

New Techniques and Emerging Evidence #NT21

Upper Extremity & Wrist

Surgical Technique: Internal Joint Stabilizer for Chronic Elbow Dislocation

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Purpose: Internal joint stabilizer (IJS) devices show promising outcomes in restoring stable joints and recovering range of motion, particularly in challenging patients; this video delineates the insertion technique.

Methods: Preoperative radiographs exhibit posterolateral dislocation and physical examination confirms gross instability. A standard 15-20-cm midline posterior incision is depicted, and deep fascial skin flaps are elevated. The video then focuses on the disruption of the soft-tissue sleeve and emphasizes the avulsed lateral ulnar collateral ligament (LUCL). Further medial exposure reveals the isolated ulnar nerve. After lateral arthrotomy, the common extensor mass, lateral collateral ligament, and lateral capsule are released. The olecranon fossa is cleared of chronic adhesions and the distal humerus is cleared of pulvinar. The IJS guide is placed over the trochlear notch for guidewire insertion. The axis pin is then inserted into the distal humerus. Suture anchors are placed in the lateral epicondyle and medial collateral ligament origin. The baseplate of the IJS is fixed onto the proximal ulna. The axis pin is passed through the proximal rod. Confirmation of concentric reduction occurs before locking in extension then flexion. Lateral sutures are tied with elbow in flexion, then ulnar collateral ligament and common flexor origin are repaired. Finally, with the IJS inserted and ligaments repaired, range of motion and stability in all directions is confirmed clinically and radiographically through anteroposterior and lateral views before closure.

Results: A 50-year-old woman, experiencing chronic elbow instability, presented with chronic left elbow dislocation on physical examination and radiographs. An IJS was placed as described above and her range of motion was restored while maintaining stability in all directions.

Conclusion: The IJS technique should be considered and utilized for challenging patients experiencing chronic elbow instability.