

# **The Epidemiology and Outcomes of Intraoperative Fractures during Primary Total Knee Arthroplasty**

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## **INTRODUCTION:**

Intraoperative fractures during primary total knee arthroplasty (TKA) are rare, and as such, the true incidence and potential sequelae are not well-understood. Our objective was to assess the incidence of intraoperative fractures, as well as characterize the fixation strategies utilized, and evaluate outcomes.

**METHODS:** A consecutive series of 23,288 patients who underwent primary TKA between 2016-2021 were reviewed to identify intraoperative fractures. Baseline demographics, comorbidities, fracture characteristics, and treatment, length of stay, disposition, and rate of reoperation were recorded. Mean follow up was 2.4 years.

**RESULTS:** The incidence of intraoperative fracture during primary TKA was 0.18% (43/23,288). Mean patient age was 71 years, 67% were female, and mean body mass index was 31. Eight (19%) patients had a preoperative diagnosis of osteoporosis. The majority were femur fractures (72%), including 7 medial femoral condyle fractures, 8 lateral femoral condyle fractures, 7 medial epicondyle fractures, and 6 intercondylar fractures. There were 11 tibia fractures (26%) and 1 patella fracture (2%). Screw fixation alone was used to manage 17 cases (40%), conversion to a stemmed implant alone occurred in 5 cases (12%), and screw fixation plus conversion to a stemmed implant was used in 5 cases (12%). In 11 cases (26%) no intraoperative modifications were used, though weight-bearing status was protected in 4 of these cases. Mean surgical time was 128 minutes, and mean length of stay was 4 days. Postoperatively, there was one manipulation under anesthesia. One patient underwent reoperation (2%), an open synovectomy and manipulation for arthrofibrosis 2 years postoperatively.

**DISCUSSION AND CONCLUSION:** At a single, high-volume institution, the incidence of intraoperative fracture during primary TKA was 0.2%. The majority of fractures were managed with isolated screw fixation and/or use of a stemmed implant. Despite this complication, there was a low incidence of reoperation (2%).