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# **Outcomes and Complications Following Medial Patellofemoral Ligament Reconstruction Utilizing a Single Converging Patella Tunnel Technique with Gracilis Tendon Autograft: Minimum 2-year Followup**

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**Disclosures:**  
**None**



# Background

Medial patellofemoral ligament (MPFL) reconstruction is commonly performed to treat patients with recurrent patellar instability either in isolation or concurrently with other bone and soft tissue procedures. Isolated MPFL reconstruction has been described with various grafts, surgical techniques, and fixation devices each with their own inherent advantages, complications, and costs. Modern reconstructions have a success rate as high as 95% in restoring patellar instability however, each technique is strife with own set of potential complications. 47% of the complications are reported to be due to improper technique, including tunnel malpositioning and graft tensioning. Arthrofibrosis, hardware irritation or breakage, and patellofemoral pain can occur. Patella fractures associated with graft fixation have been reported to be as high as 1% particularly with transosseous tunnels drilled across the length of the patella.



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# Methods

We conducted a retrospective study including all patients with recurrent lateral patellar instability treated at a single institution utilizing a converging patella tunnel technique with a gracilis tendon autograft who have a minimum followup of 2 years. Patients with isolated MPFL reconstruction and no concomitant soft tissue or bony procedures were included. Patients with concurrent procedures such as tibial tubercle osteotomy, distal femoral osteotomy, de-rotational osteotomies, lateral release or lengthening and trochleoplasty were excluded. Radiographic changes in Kellgren-Lawrence grading of the patellofemoral joint and femoral tunnel positioning was evaluated. Patients were then assessed for reported complications including patellar fractures, recurrent instability, anterior knee pain, limitations in range of motion, hardware irritation, etc. at a minimum of a 2-year follow-up.



# Results

Two hundred and twenty patients were included in the study, with an average age of  $22.8 \pm 7.6$  years at  $52 \pm 21.5$  months follow-up. There were 113 female and 107 male patients. A total of 33 patients (15%) had complications during the follow-up period; however, no patellar fracture or postoperative instability was reported. Twelve patients (5.5%) had complications that required additional surgery including symptomatic hardware that required removal in 9 patients (6%), arthrofibrosis that required manipulation under anaesthesia and lysis of adhesions in 3 patients (1.4%), all of whom underwent additional procedures. Nine (4%) patients had complications that did not require any additional surgery, including tenderness over medial femoral epicondyle (1.5%) wound dehiscence (1%), medial knee pain that resolved with local corticosteroids injections (1%). The overall complication rate was relatively low. At 2 year follow-up no patients demonstrated progression of patellofemoral arthritis.



# Conclusion

Medial patellofemoral ligament reconstruction utilizing gracilis tendon autograft and a single converging patellar tunnel is an effective, reliable, and safe technique in patients with recurrent patellar instability. The risk of patellar fracture with this technique is very low and it is associated with satisfactory clinical and radiographic outcomes.



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