

AB100. SOH23ABS_001. Lateral extra-articular tenodesis versus anterolateral ligament reconstruction lateral augmentation for primary anterior cruciate ligament reconstruction with minimum 2-year follow-up: a systematic review and meta-analysis

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Background: Lateral augmentation (LA) of anterior cruciate ligament reconstruction (ACLR) aims to improve the anterolateral stability of the knee and patient functional outcomes while reducing complication rates. Despite growing evidence and popularity, there have been no studies directly comparing the main two methods of LA; lateral extra-articular tenodesis (LEAT) and anterolateral ligament reconstruction (ALLR).

Methods: This is a systematic review and meta-analysis conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines. A comprehensive systematic review of electronic databases (Cochrane, EMBASE, OVID Medline, and PubMed) was under-taken by the primary investigator on May 1st, 2022. Level I/III studies with minimum two-years follow-up investigating LEAT and ALLR patient-reported outcome measures (PROM) and post-operative complications which met our inclusion criteria were selected and analysed.

Results: There were 14 studies were included in our study with a total of 2,374 patients. One thousand two hundred and seventy-three patients were included in the LEAT studies (666 male, 607 female) and 1,101 were included in the ALLR studies (818 male, 283 female). Statistically significant improved PROM were found in the LEAT group for postoperative International Knee Documentation Committee Scores [mean difference (MD) 2.31; 95% CI:

0.54–4.09, $P=0.01$), Tegner activity (TA) score (MD 0.79, 95% CI: 0.58–0.99, $P<0.01$), and for both the ALLR (MD 1.43, 95% CI: 0.33–2.52, $P=0.01$) and LEAT (MD 4.07, 95% CI: 2.67–5.47, $P<0.01$) groups for Lysholm scores. LEAT and ALLR are associated with reduced risk of graft re-rupture and improve postoperative knee stability. No statistically significant differences were found on direct comparison of the LEAT to ALLR groups.

Conclusions: LA is associated with improved PROM, knee stability, and functional outcomes when compared to isolated ACLR. No differences were found between LEAT to ALLR. No LA-specific complications were reported in the included studies.

Keywords: Anterior cruciate ligament; lateral augmentation (LA); anterolateral ligament reconstruction (ALLR); lateral extra-articular tenodesis (LEAT); systematic review

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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