Defining Clinically Significant Outcome Thresholds for Pain and Function after Osteochondral **Autograft Transplantation of the Knee**

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Background: A paucity of data exists on clinically important outcome improvement after osteochondral autograft transplantation (OAT) of the knee. Defining these thresholds and understanding the propensity for health status improvement can provide important prognostic data for patients and surgeons.

Purpose: To define the minimal clinically important difference (MCID) for measures of pain and function at two-, five-, and ten-years after OATs.

METHODS: Methods: Patients undergoing OATs of the knee were identified from a prospectively maintained cartilage surgery registry. Baseline demographic, injury, and surgical factors were collected. Patient reported outcome scores (PROMs) were collected at baseline 2-, 5-, and 10-year follow-up, including the International Knee Documentation Committee score (IKDC), Knee Outcome Survey Activities of Daily Living Scale (KOS-ADLS), Marx activity scale, and Visual Analog Scale (VAS) for pain. The MCIDs were quantified for each metric utilizing a distribution-based method equivalent to one-half the standard deviation of the mean change in outcome score. The percentage of patients achieving MCID as a function of time was assessed.

RESULTS: Results: Of 63 consecutive patients who underwent OATs, 47 (74.6%) patients were eligible for follow-up (surgical date before October 2021) and had fully completed preoperative PROMs. A total of 39 patients (83%) were available for minimum two-year follow-up, with a mean (± standard deviation) follow-up of 5.8±3.4 years. The MCIDs were determined to be 9.3 for IKDC, 2.5 for Marx, 7.4 for KOS-ADLS, and 12.9 for pain. At two years, 78.1% of patient achieved MCID for IKDC, 77.8% for Marx, 75% for KOS-ADLS, and 57.9% for pain. These results were generally maintained through 10-year follow-up, with 75% of patients achieving MCID for IKDC, 80% for Marx, 80% for KOS-ADLS, and 69.8% for pain.

DISCUSSION AND CONCLUSION: Conclusions: The vast majority of patients achieved a clinically meaningful outcome improvement after OATs of the knee, with results sustained through 10-year follow-up. Patients that experience clinically meaningful outcome improvement in the short term may therefore continue to experience sustained benefits at longerterm follow-up, which may provide valuable prognostic information when discussing patient candidacy and expected recovery.

trajectory

