ISAKOS

International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine

12th Biennial ISAKOS Congress • May 12-16, 2019 • Cancun, Mexico

Paper #1

Remnant-Sparing ACL Reconstruction Patients Have Later Time to Graft Failure but Higher Rates of Re-Operations When Compared to Remnant Debridement Patients: A 10-Year Follow-Up of a Randomized Controlled Study

Peter T. Annear, FRACS(Orth), AUSTRALIA
David Hille, MBBS, AUSTRALIA
Jay R. Ebert, PhD, AUSTRALIA

Perth Orthopaedics and Sports Medicine Center
Perth, WA, AUSTRALIA

Summary:
At ten year follow-up of an RCT there is no clinical benefit with remnant sparing ACLR compared with remnant debridement ACLR although re-operations were higher and time to graft rupture were longer in the remnant spared group.

Abstract:

Background

Delayed ligamentization following anterior cruciate ligament reconstruction (ACLR) may result in reduced graft stiffness and strength, and an increased risk of secondary re-tear. Remnant sparing ACLR may accelerate ligamentization and proprioceptive function, theoretically reducing re-injury risk.

Hypothesis

A lower graft failure rate and higher perceived functioning knee would exist at 10 years in those undergoing ACLR with remnant preservation (RP), versus remnant debridement (RD).

Study Design: Prospective randomized controlled trial (RCT).

Methods

A prospective RCT allocated 49 patients to ACLR with a hamstrings autograft together with a RD (n=25) or RP (n=24) procedure, of which 86% were clinically evaluated at 10 years (22 RD, 22 RP). A detailed chart review and patient phone consultation was undertaken with all patients at 10 years to evaluate the incidence (and timing) of subsequent re-tear and/or contralateral ACL tear, as well as other knee injuries/surgeries, the patient's ability to perform full work/sport duties and their perceived knee function using a numerical rating scale (NRS). Independent t-tests were used to compare continuous outcomes, and Chi-square tests (and Fisher's exact test when appropriate) were used to compare categorical outcomes.

Results

No differences existed between groups ($p>0.05$) in descriptive variables. There were 2 graft ruptures (10.0%) in the RP group and 3 (13.6%) in the RD group, with an earlier mean time to graft failure in the RD group (RD 7.7 ± 4.5 months, RP 49.5 ± 17.7 months), albeit the size of this sub-sample was too small for statistical comparison. There was

Paper #1

a significantly higher number of patients requiring =1 additional ipsilateral knee surgery in the RP group (RP=10, RD=4, p=0.048). At 10 years, 16 (72.7%) and 15 (75.0%) patients in the RD and RP ACLR groups, respectively, were unrestricted in work/sport duties (p=0.867). There were no group differences in the functional NRS ratings (p=0.537).

Conclusions

No long term clinical benefit of RP ACLR could be determined by this study with similar re-tear incidence and perceived knee function, though a higher number of re-operations were observed in RP patients with a tendency toward later time to re-tear. Time to graft rupture may be a useful measure of graft ligamentization

Keywords: anterior cruciate ligament reconstruction, remnant sparing, remnant preservation, clinical outcomes, knee function, re-injury.