



The Use of Suture Anchors in Posterolateral Corner Reconstruction in the Setting of Multi-ligament Knee Injury: Clinical and Radiological Outcomes

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ABSTRACT

Background: Treatment of Posterolateral corner (PLC) instability in the setting of multi-ligament knee injuries (MLKI) is key to improved outcomes. The two-tailed PLC reconstruction, most commonly used technique, is only described with the use of interference screws. Data on the use of suture anchors is still limited.

Purpose: To describe clinical and radiological outcomes of two-tailed PLC reconstruction using suture anchors as fixation method for fibular head docking, and to describe a technique tip for biceps femoris tendon repair in case of concomitant rupture. The secondary objective was to compare outcomes between acute and chronic reconstructions.

Methods: Data were collected from 60 patients who underwent two-tailed PLC reconstruction between 2017 and 2021. Patients were assessed for range of motion (ROM) and functional outcomes including Tegner, Lysholm and International Knee Documentation Committee (IKDC) scores. Complications and reoperations were reported. The lateral femorotibial space in varus stress views was measured bilaterally to evaluate stability and determine failure rate. Subgroup analysis based on time from injury to reconstruction was additionally performed.

Results: With two lost to follow-up, 58 patients with a mean age of 33.8 and a mean follow-up of 15.1 months (range: 4.2 – 44.8) were included. 65% were men. 25 patients underwent acute reconstruction. The mean post-operative ROM was 1.7 – 133.2°. Mean Tegner, Lysholm, and IKDC scores were 5.1 ± 2.3 , 84.6 ± 12.1 , and 73.4 ± 18.2 , respectively. The mean lateral femorotibial space on varus stress views was 0.3 ± 1.2 mm. 14 patients required revision surgery for hardware removal, stiffness, or clinical failure, and 6 had complications including infection and anchor pull-out. In addition, patients with acute reconstructions had better functional outcomes compared to those with chronic injury.

Conclusion: The use of suture anchors for fibular head docking in PLC reconstruction can reliably restore varus stability and provide fair functional outcomes, associated with a low rate of implant-specific complications.

Keywords: Posterolateral corner; multi-ligament knee injuries; PLC reconstruction; two-tailed reconstruction; suture anchors



BIOGRAPHY

Dr. Johnny Rayes is a Lebanese and internationally-trained Orthopaedic surgeon currently completing a Trauma fellowship at Calgary University in Alberta, Canada. He earned his MD and Orthopaedic surgery specialty degrees from Saint Joseph University of Beirut, Lebanon with additional postdoctoral training focused on Arthroplasty and Trauma from Diderot University in Paris, France. He previously completed a Sports Medicine fellowship focused on the shoulder, hip and knee at Dalhousie University in Halifax, Nova Scotia, Canada. He also had a clinical and research Sports Medicine fellowship focused on the knee and ankle at the Santy Orthopaedic Center in Lyon, France. Rayes' research focuses on joint preservative techniques in the shoulder and the hip as well as ligament reconstruction in the knee.



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