

**Factors Associated with Return to Work in Patients with Musculoskeletal Trauma: A Multicenter Cohort Study***Keisuke Ishii, MD; Hiroyuki Oka, MD; Koichi Inokuchi, MD, PhD;**Akiro Higashikawa, MD, PhD; Takashi Maehara, MD, PhD; Hiroaki Konishi, MD;**Yoji Mikami, MD, PhD**Teikyo University Hospital, Tokyo, JAPAN*

**Purpose:** Musculoskeletal trauma has a profound impact on the lives of patients, especially for those who work. Return to work (RTW) after musculoskeletal trauma is an important issue, but the factors associated with RTW are unclear. The purpose of this study was to identify factors that influence RTW in patients with musculoskeletal trauma within 2 years of injury.

**Methods:** A multicenter, prospective cohort study was conducted from November 2015 to July 2018 among 983 patients aged 18 to 65 years who were working at the time of injury and who had undergone surgery for long bone fractures of the extremities and pelvic ring and acetabulum fractures. 11 patients with head injury or spinal cord injury were excluded. A total of 879 patients who were able to be followed up or who returned to their preinjury jobs within 2 years were included in the study. The primary end point was RTW within 2 years of injury. Patient (gender, age, obesity, smoking), occupational (manual labor), social (non-regular employment, Workers' Compensation insurance), and fracture (open fracture, lower extremity or pelvic fracture, deep infection) factors thought to be associated with RTW were evaluated by logrank test and Cox proportional hazards regression analysis. The significance level was set at  $P < 0.05$ .

**Results:** A total of 580 patients returned to work within 2 years, giving a RTW rate of 66.0%. The logrank test showed significant associations of RTW with men, smoking, physical labor, lower pelvic fracture, open fracture, and deep infection. Cox proportional hazards regression analysis showed a significant association with physical labor (hazard ratio [HR] 0.80; 95% confidence interval [CI] 0.66 to 0.98), open fracture (HR 0.68; 95% CI 0.51 to 0.88), lower extremity or pelvic fracture (HR 0.81; 95% CI 0.69 to 0.96), and deep infection (HR 0.10; 95% CI 0.01 to 0.70).

**Conclusion:** 66% of the patients returned to work within 2 years of a musculoskeletal injury. Physical labor, open fractures, lower extremity or pelvic fractures, and deep infection were negatively associated with RTW. RTW within 2 years after injury was also associated with occupational characteristics, but not with social factors.