

Patient Preferences in Anterior Cruciate Ligament Reconstruction Graft Selection

Christian Albert Pearsall, Aaron Chen¹, Bryan Michael Saltzman², Dana Peter Piasecki³, Charles A Popkin, Lauren H Redler, Charles Mitchell Jobin, William N Levine¹, David Trofa

¹Columbia University, ²OrthoCarolina / Atrium Health Musculoskeletal Inst, ³OrthoCarolina

INTRODUCTION: The optimal graft choice for anterior cruciate ligament (ACL) reconstruction continues to be a hotly debated topic among sports medicine specialists. Although previous studies have suggested that patient preferences for specific grafts are driven by surgeon recommendations, this has never been proven. The purpose of this survey investigation is to determine the most popular ACL graft choice selected by patients indicated for ACL reconstruction after their review of an unbiased, up-to-date, data driven survey on the relative pros and cons of each graft choice. The secondary purpose was to determine the most important patient-related factors influencing ACL graft selection.

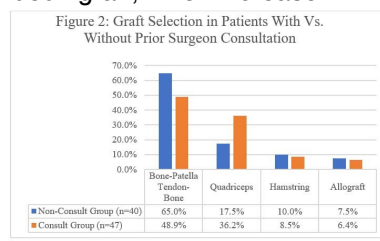
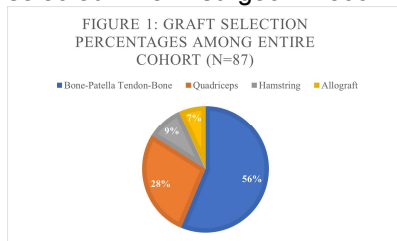
METHODS:

Patients undergoing ACL reconstruction at a tertiary referral center were prospectively identified from October 2022 to April 2023. Patients completed a survey at a time between the initial preoperative visit up until the day of surgery which provided background information and an evidence-based description of the pros and cons of available ACL graft options (bone-tendon bone (BTB), hamstring (HS), quadriceps (QT), and allograft). Based upon the individual surgeons' practice, some patients completed the survey prior to a discussion of graft options, while others completed the survey afterwards thus knowing his or her surgeon's graft preference. Patient data, including demographics, prior sources of information pertaining to graft options (i.e., patient internet searches or prior physician consultations), treating surgeon graft recommendation (if applicable), and final patient graft preferences were collected. Statistical analyses were performed with descriptive statistics and Fisher's Exact Test with a significance set to $p < 0.05$.

RESULTS:

A total of eighty-seven patients were included for analysis. Fifty-three (60.9%) patients were male, and the mean age was 28.1 +/- 10.5 years. The BTB graft was the most selected graft option by patients (56.3%), followed by QT (27.6%), HS (9.2%), and allograft (6.9%). When comparing patients who spoke to their operating surgeon about their graft preference prior to the survey ($n=47$; consult group) to those who did not ($n=40$; non-consult group), there was no difference observed between the selection distributions of the two groups ($p=0.276$). Selection rates of the two groups were as follows: BTB (48.9% in consult vs. 65.0% in non-consult), QT (36.2% in consult vs. 17.5% in non-consult), hamstring (8.5% in consult vs. 10.0% in non-consult), and allograft (6.4% in consult vs. 7.5% in non-consult). In the consult group, 95.7% of patients selected the graft that had been recommended to them by their surgeon. The top three patient-cited reasons for graft selection included reported failure rates (23.0%), graft usage in professional athletes (21.8%), and prior outside physician consultation (16.1%).

DISCUSSION AND CONCLUSION: The BTB autograft was the most common graft selected by patients undergoing an ACL reconstruction. While no significant difference was observed between the distribution of grafts selected between patients who did and did not discuss graft options with their surgeon before taking the survey, there was over a 100% increase in the number of patients who selected the QT in the consult group. Given that 95.7% of the consultation groups selected their surgeon recommended graft, the increase in QT utilization is likely a surgeon driven effect.



Fisher's Exact Test Between Distributions was not Significant ($p=0.276$)

