

risks damage to intra-articular structures and poor fracture reduction. The purpose of this retrospective study was to determine if the supra-patella (SP) approach confers improved nail insertion accuracy when compared with the standard infra-patella (IP) technique.

Patients and Methods: 200 cases were included in the study (SP 95, IP 105). Insertion accuracy was assessed on AP and lateral radiographic imaging and measured as the distances between the central axis of the proximal nail and the ideal point of entry as described in the literature.

Results: The median distance from the ideal entry point was 4.4 mm (SP) and 5.1 mm (IP) ($p=0.046$) in the coronal plane, and 4.0 mm (SP) and 3.7 mm (IP) ($p=0.527$) in the sagittal plane. A narrower range of measurements was observed in the SP technique in both sagittal and coronal planes, SD 4.5 mm vs 6.5 mm, and SD 4.0 mm vs 5.4 mm respectively.

Conclusion: We found that the SP technique achieved improved nail insertion accuracy in the coronal plane, however, no significant difference was observed in the sagittal plane. We also found a narrower range of insertion points in the SP cohort in both sagittal and coronal planes suggesting improved control in nail insertion using this technique.

Take home message

1. The SP technique is associated with improved nail insertion accuracy in the coronal plane.
2. The SP technique is associated with a narrower range of entry points implying improved control in nail insertion.

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TLA Medicolegal Prize winning Presentation

Immediate weight bearing after plate fixation of fractures of the tibial plateau

Michael Williamson*, Efthymios Iliopoulos,
Aanchal Jain, Wessam Ebied, Alex Trompeter

*Trauma & Orthopaedics, St George's University
Hospitals NHS Foundation Trust, London, United
Kingdom*

Background: Proximal articular fractures of the tibia are commonly stabilised with internal fixation using plates and screws.

There is a lack of evidence and conflicting guidelines as to the most suitable post-operative rehabilitation regime including weight bearing status. There are numerous physiological and socio-economic benefits of early weight bearing after orthopaedic surgery, but concerns remain around loss of fracture reduction. Therefore, the aim of this study is to investigate whether the weight bearing status after tibial plateau plate fixation is associated with any loss of reduction or articular collapse.

Methods: We retrospectively analysed data from our prospectively collected major trauma centre database. All tibial plateau fractures that required open reduction and internal fixation with plate and screws were included. The immediate post-operative weight bearing status of these patients was recorded. Group I consisted of those patients that were either non-weight bearing or touch weight bearing for the first six post-operative weeks. Group II consisted of patients who were instructed to weight bear fully (as tolerated) immediately after the operation. Radiographs were taken on day one post-operation, at six weeks and at three months and analysed for fracture displacement and joint depression or loss of fixation.

Results: A total of 90 patients were included in the study. Group I (non-weight bearing or touch weight bearing) consisted of 60 patients (67%). Group II (full weight bearing as tolerated) consisted of 30 patients (33%). The follow up radiographs demonstrated no failure of fixation in either study group. One patient from the weight bearing group had >1 mm joint depression (4 mm) identified at the first follow up, which did not progress.

Conclusions: This study shows immediate post-operative full weight bearing does not affect the fixation or cause articular collapse up to three months after surgery and thus we propose that patients should be allowed to weight bear immediately after surgical stabilisation of tibial plateau fractures. This will enable patients to benefit from the positive effects on fracture healing of early weight bearing post-surgery and avoid the complications of non-weight bearing without loss of fixation or articular collapse.

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