Risk of Revision and Reoperation After Quadriceps Tendon Autograft ACL Reconstruction Compared With Patellar Tendon and Hamstring Autografts in a US Cohort of 21,973 Patients

In a study published in *The American Journal of Sports Medicine*, MDSA researchers and KP Orthopedic surgeons sought to evaluate the risk of subsequent surgical outcomes, including revision and reoperation, in patients with primary anterior cruciate ligament reconstruction (ACLR) by autograft type.

> We hope this study is helpful for surgeons when choosing the appropriate ACLR graft with their patients and anticipate publishing more on this topic as quadriceps graft usage increases.
>
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Study Details

The cohort consisted of 21,973 primary ACLR patients from 2012 to 2021 with autografts type used: quad tendon (QT) 1103 (5.0%), patellar tendon (BPTB) 9519 (43.3%), and hamstring tendon (HT) 11,351 (51.7%).

- Overall, no significant differences observed at 4-years for revisions or reoperation risks comparing QT with HT or QT with BPTB.
- HT were noted to have a higher risk of revision compared with BPTB but a lower risk of reoperation.
- In secondary analysis, for patients <22 years there were no differences observed when comparing QT to BPTB or to HT but there was a higher revision risk when comparing HT to BPTB.

Practice Considerations

In the <22-year-old patient population, we found that using quadriceps tendons rather than hamstring tendons, one revision could be prevented for every 30 reconstructions performed. Surgeons may use this information when choosing the appropriate graft for ACLR in their patients.

A follow up study to this manuscript won the highest award for clinical research in Sports Medicine

2025 AOSSM O'Donoghue Sports Injury Research Award

More details to follow.