Olecranon Osteotomy Fixation Following Distal Humerus ORIF: Plate and Screws Versus Tension Band

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**Purpose:** A transolecranon approach allows for improved visualization and more accurate reduction of distal humerus fractures. This study compares 2 methods of olecranon repair following olecranon osteotomy in distal humerus fracture repair.

**Methods:** This was a retrospective review of distal humerus fractures treated via a transolecranon approach. In each case, the osteotomy was fixed with either tension band wiring (TBW) or plate fixation (PF). Measured outcomes included range of motion, osteotomy time to union, and development of complications (nonunion, infection, reoperation). Mayo Elbow Performance Index (MEPI) scores were obtained for all patients. Data were analyzed using independent samples t-tests, chi-squared tests, and Fisher exact tests.

**Results:** Of 217 distal humerus fractures from this period, we identified and included a total of 42 eligible patients with OTA type 13-C2 or 13-C3 fractures. Mean follow-up was 15 months (15.0 ± 5.6). 24 patients had fixation of the olecranon osteotomy with TBW, and 18 were fixed with PF. Groups did not differ with respect to any preoperative characteristic. Clinically there were no differences in osteotomy time to union, elbow arc of motion at any time point, or patient MEPI scores. Further, there were no differences in complications related to the osteotomy.

**Conclusion:** TBW and PF of olecranon osteotomies following open reduction and internal fixation (ORIF) of distal humerus fractures with a transolecranon approach had similar outcomes. Without differences between methods of olecranon fixation, the cost difference of each modality should be considered by orthopaedic surgeons when repairing the olecranon.

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.