STUDY DESIGN: Prospective cohort study.

INTRODUCTION: Identification of risk factors for CRPS development in patients with surgically treated traumatic injuries attending hand therapy allows to watch at-risk patients more closely for early diagnosis and to take precautionary measures as required.

PURPOSE OF THE STUDY: The aim of this study was to evaluate the risk factors for the development of complex regional pain syndrome (CRPS) after surgical treatment of traumatic hand injuries.

METHODS: In this prospective cohort, 291 patients with traumatic hand injuries were evaluated 3 days after surgery and monitored for 3 months for the development of CRPS. The factors assessed for the development of CRPS were age, sex, manual work, postoperative pain within 3 days measured on a Pain Numerical Rating Scale (0-10), and injury type (crush injury, blunt trauma, and cut laceration injury).

RESULTS: CRPS was diagnosed in 68 patients (26.2 %) with a duration of 40.10 ± 17.01 days between the surgery and CRPS diagnosis. The mean postoperative pain score was greater in patients with CRPS than in those without CRPS (P < .001). Patients with pain scores ≥ 5 had a high risk of developing CRPS compared with patients with pain scores <5 (odds ratio: 3.61, confidence interval = 1.94-6.70). Patients with crush injuries were more likely to develop CRPS (odds ratio: 4.74, confidence interval = 2.29-9.80).

CONCLUSIONS: The patients with a pain score of ≥5 in the first 3 days after surgery and the patients with crush injury were at high risk for CRPS development after surgical treatment of traumatic hand injuries.

LEVEL OF EVIDENCE: II b.