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Comparison of Bone Tunnel and Suture Anchor Patellar Fixation Techniques in Medial Patellofemoral Ligament (MPFL) Reconstruction

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Summary:
The oblique bone tunnel and suture anchor techniques of the MPFL reconstruction procedure show similar good functional outcomes

Abstract:
BACKGROUND
Many different patellar fixation techniques in medial patellofemoral ligament (MPFL) reconstruction are used to treat patellar instability. The goal of our study is to compare the clinical outcomes following medial patellofemoral ligament (MPFL) reconstruction using oblique bone tunnels versus suture anchors for patellar fixation. To our knowledge, no study has compared patellar suture anchors and oblique bone tunnels patella fixation methods.

METHODS
This is a retrospective cohort study looking at forty-two consecutive patients (43 knees) treated with MPFL reconstruction for patellar instability between July 2010 and October 2012. The 43 knees were divided into 2 groups, the dual, oblique bone tunnels technique group (BT, 24 knees), and the dual patella suture anchors technique group (SA: 19 knees). Both groups used a hamstring autograft with a common fixation point on the femur using an absorbable interference screw. A comprehensive radiographic and chart review as well as Visual Analog Scale (VAS), Tegner Activity Scale, and Kujala questionnaires were used to evaluate clinical outcomes at a minimum 2 years following surgery.

RESULTS
Mean Tegner, VAS, and Kujala scores were not significantly different between the two groups. Mean current Tegner scores decreased by 1.9 points as compared to pre-injury levels in the BT group whereas patients in the SA group had a mean drop of 0.7 points ($p = 0.217$). The mean VAS score was higher in the BT group as compared to the SA group (3.1 vs. 1.6, respectively), but that difference was not statistically significant ($p = 0.138$). Mean Kujala score was lower in the BT group (65.8) as compared to the SA group (78.8), but that difference was not statistically significant ($p = 0.268$). Both the BT and SA groups had 1 patient report a recurrence of a patellar dislocation, and 1 of those patients in the BT group required a surgical procedure to address recurrent instability after a traumatic fall directly on the patella. Patients in the BT group were more likely to have additional procedures done at the time of MPFL reconstruction, but there was no statistical difference in pain, return to play, patient satisfaction, and knee range of motion between the two groups.

CONCLUSIONS
Both the bone tunnel and suture anchor techniques of the MPFL reconstruction procedure showed similar good functional outcomes. Both techniques appear to be effective and reliable methods for the treatment of patellar instability.