

**Posttraumatic Total Knee Arthroplasty Continues to Have Worse Outcome Than Total Knee Arthroplasty for Osteoarthritis**

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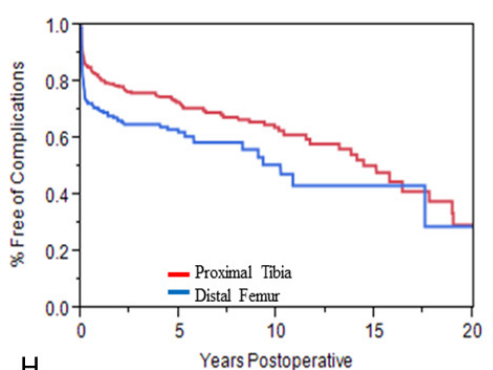
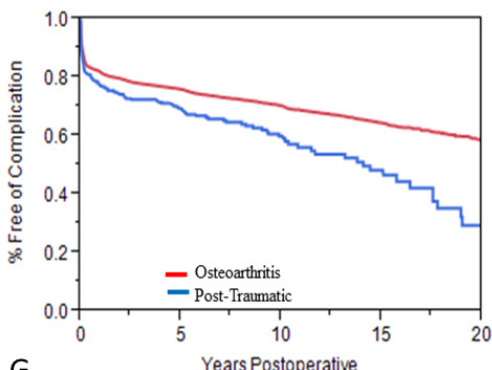
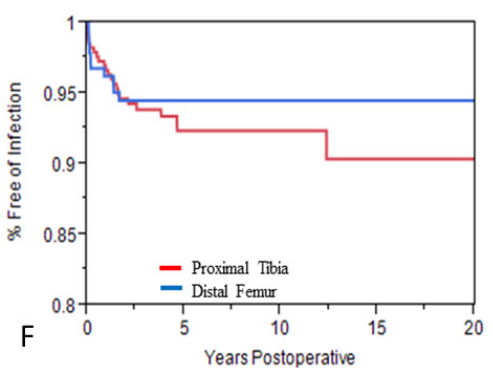
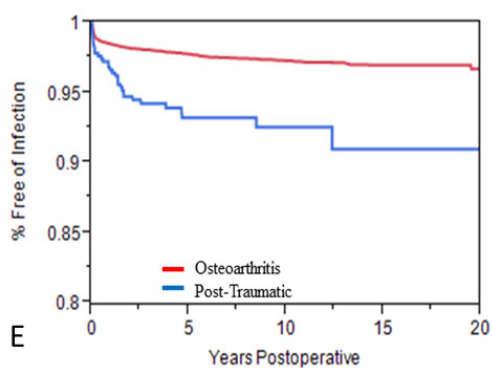
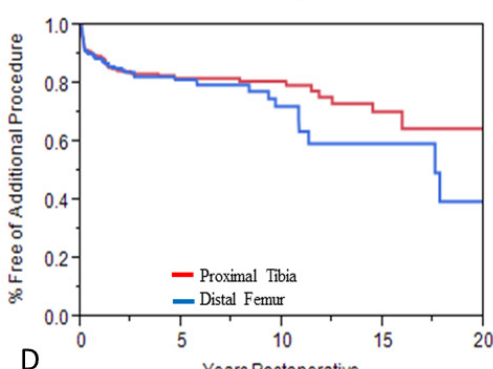
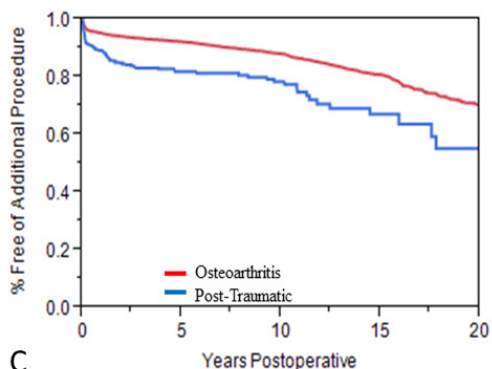
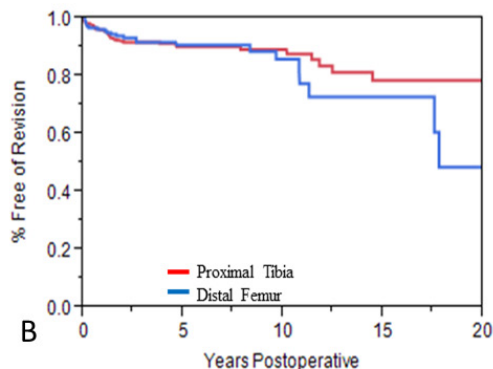
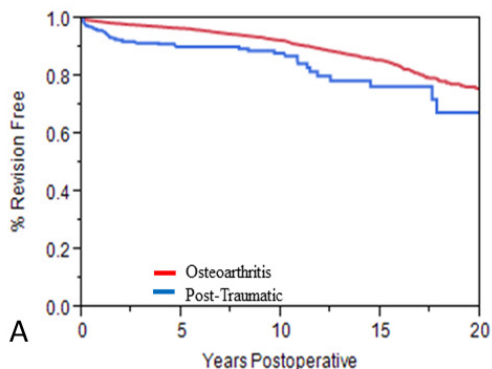
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**Background/Purpose:** Periarticular fractures around the knee are potentially devastating injuries. Following these injuries, patients are predisposed to posttraumatic arthritis. Previous studies have shown that patients who undergo a total knee arthroplasty (TKA) following a distal femoral and/or tibial plateau fracture may have inferior results. However, these studies have relatively few subjects and separate distal femur and tibial plateau fractures. The purpose of this study was to evaluate the long-term outcomes of patients undergoing TKA following periarticular knee fractures.

**Methods:** Using our institution's total joint registry, we identified 531 patients who underwent a TKA following an ipsilateral distal femur or tibial plateau fracture from 1990-2012. Kaplan-Meier survival outcomes were assessed with a focus on need for reoperation, infection, and revision TKA at a mean follow-up of 5 years. Overall revision-free survival was compared to 19,641 patients who underwent primary TKA for osteoarthritis (OA) during the same time interval. Mean age was 62 years (range, 19-89) at the time of the TKA, with 60% being female.

**Results:** Patients with a history of a distal femur or proximal tibia fracture had a significantly increased risk of revision TKA (hazard ratio [HR] 2.23,  $P < 0.0001$ ), need for an additional procedure (HR 2.20,  $P < 0.0001$ ), postoperative infection (HR 2.85,  $P < 0.0001$ ), and postoperative complications (HR 1.44,  $P < 0.0001$ ) compared to patients with a diagnosis of OA. There was no difference in the need for revision TKA (HR 1.18,  $P = 0.53$ ), need for an additional procedure (HR 1.21,  $P = 0.34$ ), or postoperative infection (HR 0.79,  $P = 0.53$ ) when comparing patients with a previous distal femur fracture to those with a previous proximal tibia fracture.

**Conclusion:** Patients with TKA following a periarticular fracture have worse overall revision-free survival compared to those undergoing TKA for OA. Our study shows that rates of complications in this cohort of patients are high, with 1 in 4 patients requiring revision TKA by 15 years.



The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.