

## **Application of the Suture Bridge Method to Olecranon Fractures With a Poor Soft-Tissue Envelope Around the Elbow**

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**Purpose:** We further modified the suture bridge method using suture anchors, especially for olecranon fractures in elderly patients with poor soft-tissue envelopment, and reported the radiological and clinical results through a retrospective study.

**Methods:** Our method was used in 13 patients with a mean age of 69.7 years. All patients had IIA or IIIA fractures according to the Mayo classification; 9 had open fractures. We modified the step where the first 2 anchors are inserted just distal to the fracture area in the previously known “suture bridge” method. In our revised step, we created a transverse drill hole through which to pass the 4 strands of nonabsorbable sutures. The next steps in reducing the fractured fragment and providing reinforcement with other anchors were the same as in previous methods.

**Results:** Additional procedures, such as skin graft, a rotational flap, and nerve graft, were performed in 5 patients. The mean follow-up period was 27.5 months. All patients had achieved union at the 2-year follow-up, including 2 patients with delayed union. The mean Mayo Elbow Performance Score was 86 and the mean Disabilities of the Arm, Shoulder and Hand score was 16. No anchor pullout occurred, and no soft-tissue dehiscence or problem requiring secondary surgery was seen.

**Conclusion:** Our modification of the recent method, which uses suture anchors/nonabsorbable sutures for olecranon fixation, appears to be more effective in terms of the osteoporotic conditions, and with respect to the management of the soft tissue surrounding the elbow, particularly in elderly patients.