

### **The Need for Pinning of the Distal Radioulnar Joint (DRUJ) in Galeazzi Fractures (OTA Type 22) Does Not Portend a Worse Outcome**

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**Purpose:** The Galeazzi fracture is also known as the fracture of necessity, due to the need for operative repair. The purpose of this study was to audit the outcomes of patients who sustained radial shaft fractures with associated distal radioulnar joint (DRUJ) dissociation.

**Methods:** 100 consecutive patients with a mean age of  $42.2 \pm 17.4$  years, who presented to our trauma system over a 14-year period with a fracture to the radial shaft with an associated DRUJ instability treated by one of four surgeons, were retrospectively reviewed. All patients were treated with small fragment radial locking plates and screws. 74% were determined to have a stable DRUJ following restoration of radial length and 26% requiring reduction and intraoperative pinning of a persistently unstable DRUJ. Pins were removed 6 weeks after surgery in the office in all cases. Data collected included patient demographics, initial injury information, surgical details, and follow-up information including: elbow and wrist range of motion, presence of joint stiffness, complications, and need for reoperation. Patients were seen at 2 weeks, 6 weeks, 3 months, 6 months, 12 months, and subsequent postoperative encounters were analyzed.

**Results:** Mean time to radiographic healing was  $23.46 \pm 10.51$  weeks with a mean final follow-up of 7 months. 78.4% of fractures were secondary to high-energy mechanisms, and 35.5% of patients sustained a fracture to their dominant hand. Radius fracture nonunion rate was 2%, and 5% of patients required a secondary procedure to either revise or remove failed or painful hardware. Ultimate mean wrist dorsiflexion and palmar flexion ranged  $64.7 \pm 16.8^\circ$  and  $64.7 \pm 18.8^\circ$ , respectively. Ultimate forearm pronation and supination ranged  $81.4^\circ \pm 15.9^\circ$  and  $83.3^\circ \pm 13.0^\circ$ , respectively. Ultimate elbow extension and flexion ranged  $5.3^\circ \pm 12.2^\circ$  and  $129.7^\circ \pm 13.6^\circ$ , respectively. Pinned patients did not display significant differences in time to healing, complication rate, or joint range of motion at any time point ( $P > 0.05$ ).

**Conclusion:** The Galeazzi injury usually affects younger patients and is the result of high-energy mechanisms. Interestingly, the injury more often affected the patients' nondominant upper extremity and approximately 25% require supplemental pinning of the DRUJ. The need for pinning of the DRUJ does not correlate with poorer clinical, radiographic or functional outcomes.