

Autograft Versus Allograft Anterior Cruciate Ligament Reconstruction: A Prospective, Randomized Clinical Study With a Minimum 10-Year Follow-up.

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Abstract

BACKGROUND: The use of allografts for anterior cruciate ligament (ACL) reconstruction in young athletes is controversial. No long-term results have been published comparing tibialis posterior allografts to hamstring autografts.

PURPOSE: To evaluate the long-term results of primary ACL reconstruction using either an allograft or autograft.

STUDY DESIGN: Randomized controlled trial; Level of evidence, 1.

METHODS: From June 2002 to August 2003, patients with a symptomatic ACL-deficient knee were randomized to receive either a hamstring autograft or tibialis posterior allograft. All allografts were from a single tissue bank, aseptically processed, and fresh-frozen without terminal irradiation. Graft fixation was identical in all knees. All patients followed the same postoperative rehabilitation protocol, which was blinded to the therapists. Preoperative and postoperative assessments were performed via examination and/or telephone and Internet-based questionnaire to ascertain the functional and subjective status using established knee metrics. The primary outcome measures were graft integrity, subjective knee stability, and functional status.

RESULTS: There were 99 patients (100 knees); 86 were men, and 95% were active-duty military. Both groups were similar in demographics and preoperative activity level. The mean and median ages of both groups were identical at 29 and 26 years, respectively. Concomitant meniscal and chondral pathologic abnormalities, microfracture, and meniscal repair performed at the time of reconstruction were similar in both groups. At a minimum of 10 years (range, 120-132 months) from surgery, 96 patients (97 knees) were contacted (2 patients were deceased, and 1 was unable to be located). There were 4 (8.3%) autograft and 13 (26.5%) allograft failures that required revision reconstruction. In the remaining patients whose graft was intact, there was no difference in the mean Single Assessment Numeric Evaluation, Tegner, or International Knee Documentation Committee scores.