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Comparative Efficacy of Outcomes using All Soft-Tissue Quadriceps Tendon, Quadriceps Tendon with Bone, Bone-Patellar Tendon-Bone and Hamstring-Tendon Autografts following Anterior Cruciate Ligament Reconstruction: A Systematic Review and Network Meta-Analysis

Dong Woon Kim, Konrad Malinowski

Citation
Dong Woon Kim, Konrad Malinowski. Comparative Efficacy of Outcomes using All Soft-Tissue Quadriceps Tendon, Quadriceps Tendon with Bone, Bone-Patellar Tendon-Bone and Hamstring-Tendon Autografts following Anterior Cruciate Ligament Reconstruction: A Systematic Review and Network Meta-Analysis. PROSPERO 2024 Available from https://www.crd.york.ac.uk/PROSPERO/view/CRD42024592549

REVIEW TITLE AND BASIC DETAILS

Review title
Comparative Efficacy of Outcomes using All Soft-Tissue Quadriceps Tendon, Quadriceps Tendon with Bone, Bone-Patellar Tendon-Bone and Hamstring-Tendon Autografts following Anterior Cruciate Ligament Reconstruction: A Systematic Review and Network Meta-Analysis

Original language title
English

Review objectives

We performed this network meta-analysis to comprehensively compare the clinical outcomes and adverse events of the four main autografts following ACL reconstruction.

SEARCHING AND SCREENING

Searches
PubMed, EMBASE, Cochrane Library (CENTRAL), and Web of Science Core Collection

Study design
Randomized controlled trials (RCTs)

ELIGIBILITY CRITERIA

Condition or domain being studied
Post-traumatic anterior cruciate ligament (ACL) injury.

Population
Adult patients who underwent primary ACL reconstruction surgery following traumatic ACL injury.

Intervention(s) or exposure(s)
Studies meeting the following inclusion criteria will be considered:
1. Adult patients (> 18 years old) who underwent primary ACLR
2. Randomized controlled trial (RCT) study design
3. Reported subjective and/or objective clinical outcomes or adverse events
Exclusion criteria:
1. Revision ACLR
2. Pediatric population (< 18 years old)
2. Animal studies, in-vitro biomechanical studies, cadaver studies, case-control studies, reviews, systematic reviews and meta-analyses, conference abstracts, letters, and those without original study data

Comparator(s) or control(s)
ACLR using the following autografts:
1. Quadriceps tendon with bone
2. All soft-tissue quadriceps tendon
3. Hamstring tendon
4. Bone-patellar tendon-bone

OUTCOMES TO BE ANALYSED

Main outcomes
Subjective and objective clinical outcomes following ACLR (continuous outcomes)
Adverse events (dichotomous outcomes)

Measures of effect

Standardized mean difference (SMD)

Additional outcomes
None.

Measures of effect
None.

DATA COLLECTION PROCESS

Data extraction (selection and coding)
Two independent authors will perform data collection. Descriptive data on the study level will be recorded: author, publication year, number of subjects, mean age, number of male and female subjects, mean follow-up duration, study design, and outcome data.

Risk of bias (quality) assessment
Cochrane Risk of Bias Assessment (RoB2) will be used for assess methodological quality and to evaluate risk of bias of the studies included in the review.

PLANNED DATA SYNTHESIS

Strategy for data synthesis
A Bayesian network meta-analysis of the SMDs from RCTs will be performed to synthesize the outcomes of direct and indirect comparisons.

Analysis of subgroups or subsets
None.

REVIEW AFFILIATION, FUNDING AND PEER REVIEW

Review team members

- Mr Dong Woon Kim, Jagiellonian University Medical College
- Dr Konrad Malinowski, Artromedical Orthopedic Clinic

Review affiliation
Jagiellonian University Medical College

Funding source
None.

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TIMELINE OF THE REVIEW

Review timeline
Start date: 01 October 2024. End date: 31 December 2024

Date of first submission to PROSPERO
04 October 2024

Date of registration in PROSPERO
15 October 2024

CURRENT REVIEW STAGE

Publication of review results
The intention is not to publish the review once completed.

Stage of the review at this submission

Review stage	Started	Completed
Pilot work		
Formal searching/study identification		
Screening search results against inclusion criteria		
Data extraction or receipt of IP		
Risk of bias/quality assessment		
Data synthesis		

Review status
The review is currently planned or ongoing.

ADDITIONAL INFORMATION

PROSPERO version history

- Version 1.1 published on 15 Oct 2024
- Version 1.0 published on 15 Oct 2024

Review conflict of interest
None known

Country
Poland

Medical Subject Headings
Anterior Cruciate Ligament Reconstruction; Autografts; Humans; Network Meta-Analysis; Patellar Ligament; Tendons

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