

There's Moore II It: Assessing Outcomes Following Tibial Plateau Fracture Dislocations

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Purpose: The Moore type II fracture-dislocation of the knee (M2) represents a specific subset of tibial plateau injuries. The purpose of this study was twofold: first, to assess overall outcomes of this specific type of injury and second, to determine if surgical approach has any effect on outcome.

Methods: A consecutive series of patients who sustained tibial plateau fractures were classified by both the Schatzker and Moore systems over a 20-year period. Patients with an M2 fracture and ≥ 1 -year of follow up were identified. Demographic, injury, and surgical information was collected. Clinical outcomes included knee range of motion (ROM), visual analog scale (VAS) pain scores, and patient-reported functional outcomes measured by the Short Musculoskeletal Function Assessment (SMFA). Patients were classified according to surgical approach: isolated medial (M), isolated lateral (L), and combined medial and lateral (C). Pearson χ^2 , t-tests, and ANOVA tests were conducted.

Results: A total of 595 patients was identified, 58 (10%) of whom sustained an M2 tibial plateau fracture (mean follow up = 28.34 months). The M2 cohort had a lower proportion of female patients compared to the non-M2 cohort ($p = 0.048$). Additionally, the M2 group trended toward a higher total complication rate (22.4 vs 14.0, $p = 0.085$). Functionally, the M2 group had poorer 6-month SMFA scores ($p = 0.004$), but by 1 year, this difference was not significant ($p = 0.199$). 13 (22.4%) patients experienced complications (knee contracture [3], fracture-related infection [2], wound complication [4], venous thromboembolism event [1], pulmonary embolism [1], and peroneal nerve complication [2]). When bifurcating by approach, the C group had a higher proportion of external fixation (50% vs 18.2% vs 5.6%, $p = 0.006$) placed initially. The C group had poorer outcomes with respect to pain and function than the isolated approaches ($p = 0.004$, $p = 0.041$). The lateral group had greater knee ROM than the combined group at 3 and 6 months ($p = 0.029$, $p = 0.029$), but were associated with both postoperative peroneal nerve injuries.

Conclusion: Moore II fractures represent a complex injury pattern with poor functional outcomes and increased complication rates when compared to all other tibial plateau fractures. With regard to surgical approach, the isolated medial approach was associated with better outcomes within the group.