

## **Conversion to Total Knee Arthroplasty from Tibial Plateau Fracture: Worse Outcomes, Increased Operative Time, and Complications**

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**INTRODUCTION:** Prior open reduction and internal fixation (ORIF) of tibial plateau fracture (TPF) adds complexity to total knee arthroplasty (TKA). The purpose of this study is to compare the outcomes of patients undergoing a TKA following prior ORIF of TPF to patients undergoing primary TKA for osteoarthritis (OA) and aseptic revision TKA.

**METHODS:** Patients undergoing a primary TKA following prior ORIF of TPF between January 2009 and June 2021 were included and matched in a 1:4 ratio by sex, BMI, and ASA class to patients undergoing primary TKA for OA. A second 1:1 matched comparison to 52 aseptic revision TKA patients was also included. KOOS JR scores were obtained preoperatively and at 2-years postoperatively. Independent t-tests and chi-squared tests were used for statistical comparisons.

### **RESULTS:**

Fifty-two patients underwent TKA following prior ORIF of TPF and were matched with 208 and 52 patients who underwent primary and revision TKA respectively. TPF patients were significantly younger than both the primary and revision cohorts ( $55.6 \pm 14.0$  vs.  $63.1 \pm 16.3$  vs.  $64.9 \pm 9.5$ ,  $p < 0.001$ ). Compared to primary TKA patients, the TPF group had worse KOOS JR scores at 2-years ( $46.9 \pm 18.5$  vs.  $66.2 \pm 17.8$ ,  $p = 0.0152$ ), higher rates of wound complications (15.4% vs. 3.9%,  $p = 0.0020$ ), and increased operative times ( $140.2 \pm 45.3$  vs.  $95.2 \pm 25.7$ ,  $p < 0.0001$ ). No significant differences in these metrics were seen between the TPF group and the revision group. Additionally, TPF patients were more likely to require a manipulation under anesthesia (MUA) than both primary and revision patients (15.4% vs. 3.9% vs. 7.7%,  $p = 0.001$ ).

### **DISCUSSION AND CONCLUSION:**

TKAs following ORIF of TPF are more like revision TKAs than primary TKAs in terms of PROs, operative times, and wound complications, and require more MUAs than both. These findings further emphasize the need for a conversion to TKA code due to the increased complexity and complications seen in this more difficult subset of TKAs.