

Poor Sporting Abilities After a Tibial Plateau Fracture Involving the Posterior Column: How Can We Do Better?

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Purpose: Tibial plateau fractures with involvement of the posterior column are an important prognostic factor toward poor functional outcome. While clinical and radiological outcomes of tibial plateau fractures are elaborately studied, there has been very little appreciation for the impact of these injuries on the patients' physical lifestyles, in particular their ability to participate in sports. We aimed to assess the sporting abilities postoperatively with special emphasis on type of sports and sport specific movements, as well as the time needed to resume sports, restricting factors in sports engagement, and patient satisfaction. We aimed to provide prognostic information on return to sports.

Methods: Demographic, clinical, and radiological variables were collected from 82 consecutive multicentric patients between 2014 and 2016. Prospectively, Knee injury and Osteoarthritis Outcome Score (KOOS) and sporting abilities before and after surgery were determined using questionnaires at a mean follow-up of 33 months postoperatively.

Results: The response rate was 62% (51 patients). Involvement in sports significantly decreased, with only 68.4% of patients resuming sports after their injury ($P < 0.001$). The mean time needed to partially or fully resume was 6-9 and 9-12 months, respectively. The ability to resume at the preinjury level of effort and performance were only 22% and 12%, respectively. Restricting factors were pain (66%), fear of reinjury (37%), limited range of motion (26%), and instability (21%). The majority (59%) of patients were unsatisfied with their physical abilities. Significantly worse outcomes were observed in patients playing high-impact sports, experiencing knee pain during physical activity, and suffering from extension/valgus or flexion/varus trauma.

Patients playing high-impact sports proved by far the most important high-risk group, being 6.8 times more likely to not return to sports, having a longer rehabilitation period, being 11.7 times less likely to play at the preinjury level of effort, being 11.4 times more likely to suffer from pain-related knee problems during physical activity, and being 17.2 times more likely to be unsatisfied with their physical abilities.

Conclusion: Tibial plateau fractures with involvement of the posterior column significantly hamper patients' sporting abilities, leaving the majority of patients unsatisfied. Preoperative counseling about the prognosis and setting realistic expectations, optimizing rehabilitation and pain management postoperatively, and advising low-impact sports might improve the engagement in physical activities and the emotional impact on the patients.