expressed that they found the Decision Aid very useful in shared decision-making clarifying the patients’ values concerning issues important to treatment options. Further, 1,053 patients with ACL injuries were included: 563 patients with no exposure to the Decision Aid and 490 patients with exposure to the Decision Aid. Before implementation of the Decision Aid, 27% of the patients choose non-surgical treatment and after implementation of the Decision Aid, it was 30% (p = 0.22). Before implementation of the Decision Aid, 21% of patients who initially chose non-surgical treatment, had surgery within the first year, and after implementation of the Decision Aid, it was 16%. However, the 5% reduction was not statistically significant (p = 0.26). Conclusion Patients and doctors reported that the Decision Aid for patients with ACL injury was very useful in clarifying the patients’ values important to treatment options. The exposure to the Decision Aid did not significantly alter the proportion of patients selecting non-surgical and surgical treatments or the proportion of patients switching to surgery within the first year.

Category: Knee - ACL Graft Choice

Risk of Revision and Re-Operation After ACL Reconstruction. Comparison of Quadriceps Tendon, BPTB, and Hamstring Autografts in a U.S.-Based Cohort Study of 21,980 Patients

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Summary:
In a cohort of primary ACLR patients, no difference in revision or re-operation risk was observed when comparing quadriceps tendon to BPTB or hamstring, but a 1.5 times higher revision risk was found when hamstrings were compared to BPTB.

Objective: The purpose of this study was to evaluate risk for subsequent surgical outcomes, including revision and re-operation, for a cohort of primary ACLR patients according to autograft selection. Methods: Data from a US healthcare system’s ACLR registry was used to conduct a cohort study. Primary isolated autograft ACLR patients were identified (2012-2021); those with prior procedures in the same knee were excluded. The exposure of interest autograft type: QT, BPTB, and hamstring tendons. Multivariable Cox proportional hazard regression models were used to evaluate the risk for revision and risk for re-operation within 3-years follow-up according to autograft selection. Age, body mass index, gender, race/ethnicity, American Society of Anesthesiologist’s classification, activity at the time of injury, prior contralateral ACLR, lateral meniscus injury, medial meniscus injury, femoral fixation method, femoral tunnel drilling technique, average annual surgeon volume, operative time, and operative year were considered as covariates in regression analysis; models also included a cluster term for operating surgeon to account for correlation of ACLR performed by the same surgeon. Hazard ratios (HR) and 95% confidence intervals are reported. Two-sided tests were calculated with p<0.05 the threshold for statistical significance. Results: The study sample comprised 21,980 ACLR performed by 290 surgeons at 53 hospitals. QT, BPTB, and hamstring autograft were used in 1103 (5.0%), 9522 (43.3%), and 11,355 (51.7%) ACLR, respectively. In adjusted models, no significant differences were observed in revision risk (HR=1.06, 95% CI=0.6-1.89, p=0.837) or re-operation risk (HR=0.97, 95% CI=0.70-1.35, p=0.875) within 3-years follow-up when comparing QT ACLR to BPTB ACLR. Additionally, no differences in 3-year revision (HR=0.62, 95% CI=0.34-1.12, p=0.113) or re-operation (HR=1.17, 95% CI=0.80-1.73, p=0.416) risks were observed when comparing QT ACLR to hamstring ACLR. BPTB were noted to have a significantly lower risk of revision (HR=0.66, 95% CI=0.55-0.80, p=0.006) compared to hamstring tendons and a slightly higher risk of re-operation (HR=1.16, 95% CI=1.01-1.32, p=0.03). Conclusions: The results of this large multi-center study using data from an ACLR registry found no difference in the risk of revision or re-operation when quadriceps tendon was compared to BPTB or hamstring autograft with the numbers available but did find a 1.5 times higher risk of revision when hamstring tendon autograft was compared with BPTB autograft and a 0.9 times lower risk of re-operation. Surgeons may use this information when choosing the appropriate graft for ACLR in their patients.