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Return to Sport Following Anterior Cruciate Ligament Reconstruction with or without a Lateral Extra-Articular Tenodesis: Results from the ISAKOS-Sponsored Stability Study

Alex Rezansoff, MD, FRCSC, CANADA
Alan Getgood, MD, FRCS(Tr&Orth), DipSEM, CANADA
Dianne M. Bryant, PhD, CANADA
Robert Litchfield, MD, FRCSC, CANADA
Robert G. McCormack, MD, CANADA
Mark A. Heard, MD, FRCS, CANADA
Peter B. Macdonald, MD, FRCS, Dip Sport Med, CANADA
Tim Spalding, FRCS(Orth), UNITED KINGDOM
Peter Verdonk, MD, PhD, BELGIUM
Devin Peterson, CANADA
Davide Bardana, MD, CANADA
Stability Study Group, MD, CANADA

Fowler Kennedy Sport Medicine Clinic, Western University
London, ON, CANADA

Summary:
In this randomized clinical trial comparing ACL reconstruction with or without lateral extra-articular tenodesis (LET) in young active patients, the addition of an LET resulted in a slower return to sport than if ACL reconstruction was performed alone. This may be a result in a slower recovery of functional indices including limb symmetry index and quadriceps strength. By 2 years there were no d

Abstract:

Introduction

It is proposed that the addition of a Lateral Extra-articular Tenodesis (LET) to an anterior cruciate ligament reconstruction (ACLR) will reduce persistent rotatory laxity in young individuals. We hypothesize that by improving stability rates with LET that there may be an improvement in return to sport rates in a young active population.

Methods

This multicenter, randomized clinical trial compared standard hamstring tendon ACLR with combined ACLR and LET, utilizing a strip of iliotibial band (Modified Lemaire). Patients aged 25 years or less with an ACL deficient knee were included. They also had to have two of the following three criteria: 1) Grade 2 pivot shift or greater; 2) Returning to high risk/pivoting sports; 3) Generalized ligamentous laxity. Return to sport was determined via administration of a questionnaire at 6, 12 and 24 months post-operative.

Results

624 patients were randomized with a mean age of 18.9 (range: 14-25), 293 male. To date, 509 patients (250 ACL, 259 ACL + LET) and 407 patients (199 ACL, 208 ACL + LET) completed the RTS questionnaire at 12 and 24 months respectively. At 12 months, there were differences between the ACL versus ACL + LET group in those who return to

the same level of sport or higher (40.8% v 34.4%), return to a lower level (16% v 13.1%), or do not return at all (42.8% v 52.5%). At 24 months, the ACL and ACL+LET groups were similar; where patients who returned to the same level or higher (50.8% v 46.6%), returned to a lower level (14.1% v 18.8%), or did not return at all (35.7% v 34.6%). The three main reasons for not returning to sport were lack of confidence/fear of re-injury, awaiting clearance from a health professional, and lack of time or interest. At 12 months, mean (± standard error) LEFS scores for those returning to the same/higher level, returning to a lower level and not returning were 77.3 ± 0.3, 72.1 ± 1.4 and 71.3 ± 0.8 respectively. At 24 months, the mean LEFS scores were even more similar. The hop test was completed by 241 patients and 221 patients at 12 and 24 months, while strength testing was completed by 169 patients and 127 patients at 12 and 24 months. For those who returned to sport and those who did not, LSI was 96.7% ± 0.7 versus 92.5% ± 0.9 at 12 months and 98.9% ± 0.4 versus 96.4% ± 0.8 at 24 months. QI peak torque was 92.0% ± 1.4 versus 85.5% ± 1.4 at 12 months and 91.8% ± 1.5 versus 88.3% ± 1.4 at 24 months, while HTI peak torque was 91.1% ± 1.7 versus 84.8% ± 1.4 at 12 months and 91.7% ± 1.5 versus 88.2% ± 1.6 at 24 months.

Conclusions

Patients who underwent ACLR + LET took longer to return to sport than those who had ACLR alone. This was reflected by the lower functional scores at 12 months in the LET group. By 24 months there were no differences between the groups.