Intra-articular Glenoid Visualization in Scapula Fractures

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Purpose: Direct visualization of the glenoid is limited during open reduction and internal fixation of intra-articular scapular fractures. In this technique, a distractor is applied and portable arthroscopy can be utilized for glenoid articular surface visualization.

Methods: With the patient in the lateral position, a standard modified Judet approach is performed. A small joint distractor (DePuy Synthes) is used with 3-mm Schanz pins. One pin is placed into a stable intact segment with dense bone, typically near the base of the scapular spine, and a second is placed into the humeral head just off the articular surface in the interval between the infraspinatus and teres minor. The joint is then gently distracted, and a T-type capsulotomy is made. If further visualization is needed, a small caliber arthroscope can then be inserted. Reduction and fixation techniques are based on fracture patterns and use typical techniques. Fixation near the joint can then be confirmed to be extra-articular using fluoroscopy and direct visualization.

Results: A consecutive series of 19 patients from 2017 to 2021 were retrospectively reviewed. All patients were treated with the described distractor application technique with 3 of those patients also undergoing portable arthroscopy. The average age of the patients was 51 years (range, 27-88 years). The average follow-up was 5 months (range, 0.5 to 14 months) with 15 fractures at union at their last follow-up. There were no infections, nerve injuries, or unplanned secondary surgeries.

Conclusion: This technique has resulted in improved articular reductions by adjusting extra-articular reads that appeared adequate prior to intra-articular visualization. This technique is safe, requires minimal extra set-up or instruments, and results in improved articular reductions.