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Allograft Versus Autograft for Medial Patellofemoral Ligament Reconstruction

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Summary:
The use of either allograft or autograft tissue for MPFL reconstruction results in a very low (<3%) risk of repeat dislocation.

Abstract:
Introduction: Patellofemoral instability with recurrent patellar dislocations is a debilitating condition that frequently affects a young, active patient population. Isolated medial patellofemoral ligament (MPFL) reconstruction has emerged as an effective treatment of recurrent patellar dislocations that occur in the absence significant patellofemoral malalignment or osseous abnormalities. Both allografts and autografts have been successful used for MPFL reconstruction. We hypothesize that MPFL reconstruction with allograft or autograft tissue yields similar low rates of recurrent dislocation and subjective patellar instability.

Methods: Chart review identified 117 MPFL reconstructions (80 allograft and 37 autograft) without concurrent bony procedures (such as tibial tubercle osteotomy) performed between 2008 and 2014 by four sports medicine fellowship trained orthopedic surgeons at our center. Patient demographics (age and sex) and surgical data (graft type) were identified by chart review. Chart review and patient interviews were undertaken to identify recurrent patellar dislocations as well as recurrent subjective patellofemoral instability. Recurrent dislocation and subjective instability risk were compared between the allograft and autograft groups.

Results: 53 patients (45%) with complete baseline data and minimum 1 year follow-up were contacted at a mean of 4.5 years following isolated MPFL reconstruction, including 37 patient with allograft reconstructions and 16 with autograft reconstructions. No significant differences in patient sex, age at reconstruction, body mass index, or time to follow-up were noted between groups. Recurrent dislocation occurred in 1 patient in the allograft group (2.7%) and 0 patients in the autograft group (0%), ($p = 0.51$). Recurrent subjective instability occurred in 9 patients in the allograft group (24.3%) and 5 patients in the autograft group (31.2%), ($p = 0.74$).

Conclusion: The use of either allograft or autograft tissue for MPFL reconstruction results in a very low (<3%) risk of repeat dislocation. Recurrent subjective instability occurs more frequently (1/4 to 1/3 of patients) at a similar rate for both graft types.