

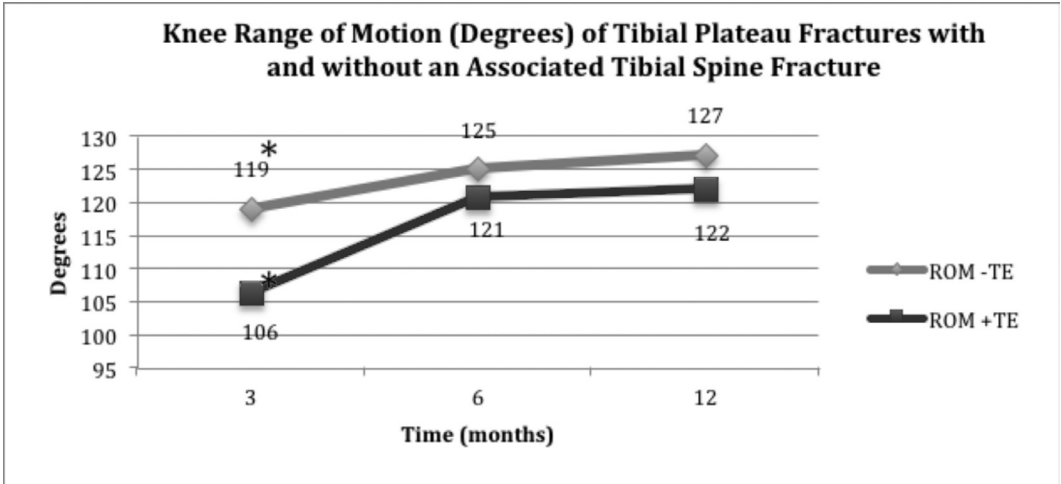
**Tibial Eminence Involvement with Tibial Plateau Fracture Leads to Slower Recovery**  
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**Purpose:** The association between tibial eminence fractures in the setting of tibial plateau fractures is not well described in the literature. We hypothesized that tibial plateau fractures with tibial eminence fractures have worse functional outcome, knee range of motion (ROM), and pain at all time points during the postoperative period.

**Methods:** All patients who were treated by one of 2 trauma surgeons were identified in a prospective operative tibial plateau registry at a single institution. All patients underwent similar surgical approaches and fixation techniques for OTA 41-B and 41-C fractures. Patients were divided into tibial eminence fracture (+TE) and no tibial eminence fracture (-TE) cohorts. Demographic, injury characteristics, and fracture classifications (Schatzker [SH] and OTA) were compared between cohorts. SMFA (Short Musculoskeletal Function Assessment), pain (visual analog scale [VAS]), and knee ROM were evaluated at 3, 6, and 12 months postoperatively and also compared between cohorts.

**Results:** 95 patients had complete data and were included for review. The +TE and -TE cohorts were comprised of 63 (66%) and 32 (34%) patients, respectively. All patients healed at a mean of  $4.1 \pm 2.1$  months. There was no difference in sex, gender, race, basal metabolic index, smoking, or Workers' Compensation status between the cohorts. Schatzker VI fractures had significantly more +TE versus -TE (68% vs. 32%,  $P < 0.01$ ), whereas Schatzker II fractures had significantly fewer +TE vs. -TE (20% vs. 80%,  $P < 0.01$ ). Overall, Schatzker VI and II fractures comprised 53% and 28% of all +TE and -TE, respectively. Patients with OTA 41-C fractures had significantly more +TE compared to 41-B fractures (57% vs. 33%,  $P < 0.01$ ). Fibula fractures had no significant association with +TE cohort. There was no difference in complication rates or reoperation rates between the cohorts. At 3 months postoperatively, there was no difference in total SMFA or VAS scores; however, the +TE cohort was noted to have worse knee ROM ( $104^\circ \pm 30^\circ$  vs.  $117^\circ \pm 25^\circ$ ,  $P = 0.05$ ). At 6 months, total SMFA was significantly worse in the +TE cohort ( $27 \pm 17$  vs.  $18 \pm 15$ ,  $P = 0.03$ ) but there was no difference in VAS or knee ROM. By 12 months postoperatively, there was no significant difference in any pain or function measure.

**Conclusion:** Tibial eminence fractures in the setting of tibial plateau fractures are more common in high-energy type fracture patterns (OTA 41-C and Schatzker VI) but they still occur in >25% of lateral split-depression type plateau fractures. Early (3-month) knee ROM is worse but achieves similar results to the -TE cohort by 6 months. Functional outcome improves less rapidly in the +TE cohort but achieves similar results by 1 year.



\*Significant difference ( $P = 0.05$ ).

- The FDA has not cleared this drug and/or medical device for the use described in this presentation (i.e., the drug or medical device is being discussed for an “off label” use). For full information, refer to page 600.