International Journal of Sport Studies for Health

Journal Homepage

The Effect of Kinesiotaping on Anterior Cruciate Ligament Reconstruction: A Systematic Review and Meta-analysis

Ebrahim. Piri[1], Amirali. Jafarnezhadgero[1]*, Saeid. Alihosseini[2], Nastaran. Moradzade[1]

1. Department of Sports Biomechanics, Faculty of Educational Sciences and Psychology, University of Mohaghegh Ardabili, Ardabil, Iran
2. Department of Exercise Physiology, Faculty of Educational Sciences and Psychology, University of Mohaghegh Ardabili, Ardabil, Iran

*** Corresponding author email address:** amiralijafarnezhad@gmail.com

Editor	Reviewers
Özgür Eken Associate Professor, Inonu University, Malatya, Turkey ozgureken86@gmail.com	**Reviewer 1:** Masoud Mirmoezi Department of Physical Education and Sport Sciences, Islamic Azad University, Central Tehran Branch, Tehran, Iran. Email: massoudmirmoezi@live.com **Reviewer 2:** Farhad Namjoo Department of Psychology and Counseling, KMAN Research Institute, Richmond Hill, Ontario, Canada. Email: farhadnamjoo@kmanresce.ca

1. Round 1

1.1 Reviewer 1

Reviewer:

In the Methods section, the authors mention that six databases were searched from 2014 to February 2025. However, no justification is provided for selecting 2014 as the starting year. Since ACL reconstruction and KT studies existed before this period, the rationale for restricting the search timeframe should be explained to avoid concerns about selection bias.

The search strategy description remains insufficiently transparent. Table 2 only provides a narrative description of search approaches rather than the complete electronic search strings. For reproducibility, the full search syntax for at least one major database (e.g., PubMed) should be included in the manuscript or supplementary materials in accordance with PRISMA 2020 recommendations.

The participant characteristics section emphasizes that most participants were young athletes. Nevertheless, the included age range extends from adolescents to middle-aged adults, and activity levels varied considerably. The authors should discuss how this clinical heterogeneity may influence the generalizability of the pooled estimates.

In Table 4, several studies are marked as “NR” for key variables such as graft type, participation level, and follow-up duration. Since these factors may significantly influence rehabilitation outcomes, the authors should explain how missing study-level data were handled and whether these omissions could bias the conclusions.

The sentence “The most commonly reported graft type was the hamstring tendon” is important because graft type may affect postoperative pain, strength recovery, and proprioception. However, no subgroup analysis was performed. The authors should either conduct such analyses or explain why they were not feasible despite this clinically relevant variable.

The manuscript reports a significant balance improvement (SMD = 0.75), but the included studies used different balance assessments (SEBT, BESS, Berg Scale, COP measures). Pooling these heterogeneous constructs into a single outcome may compromise interpretability. The authors should justify the appropriateness of combining these measures under a unified balance outcome.

Author revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

The authors state that "articles judged to be of poor quality were omitted from the analysis" (page 5). This criterion is problematic because it introduces subjectivity and may lead to selection bias. The manuscript should explicitly define what constituted "poor quality," which assessment tool was used, and whether exclusion occurred before or after risk-of-bias evaluation.

The description of the study selection process lacks numerical consistency. The PRISMA flow diagram indicates 1,245 records identified, 895 screened, 350 full texts assessed, and 32 excluded, but the arithmetic relationship among these numbers is unclear. The authors should carefully revise the flowchart and ensure that all stages of record identification, deduplication, screening, and exclusion are internally consistent.

In the Quality Assessment section, the manuscript states that RoB 2.0 evaluates "six domains of potential bias, such as selection, performance, detection, attrition, and reporting biases." However, RoB 2.0 uses a different domain structure than the original Cochrane tool. The authors should revise this description to accurately reflect the current RoB 2.0 framework and ensure methodological correctness.

Table 3 raises concerns because several studies classified as having multiple high-risk domains are still interpreted as contributing equally to the pooled evidence. The authors should conduct sensitivity analyses excluding studies with high overall risk of bias to evaluate the robustness of the findings.

The statistical analysis section indicates that publication bias was assessed using funnel plots. However, only 3–6 studies were included in some meta-analyses. Funnel plots are generally unreliable when fewer than ten studies are available. The authors should acknowledge this limitation and avoid overinterpreting publication bias assessments.

The Results section reports that "heterogeneity across studies was low to moderate (I^2 = 45–68%)." However, I^2 values approaching 68% are generally considered substantial rather than moderate heterogeneity. The authors should provide subgroup analyses or meta-regression exploring possible sources of heterogeneity, including graft type, timing of KT application, and rehabilitation stage.

Author revised the manuscript and uploaded the updated document.

2. Revised

Editor's decision after revisions: Accepted.
Editor in Chief's decision: Accepted.