International Platform of Registered Systematic Review and Meta-analysis Protocols

INPLASY

Factors Contributing to Achilles Tendon Re-rupture: A Systematic Review Protocol

INPLASY202470102
doi: 10.37766/inplasy2024.7.0102
Received: 25 July 2024
Published: 25 July 2024

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ADMINISTRATIVE INFORMATION

Support - The authors declare no financial support was received for the research, authorship and/or publication of this article.

Review Stage at time of this submission - Completed and in publishing stage.

Conflicts of interest - The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

INPLASY registration number: INPLASY202470102

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 July 2024 and was last updated on 30 July 2024.

INTRODUCTION

Review question / Objective How are Achilles tendon re-rupture rates in early middle-aged persons influenced by sport participation, season of the year, percutaneous Tenolig vs surgical repair, and onset of weight bearing after tendon repair?

Rationale Achilles tendon rupture is a common injury in the United States in athletes with an incidence of 2.17 per 100 000 persons annually. Differing re-rupture rates have been reported across populations, and the factors contributing are vague. Studies differ with regard to age, gender, socioeconomic status, mode of rehabilitation, sports participation, seasonal factors, and surgical repair techniques contributing to Achilles tendon re-rupture. The aim of this review is to determine how Achilles tendon re-rupture rates in early middle-aged persons are influenced by sport participation, season of the year, percutaneous Tenolig vs surgical repair, and onset of weight bearing after tendon repair.

Condition being studied Achilles tendon re-rupture rates.

METHODS

Search strategy "Achilles tendon" AND "rupture" AND "re-rupture" OR "Achilles tendon injury" OR "Achilles tendon treatment" Data bases: Pubmed, Web of Science, Cochane Library, CINAHL Plus with Full text (EBSCO).

Participant or population Early middle aged (35-45) men and women.

Intervention Sport participation, summer season of the year, Percutaneous Tenolig repair of Achilles tendon rupture, or early weight-bearing after tendon repair.

Comparator A lack of sport participation; fall, winter, and spring season; surgical repair of Achilles tendon rupture, or non-weight bearing for a period after tendon repair.

Study designs to be included Cross sectional Studies, Cohort Studies, Observational Studies, Clinical trials.

Eligibility criteria To be included in the systematic review, studies had to be focused on investigating a factor relating to Achilles tendon re-rupture rates. Exclusionary criteria were [1] systematic reviews and meta-analyses [2] publications where full text was not retrievable, [3] studies that did not investigate a factor contributing to Achilles tendon re-rupture rates.

Information sources Electronic Data bases: Pubmed, Web of Science, Cochane Library, CINAHL Plus with Full text (EBSCO).

Main outcome(s) A measure of Achilles tendon re-rupture rates.

Additional outcome(s) Achilles tendon rupture rates.

Data management Data was compiled from articles using excel systems and table formats.

Quality assessment / Risk of bias analysis To assess the methodological quality of the studies, two independent reviewers, AOK and TOK, conducted the National Institute of Health Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies, and the National Institute of Health Quality Assessment of Controlled Intervention Studies.

Strategy of data synthesis Means, percentages, and statistical significance will be used in synthesis of the data from the articles.

Subgroup analysis The pre-specified factor of gender will be taken into account when analyzing to prevent false positives.

Sensitivity analysis Authors will explore the impact of arbitrary decisions on the results from the studies used in the systematic review as available.

Language restriction Source types in English.

Country(ies) involved United States.

Keywords Achilles tendon; rupture; re-rupture; Achilles tendon injury, Achilles tendon treatment.

Dissemination plans The systematic review results will be published in a peer-reviewed academic journal.

Contributions of each author

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