

## A Modified Open Posterior Approach for the Fixation of Posterior Cruciate Ligament Tibial Avulsion Fractures

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**Abstract :** Background: The most effective treatment of posterior cruciate ligament (PCL) tears and the consequence of untreated PCL injuries remain controversial. Objectives: The aim of this study is to assess outcomes of fixation of tibial posterior cruciate ligament (PCL) avulsion fractures via a modified technique. Patients and Methods: From January, 2009 to March, 2012, there were 45 cases of PCL tibial avulsion fractures that were referred to our hospital and were managed through a modified open posterior approach. Fixation of Tibial PCL avulsion fractures were fixed by means of a lag screw and washer placed through our modified open posterior approach. Range of motion was begun on the first postoperative day. Clinical stability, range of motion, gastrocnemius muscle strength, radiographic investigation, and patient's overall quality of life was analyzed at final follow up visit. Results: The average of overall musculoskeletal functional evaluation scores was 15 (range 3-35). All patients achieved union of their fracture and had clinically stable knees at the latest follow-up. The mean preoperative Lysholm score for 15 knees was  $62 \pm 8$  (range, 50-75); the mean postoperative Lysholm score was  $92 \pm 7$  (range, 75-101). A significant difference in Lysholm scores between preoperative and final follow-up evaluations was found ( $P < .05$ ). At first-year follow-up, 42 (93%) patients revealed a difference of less than 10 mm in thigh circumference between their injured and healthy knees. Conclusions: The management of displaced large PCL avulsion fractures with placement of a cancellous lag screw with washer by means of the modified open posterior approach leads to satisfactory clinical, radiographic, and functional results and reduces the operation time and less blood loss. Level of evidence: IV.

**Keywords :** posterior cruciate ligament, tibial fracture, lysholm knee score, patient outcome assessment

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