

CASE STUDY



Reconstruction of a Displaced Radial Shaft Fracture Using the APTUS XL Volar Plate

The Surgeon

Dr. Louis Catalano III - Hand to Elbow Orthopedic Specialist and Surgeon

Dr. Louis Catalano is a board-certified, fellowship-trained hand and upper extremity surgeon with over 23 years of experience, currently practicing at the Steadman-Hawkins Clinic and UC Anschutz Medical Center in Denver, Colorado. He is a Professor of Orthopaedics at the University of Colorado Anschutz Medical Campus and Director of the Hand and Upper Extremity Fellowship. Dr. Catalano earned his M.D. from New York University School of Medicine and completed specialized fellowships in hand, shoulder, and upper extremity surgery.

The Case



Patient Profile

A 34-year-old male with a history of left radiocarpal fusion presented with complaints of left forearm pain and deformity. The symptoms followed an incident where he was kicked in the forearm during a soccer game.



Clinical Findings/Preoperative Analysis

In 2019, the patient sustained a complex trans-radial styloid, trans-scaphoid, trans-triquetral perilunate fracture dislocation following a fall from a height of 20 feet. He was treated with a primary wrist fusion at that time (Figure 1). Pre-operative X-rays obtained demonstrated a displaced fracture of the radial shaft located proximal to the wrist fusion plate (Figure 2).



Figure 1



Figure 2



Surgical Treatment

A large 10 cm volar exposure was performed to expose and anatomically reduce the fracture. The reduction was temporarily held with clamps and K-wires. A Medartis meta-diaphyseal XL volar plate was utilized to fixate the fracture. (Figures 3 & 4)



Figure 3



Figure 4



Post-Operative Treatment

The patient was placed in a short arm splint for 6 weeks. His X-rays at 6 weeks revealed bony trabeculae crossing the fracture site indicating bony ingrowth was forming.

At the 6-week postoperative mark, the patient reported no pain and had no fracture tenderness. He had full finger range of motion and full pronosupination. Due to the previous wrist fusion, there was no rotational or sagittal motion in the wrist joint. The patient returned to work the following week as a plumber. (Figures 5,6,7).



Figure 5



Figure 6



Figure 7



Conclusion

The APTUS XL Volar plate provides good fixation options for diaphyseal radius fractures. The anatomical pre-contoured plate design and multiple proximal screw fixation options with the offset screw hole alignment was of great benefit in this case which required consideration for a pre-existing dorsal wrist fusion plate.

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