

**Dislocated Distal Radial Fractures in Adult Patients: Four Weeks Versus Six Weeks of Cast Immobilization Following Reduction, A Multicenter Randomized Controlled Trial**

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**Purpose:** There is no Level I evidence on the optimal period of immobilization in displaced and reduced distal radius fractures. A shorter period of immobilization might lead to a better functional outcome. This study analyzed whether the duration of immobilization in patients with dislocated and reduced distal radius fractures could be safely reduced from 6 to 4 weeks.

**Methods:** This multicenter randomized controlled trial included adult patients with an acceptably reduced distal radius fracture. Patients were randomized to 4 or 6 weeks of cast immobilization. The primary outcome was Patient-Rated Wrist Evaluation (PRWE) after 1 year of follow-up. Secondary outcomes are: Disabilities of the Arm, Shoulder and Hand Score after 1 year; functional outcome at 6 weeks, 12 weeks, and 6 months; range of motion; and pain level after cast removal and complications.

**Results:** 100 patients (male / female: 15 / 85; median age: 70 years) were randomized. 49 had 4 weeks of cast immobilization and 51 had 6 weeks of cast immobilization. 92 patients completed follow-up. After 1 year of follow-up, patients treated with 4 weeks of cast immobilization had significantly better functional outcomes measured with PRWE score. Overall, there was no significant difference in range of motion, radiological outcome, pain and complications.

**Conclusion:** Shortening the period of immobilization in adult patients with dislocated and reduced distal radial fractures is safe as there are no negative side effects as a result of shortening of the immobilization period and it leads to a statistically significant better functional outcome after 1 year. Therefore, we recommend a period of 4 weeks of immobilisation in patients with a displaced and reduced distal radial fracture.