

ARTICLE REVIEW:

Revision Risk after Allograft Anterior Cruciate Ligament Reconstruction

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TITLE: Revision Risk After Allograft Anterior Cruciate Ligament Reconstruction

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METHODS: Retrospective cohort study to identify primary unilateral ACL cases in which allografts were used. (Data source: Kaiser Permanente National ACL Registry)

RESULTS: The study included 5,968 cases performed between 2005-2013 with a mean patient age of 34.1 years and an average time to follow up of 2.1 years. Allograft type, processing methods, and graft donor age were assessed as potential risk factors for revision surgery. Allografts were obtained from 6 commercial tissue vendors, who provided covariates on graft processing, donor age and irradiation dosage.

Allowash XG processed tendons did not affect revision rate.

All LifeNet Health Allowash XG treated tendons are sterilized using low dose (<1.8MRad delivered) at dry ice temperatures. In this study, "Allowash" processed tendons were found to not affect the revision rate significantly, and were included in the <1.8 MRad Category, which had the **lowest risk** at 2.23% among the irradiation variables.

Grafts processed using BioCleanse™ or irradiation greater than 1.8 MRad were "associated with a higher risk of clinical failure and subsequent revision surgery."

Tendons processed with BioCleanse showed a statistically significant 2.45 times Hazard Ratio, meaning they are 2.45 times more likely to need revision compared to those not treated with BioCleanse, according to the study. Similarly, grafts treated with irradiation greater than 1.8 MRad were 1.64 times more likely to need revision than those that weren't.

Donor age did not affect revision rate.

Almost 60% of the grafts used were from donors 41-59 years of age, and 15% were greater than 60 years of age (892), with no correlation to failure rate, suggesting surgeons can be comfortable implanting older donor's tissue without concern for increased revision rate.

Revision Rate Percentage

