

Intra-articular Distal Radius Fracture Treatment Using Plate and Screw Fixation



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Case Study | Nathan Edwin Lesley, MD







Patient History

The patient is a 41-year-old female who was referred after a fall that occurred at work. She had been seen in the emergency department and was informed that she had sustained a nonoperative wrist fracture. She presented in a splint with moderate (6/10) pain. The original X-rays revealed a minimally displaced, intra-articular fracture of the distal radius. Repeat X-rays indicate a subtle, subluxed position of the lunate. A CT scan was ordered, which confirmed a significant articular gap in the sagittal plane, with fracture lines extending through the volar and dorsal cortices. Operative treatment was recommended.

Treatment

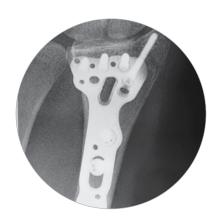
Intraoperatively, volar and proximal displacement of the volar 30 percent of the distal radius was observed. The fragment was reduced and an Acu-Loc 2 plate was implanted. A nonlocking screw was first placed through the slotted shaft hole, using the plate to buttress the distal fragment. Locking distal screws and nonlocking proximal screws completed the construct.

Postoperative Care

Postoperatively, the patient was placed in a nonremovable wrist splint, followed by a removable wrist splint with gentle ROM instructions beginning at 10 days. At three months follow-up, the patient had achieved 80 degrees of flexion, 80 degrees of extension, and full pronation/supination.

Discussion

Distal radius fractures often have underappreciated/unrecognized intraarticular components which, if treated nonoperatively, can result in posttraumatic arthritis. CT scans can be used to better assess these fractures. A volar distal radius plate is ideal for achieving compression of intra-articular fractures displaced in the sagittal plane. By using a nonlocking screw through the slotted hole of the Acu-Loc 2 plate, a buttress effect is achieved with these volar Barton-type fracture patterns.



6 months postoperative



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