

Patellar Tendon Anterior Cruciate Ligament Reconstruction in the High-Demand Patient: A Retrospective Matched Analysis of Autograft Versus Allograft Reconstruction with 3- to 14-year Follow-up (SS-47)

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Introduction: Anterior cruciate ligament (ACL) reconstruction with patellar tendon allograft has been stated to result in increased post-operative laxity and delays in return to sport secondary to slower graft incorporation when compared to patellar tendon autograft tissue. This study sought to compare clinical outcomes in high-demand patients following ACL reconstruction with either patella tendon allograft or autograft using a matched-pairs case-control experimental design.

Methods: Nineteen matched pairs were obtained based on gender (46.8% Female), age (27.9 ± 8.1 yrs autograft vs. 28.1 ± 9.1 allograft), and length of follow-up (9.1 ± 2.7 yrs autograft vs. 10.3 ± 2.6 allograft). All patients reported participating in very strenuous (soccer, basketball etc.) or strenuous (skiing, tennis etc.) sporting activity 4-7 times/week prior to their knee injury. Patient-reported outcomes included the IKDC, SAS, ADLS, and SF-36. Clinical outcomes were also evaluated in terms of knee range of motion, laxity, and functional strength testing.

Results: There were no significant differences in gender, age, or BMI. There was a slight difference in length of follow-up ($p < .05$). The groups showed no significant differences in any of the patient-reported or clinical outcome measures. More autograft patients reported that they were able to perform very strenuous activity without knee laxity symptoms (14 vs. 7), but this difference only approached significance ($p < .07$). Twelve autograft patients were able to return to pre-injury levels of sporting activity compared to ten allograft patients. Sixteen autograft patients and twelve allograft patients were able to participate in strenuous or very strenuous sporting activity at follow-up. Both differences were not significant.

Conclusion: While autograft and allograft patellar tendon ACL reconstruction exhibit similar clinical outcomes in high-demand individuals, autogenous patellar tendon grafts may be indicated to allow patients to return to very strenuous levels of activity without experiencing symptoms of knee laxity.

High Dose Gamma Irradiated Tibialis Anterior Allograft in Anterior Cruciate Ligament Reconstruction (SS-48) *Semon R. Bader, M.D., Ivan Garcia, M.D., Ronald Navarro, M.D.*

Introduction: Anterior cruciate ligament (ACL) reconstruction with irradiated allografts remains controversial. We prospectively evaluated allograft ACL reconstructions sterilized with high dose gamma radiation.

Methods: Twenty-nine (29) consecutive patients underwent arthroscopic ACL reconstruction using highly irradiated tibialis anterior allografts fixated with bioabsorbable interference screws between June 2004 and March 2005. All allografts were obtained from a single tissue bank and sterilized with 5.0 Mrad of irradiation. Follow up exams consisted of International Knee Documentation Committee (IKDC) examination, Tegner scoring and SF-12 survey. Failure was defined as need for revision ACL reconstruction or severely abnormal rating on IKDC. One failure was identified early in the study. Two patients that did not meet inclusion criteria were excluded from analysis.

Results: Twenty-seven (27) patients met inclusion criteria and 22 patients were available for follow up at an average of 36 months (31-48 months), 3 patients were available only for interview. IKDC scoring revealed 15/19 (82%) normal or near normal knees, 3/19 (16%) abnormal knees and 0/19 (0%) severely abnormal knees. Tegner scores dropped from 7.7 preoperatively to 5.7 on follow up, ($p < .001$). However, there was no statistically significant difference on hop test between the operative and non-operative leg. The average postoperative SF-12 physical composite score of 51.0 and average mental composite score of 51.7 placed patients within mean range for US population.

Conclusion: A failure rate of 2/22 (9%) observed in this study for allografts sterilized with high dose (5.0 Mrad) irradiation is in contrast to reports of 23% and 33% failure rates recently published. This data suggests that concerns regarding the integrity of grafts sterilized with high dose radiation may be overstated.

Arthroscopic Excision of Posterior Ankle Bony Impingement for Early Return to the Field (SS-49)

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Introduction: Athletes frequently present with symptomatic os trigonum, and usually a non-operative treatment is chosen first. However, non-operative treatment requires an extended recovery period, and the results may be unsatisfactory. We arthroscopically treated 12 cases of symptomatic os trigonum in 12 athletes and examined the postoperative results.

Methods: We treated the os trigonum arthroscopically in nine men and three women; the average age was 21.4 years. All patients were injured during a sports