with locking screws. Postoperatively, the patient was non-weight-bearing in a sling for immobilization for 6 weeks. His incision healed well without wound complications or infection and he was sent to physical therapy for 6 weeks.

Results: At follow-up the patient shows maintenance of hardware position and anatomic reduction of the prior fracture.

Conclusion: There is no consensus on the ideal operative technique for scapula fractures and fragment-specific systems are scarce. Our novel technique allows for rigid internal fixation, early mobilization, and fracture healing.