

Rate of Total Knee Arthroplasty After Tibial Plateau Fracture

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Background/Purpose: Intra-articular tibial plateau fractures are considered a risk factor for the subsequent development of osteoarthritis. These fractures are therefore routinely treated surgically to anatomically restore the articular surface of the knee, and prevent the premature onset of posttraumatic osteoarthritis. The purpose of our study is to determine the rate of total knee arthroplasty (TKA) following a tibial plateau fracture. Furthermore, the rate of conversion to TKA based on fracture severity according to the Schatzker classification will be evaluated.

Methods: A retrospective review of patients aged 18 years or older who had undergone surgical fixation of a tibial plateau fracture from January 2003 to December 2013 was undertaken. Patients were identified using Ministry of Health billing codes. Demographics, mechanism of injury, concomitant injuries, complications, and long-term outcomes were recorded. Each patient's preoperative imaging was reviewed, and fractures were classified according to the Schatzker classification, types I-VI. The rate of TKA was recorded as identified using our Local Health Integration Network (LHIN) arthroplasty database.

Results: A total of 577 patients were identified using the Ministry of Health billing codes for surgically treated tibial plateau fractures. Patients whose preoperative radiographs were not available, or those patients who had been incorrectly identified, were removed. Therefore, a total of 453 tibial plateau fractures were classified according to the Schatzker classification. Of those, 2.4% (n = 11) went on to TKA.

Conclusion: Despite a significant injury to the articular surface of the knee, very few patients in our study population went on to require TKA following a tibial plateau fracture. These data support the efficacy of operative management of these fractures.