

Complex Distal Radius Fracture Treatment Using Plate Fixation

Case Study

Nathan Edwin Lesley, MD

A 61-year-old female with a complex fracture of the distal radius was treated with the Acu-Loc 2 Wrist Plating System.



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Patient History

The patient is a 61-year-old female who sustained a complex distal radius fracture after falling from a step. She was initially seen in an emergency department, where a reduction was attempted. The patient was referred for definitive treatment. Given the complex, intra-articular nature of the fracture, operative intervention was recommended. Surgical options included external fixation, spanning wrist plate, or volar distal radius plate fixation.

Treatment

As volar plate application was anticipated, a volar approach was used. While there was a significant amount of comminution present, the multiple fragments were each of sufficient size to accept a locking screw, and an Acu-Loc 2 plate was applied.

Postoperative Care

The patient was kept immobilized for six weeks. At two weeks, she was allowed to carefully remove her splint in order to wash the extremity, although she was instructed to minimize movement of the wrist. Physical therapy was initiated at six weeks. At her three-month follow-up, the patient had achieved 60 degrees of extension, 55 degrees of flexion, full pronation, and 75 degrees of supination. At six months, flexion/extension had improved to 70/65, and supination remained at 75. The patient reported minimal pain.

Discussion

Locking volar plate technology allows for fixation of complex fracture/dislocations. In this case, while the fracture was highly comminuted and distal, the fragments were large enough to be captured with locking screws. In such cases, it is best to address the fracture systematically. The plate is applied to the shaft through the slotted hole to allow for minor adjustment proximally and distally. The lunate facet fragment is then addressed, typically with two locking screws. In this case, the radial styloid component was small and highly unstable. The Acu-Loc 2 plate has two locking screws directed into the radial styloid, providing rotational and axial stability with even small fracture fragments.



6 months postoperative



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Acumed® Headquarters
5885 NW Cornelius Pass Road
Hillsboro, OR 97124
Office: 888.627.9957
Fax: 503.520.9618
www.acumed.net

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