

Tibial Plateau Fractures in the Elderly Have Clinical Outcomes Similar to Those in Younger Patients

Meghan Carey Derken, BA; Cody R. Perskin, BA; Philipp Leucht, MD;
Sanjit R. Konda, MD; Abhishek Ganta, MD; Kenneth A. Egol, MD
NYU Langone Health, New York, NY, United States

Purpose: The purpose of this study is to compare outcomes following surgical treatment of tibial plateau fractures in an elderly (≥ 65 years) and a non-elderly (< 65 years) population.

Methods: Between January 2005 and January 2019, 310 patients (264 < 65 years, 46 ≥ 65 years) with surgically treated tibial plateau fractures were identified prospectively; followed at 3, 6, and 12-month intervals; and had a minimum 1-year follow-up. The surgical and postoperative protocol was similar for all patients. Baseline demographic characteristics, Schatzker and Moore fracture classifications, and surgical details were recorded. Outcomes included patient-reported function, knee range of motion, fracture union, and the development of any complications or the need for additional surgery. Data were analyzed using an independent sample t test, Whitney-Mann U test, χ^2 test, or contingency table using SPSS version 25.0.

Results: 264 patients were < 65 years old (45.11 ± 12.23), and 46 patients were ≥ 65 years old (71.27 ± 5.77). Average follow-up was 27.5 months. Average time to radiographic fracture union was 5.0 months. There was no difference in distribution of Schatzker or Moore types between young and elderly populations ($P > 0.05$), and no difference in time to healing ($P > 0.05$). Patient-reported function differed at baseline, with patients < 65 years more functional ($P = 0.001$). Short Musculoskeletal Function Assessment (SMFA) scores were better in younger patients at 3 months ($P = 0.001$) and better in the elderly at 12 months ($P < 0.0005$). The difference between baseline and 12-month SMFA scores was statistically significant for both groups as well. Younger patients reported a greater difference between baseline and 12-month SMFA scores than the elderly. At 1 year, the SMFA scores for patients ≥ 65 years represented a clinical return to baseline, while scores for patients < 65 years did not. There was no difference in range of knee motion between young and elderly groups at 3 months and 6 months ($P > 0.05$), but at 12 months, the under-65 group had better range of knee motion ($P = 0.028$). There were no differences in reoperation rates or wound complications between the 2 groups at 3, 6, and 12 months ($P > 0.05$).

Conclusion: Age greater than 65 years does not appear to portend poorer outcomes after surgical repair of a tibial plateau fracture. The complication profiles are similar. Older patients showed greater improvement in functionality compared to baseline than younger patients and younger patients end up with 4° more motion. While the differences may be statistically significant, they are likely not clinically significant. These data suggest that age should not be a disqualifying factor when considering whether a patient with a tibial plateau fracture should be treated operatively.