

Establishing the Minimum Clinically Important Difference Two Years Following Medial Patellofemoral Ligament Reconstruction

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Introduction: The purpose of this study is to define the minimum clinically important difference (MCID) for the Kujala, International Knee Documentation Committee (IKDC), and Knee Injury and Osteoarthritis Outcome Score for Joint Reconstruction (KOOS JR) at minimum two-year follow-ups after isolated medial patellofemoral ligament (MPFL) reconstruction.

Methods: All patients undergoing isolated MPFL reconstruction for recurrent patellar instability at a single institution between December 2015-June 2021 were included. Patients with concomitant osseous procedures beyond chondroplasty and any ligamentous procedure were excluded. A distribution-based approach was used to calculate the MCID. This was performed by determining the standard deviation (SD) of the delta two-year patient reported outcome scores (PROs) and then multiplying the SD by 0.5. The number of patients achieving MCID were then presented as a percentage.

Results: Eighty-six of 117 patients who underwent isolated MPFL reconstruction completed preoperative and a two-year follow-up PRO survey (59 female, 27 male; age 21.1 ± 8.7 years). For Kujala, the preoperative mean was 59.3 ± 17.1 , two-year follow-up mean was 87.6 ± 13.6 , and MCID was 9.2 with 88% of the cohort achieving MCID. For IKDC, preoperative mean was 50.2 ± 17.2 , two-year mean was 80.5 ± 18.6 , and MCID was 12.4 with 80% of patients achieving MCID. KOOS JR had a preoperative mean of 66.0 ± 14.6 , two-year follow-up mean of 88.8 ± 11.9 , and MCID of 8.5 with 72% of patients meeting this MCID.

Discussion: At two years following MPFL reconstruction, the MCID's for clinically relevant subjective PROs were 9.2 (Kujala), 12.5 (IKDC), and 8.5 (KOOS JR). MCID's for MPFL reconstruction are already established for 6-month and 1-year time points, and this was the first presentation of two-year MCID values.

Clinical Significance: Establishing the 2-year MCID for MPFL reconstruction gives surgeons another tool to use in the diagnoses of patellar instability patients who may be struggling post-operatively.

Key Words: patellar instability, medial patellofemoral ligament reconstruction, patient-reported outcomes, MCID

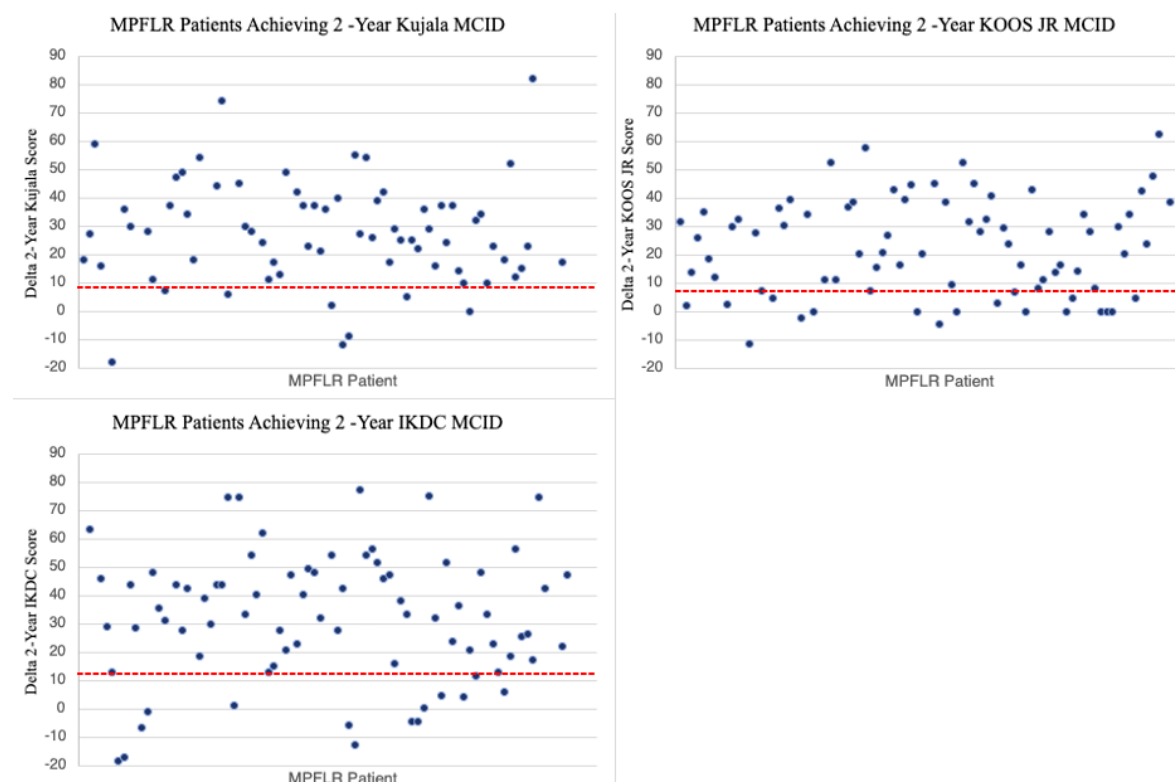


Figure 1. Scatter plots demonstrating the distribution of isolated MPFL reconstruction patients and their 2-year delta PRO scores (blue circles) in relation to the MCID value (dotted-red line) for Kujala, KOOS JR, and IKDC scores.