

Choosing the right graft for Anterior Cruciate Ligament repair: 3-year results from a prospective cohort study

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Abstract

Objective: The best graft for Anterior Cruciate Ligament (ACL) repair has long been an enthusiastically discussed topic in literature and amongst experts. We evaluated patients undergoing ACL replacement comparing the results of different types of grafts.

Methods: All ACL repairs at a single centre in 2016-2017 were included in a prospective, non-randomized manner. 3 years after ACL replacement Lysholm, Tegner, and IKDC scores were evaluated. The anterior translation was measured with rollimeter and rotational stability tested by the pivot shift. Patients were asked to score donor site morbidity and anterior knee pain.

Results: Out of the 209 included patients, 183 were available to follow up. There were 29 Bone Tendon-Bone (BTB) autografts (A), 53 BTB allografts (B), 91 hamstring autografts (C), and 10 peroneus allografts (D) with no statistically significant demographic differences between the 4 groups. There was no significant difference regarding the Lysholm, IKDC, and Tegner score or regarding patients with negative pivot shift (more than 93% each). The anterior translation was slightly better in the BTB allograft group -0.30 ± 1.29 (B) versus 0.39 ± 1.29 (A) and 0.46 ± 1.23 (C) respectively ($p < 0.001$).

Conclusion: Besides financial arguments, the BTB allograft could be the graft of choice for ACL reconstruction showing slightly better a/p stability at three years compared to BTB autograft and hamstring autograft whilst avoiding donor site morbidity.

Image

Outcomes using different types of ACL grafts

Graft	BTB auto	BTB allo	ST	PL allo
Lysholm	93.8	95.4	95.1	95
IKDC subj	93.1	94.5	93.9	95.6
Tegner	4.9	5.1	4.3	4.6
Tegner diff.	-0.4	-0.2	-0.2	-0.2

Biography

Kim Borsky is a surgical trainee in the NHS, United Kingdom training to become a plastic surgeon and has recently passed her MRCS examination to become a Member of the Royal College of Surgeons. Besides her clinical work, she has a special interest in research and has just recently completed her MD at the University of Zurich. She has been involved in both Orthopedics and Plastic Surgery research. Her main area of interest is anterior cruciate ligament reconstruction where she collaborates with a Swiss Orthopedic Centre in her research. Furthermore, she is part of an international research group MDR Collab that focuses on trend analysis.

14th International Conference on Osteoporosis, Arthritis and Musculoskeletal Disorders, Dubai, UAE | December 06-07, 2021

Citation: Kim Borsky, *Choosing the right graft for Anterior Cruciate Ligament repair: 3-year results from a prospective cohort study*, Osteoporosis 2021, 14th International Conference on Osteoporosis, Arthritis and Musculoskeletal Disorders, Dubai, UAE, December 06-07, 2021