



HSS

Lateral Meniscal Posterior Root
Repair with Concurrent ACL
Reconstruction: Patient-Reported
Outcomes and Risk Factors for
Failure

Evan James, Alan Shamrock, Dakota Adamec, Robert Marx, Answorth Allen, Danyal Nawabi





Disclosures:

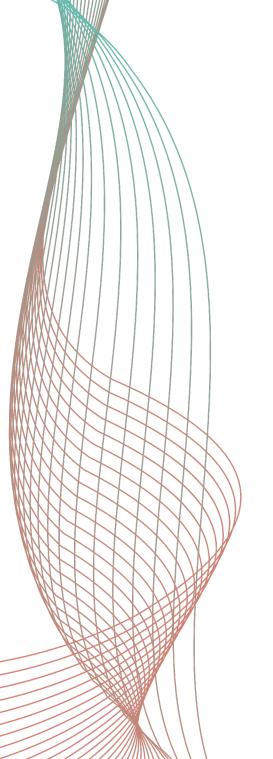
Our disclosures can be found on the ISAKOS website.

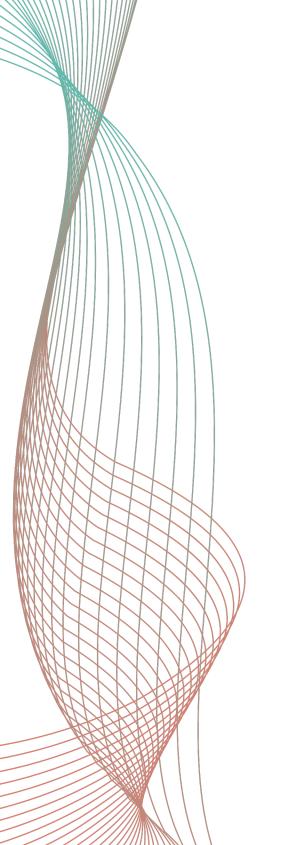


Introduction

- Meniscal injuries are commonly encountered during anterior cruciate ligament reconstruction (ACLR).¹
- A lateral meniscal posterior root tear (LMPRT) is characterized by a tear within 1 cm of the insertion of the posterior root on the tibia, or an avulsion of the root itself.²
- A meniscal root injury leads to loss of the hoop stress distribution capacity of the lateral meniscus, effectively rendering the meniscus non-functional.³







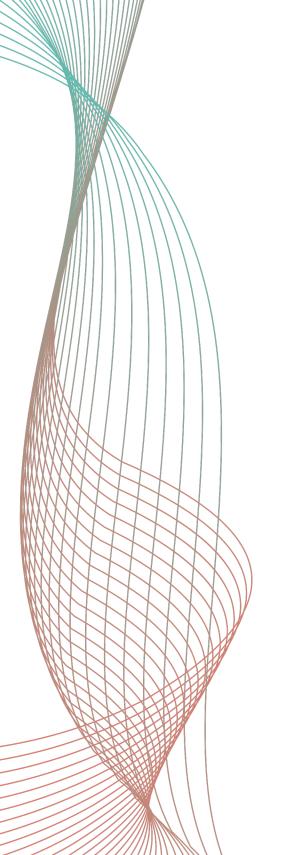
Purpose

 There has been an increased focus on identifying and repairing LMPRTs by bony reattachment of the root to its native footprint on the tibia.

Purpose:

- to evaluate the clinical outcomes after combined ACLR and lateral meniscus posterior root repair (LMPRR) using modern techniques at a high-volume center
- To compare them to a matched cohort of patients undergoing ACLR with no lateral meniscal surgery at 2-year follow-up

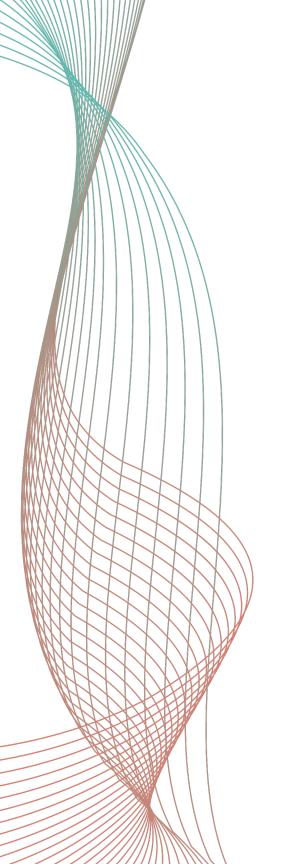




Methods

- All patients who underwent combined ACLR and LMPRR between January 2018 and February 2020 were identified in a single institution registry and matched to a control group of patients who underwent isolated ACLR on the basis of age and sex.
 - All autograft ACLRs
 - Exclusion criteria: history of revision ACLR, lateral extraarticular augmentation procedure, concomitant ligament reconstruction, knee osteotomy, and knee cartilage surgery

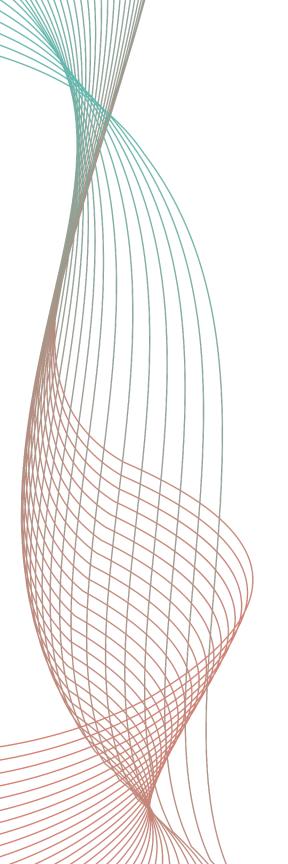




Methods

- Patients were contacted at a minimum of 24-months postoperatively to evaluate patient reported outcomes
 - IKDC score, Marx Activity Rating Scale, SANE score, rate of return to sport, level of sports participation, rate of reinjury, and psychological readiness for return to sport.
- Psychological readiness was determined using a six-item questionnaire adapted from the Anterior Cruciate Ligament-Return to Sport after Injury (ACL-RSI) scale.

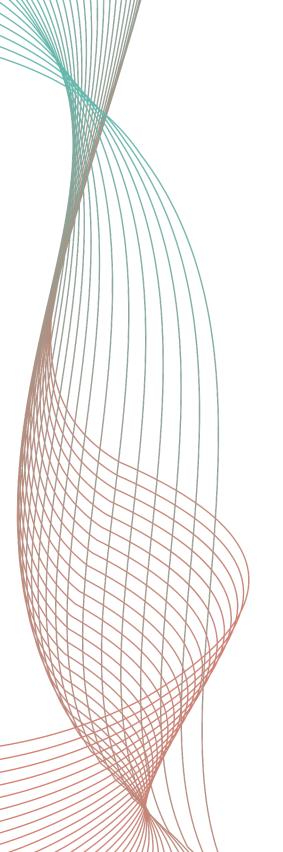




Results

- Ten patients who underwent combined ACLR and LMPRR (6 male, 4 female) with a mean age of 21.9 years (range 15 to 36) were compared to 60 isolated ACLR patients with a mean age of 23.3 years (range 14 to 42)
 - minimum 2-year follow-up
- There were no statistically significant differences in postoperative IKDC (P=0.99), Marx (P=0.23), or SANE (P=0.18) scores between groups.

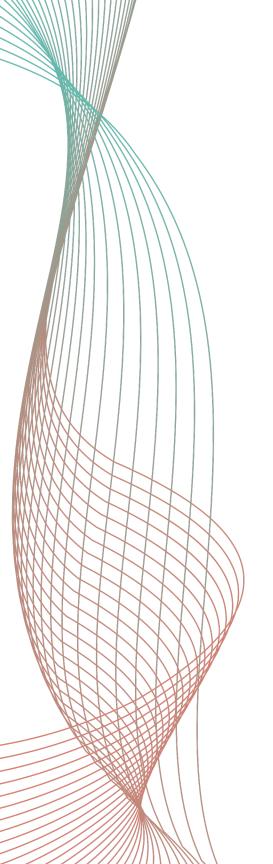




Results

- Compared to pre-operatively, post-operative IKDC, Marx, and SANE scores improved significantly for both combined ACLR and LMPRR and isolated ACLR patients (P<0.01).
- There were 80% of combined ACLR and LMPRR patients versus 73% of isolated ACLR patients who returned to sports participation (P=0.99)
- No significant differences in the number of patients reporting participation at the same level of competition or higher between groups (P=0.39).





Results

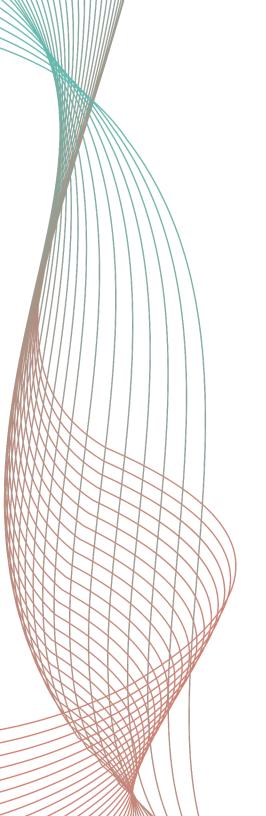
- Mean ACL-RSI scale scores
 - No difference between combined ALCR and LMPRR (76.5 ± 22.5) and isolated ACLR (67.6 ± 25.8) patients (P=0.37)
- Confidence in ability to play sports
 - No difference between combined ACLR and LMPRR (89.4 ± 10.6) and isolated ACLR (81.7 ± 22.8) (P=0.45)
- No LMPRR patients underwent subsequent meniscus surgery.



Discussion

- Combined ACLR and LMPRR resulted in similar patient reported outcomes compared to isolated ACLR without lateral meniscus surgery at early follow-up.
- Return to sport rates were high and patients returned to similar levels of competition compared to before injury in both groups.
- Psychological readiness for play was similar between groups and no differences were identified in confidence in ability to play sports.





References

- 1. Jeon YS, Alsomali K, Yang SW, Lee OJ, Kang B, Wang JH. Posterior Horn Lateral Meniscal Oblique Radial Tear in Acute Anterior Cruciate Ligament Reconstruction Incidence and Outcomes After All-Inside Repair: Clinical and Second-Look Arthroscopic Evaluation. Am J Sports Med. 2022 Dec;50(14):3796-3804. doi: 10.1177/03635465221126506. Epub 2022 Nov 2. PMID: 36322384.
- 2. Pagnani MJ, Cooper DE, Warren RF. Extrusion of the medial meniscus. Arthroscopy. 1991;7(3):297-300. doi: 10.1016/0749-8063(91)90131-g. PMID: 1750940.
- 3. Ode GE, Van Thiel GS, McArthur SA, Dishkin-Paset J, Leurgans SE, Shewman EF, Wang VM, Cole BJ. Effects of serial sectioning and repair of radial tears in the lateral meniscus. Am J Sports Med. 2012 Aug;40(8):1863-70. doi: 10.1177/0363546512453291. Epub 2012 Jul 11. PMID: 22785603.

