

Early Mobilization Versus Plaster Immobilization of Simple Elbow Dislocations: Results of the FuncSiE Multicenter Randomized Clinical Trial

Gijs I.T. Iordens, MD¹; Esther M.M. Van Lieshout, PhD¹; Niels W.L. Schep²; Jeroen De Haan³; Wim E. Tuinebreijer, MD, PhD, MSc, MA¹; Ed F. Van Beeck⁴; Peter Patka, MD, Dmed, PhD⁵; Michael H.J. Verhofstad¹; **Dennis Den Hartog, PhD¹**; (on behalf of FuncSiE trial investigators)

¹Trauma Research Unit, Department of Surgery, Erasmus MC, University Medical Center Rotterdam, Rotterdam, The Netherlands;

²Trauma Unit, Department of Surgery, Academic Medical Center, Amsterdam, The Netherlands;

³Department of Surgery, Westfriesgasthuis, Hoorn, The Netherlands;

⁴Department of Public Health, Erasmus MC, University Medical Center Rotterdam, Rotterdam, The Netherlands;

⁵Department of Emergency Medicine, Erasmus MC, University Medical Center Rotterdam, Rotterdam, The Netherlands

Purpose: Simple elbow dislocations are traditionally immobilized in plaster following closed reduction. Theoretically, early mobilization may enhance functional outcome, but its relative merit is unknown. The aim of this study was to compare the outcomes of early mobilization and plaster immobilization in patients with a simple elbow dislocation.

Methods: This was a multicenter randomized controlled trial in patients aged 18 years or older with a simple elbow dislocation. Patients were randomized to early mobilization (immediate motion exercises) or 3 weeks plaster immobilization. Patients were followed for 1 year. Outcome measures included the *QuickDASH*, an abbreviated version of the Disabilities of the Arm, Shoulder, and Hand (DASH; primary), Oxford Elbow Score (OES), pain (Visual Analog Scale [VAS]), range of motion (ROM), and activity resumption.

Results: Between August 2009 and September 2012, 48 patients were assigned to early mobilization and 52 to plaster immobilization. At 6-week follow-up, patients in the early mobilization group reported significantly better scores for the *QuickDASH* (mean 12 vs. 19 after plaster immobilization) and the OES function subdomain (86 vs. 73); at that time, they also had a larger arc of ROM of flexion and extension (121 vs. 102). Patients returned to work sooner after early mobilization (10 vs. 18 days). At 1 week, patients in the plaster group reported less pain (mean VAS 2.2 vs. 3.2). Complications occurred in 12 patients; this appeared unrelated to treatment.

Conclusion: Early active mobilization is a safe and effective method of treatment in simple elbow dislocations. It resulted in faster recovery of elbow function and did not lead to recurrent dislocation.