INPLASY

Acute and Chronic Effects of Elastic Band Resistance Training on Physical Performance: A Systematic Review

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ADMINISTRATIVE INFORMATION

INTRODUCTION

Review question / Objective The aim of this systematic review is to assess the impact of using elastic bands as a tool for resistance training on performance-related parameters of athletes from various sports.

Condition being studied Performance-related parameters of athletes from various sports, after elastic band resistance training.

METHODS

Search strategy The articles will be searched in November 2023, through four electronic databases: PubMed, Scopus, SPORTDiscus via EBSCOhost, and Web of Science. For every used database, the following query will be used: (elastic band training) AND ((athlete*) OR (performance) OR (sports)).

Participant or population Male or female competitive athletes from team or individual sports, between the ages of 14 and 35.

Intervention Elastic band resistance training.

Comparator Control group or a baseline phase without elastic band resistance training.

Study designs to be included Interventional studies.

Eligibility criteria This review will be conducted based on the PRISMA guidelines and the PICOS approach. Studies will be included if they meet the following criteria: (1) participants being competitive athletes (male or female) of individual or team sports; (2) ages between 14 and 35; (3) intervention with only the use of elastic bands as a form of resistance; (4) assessed the relationship between elastic band resistance training (EBT) and performance; (5) written in English. Studies on "healthy" or "physically fit" or "resistance trained"

participants, studies that used elastic bands as an accommodating tool, and studies that investigated the combined effects of EBT with other resistance tools will be excluded. Moreover, conference papers will be further rejected for this review.

Information sources The articles will be searched through four electronic databases: PubMed, Scopus, SPORTDiscus via EBSCOhost, and Web of Science.

Main outcome(s) Acute or Chronic Performance-related parameters (e.g. sprint, vertical and horizontal jump, change-of-direction, repeated change-of-direction, upper-body strength and power, etc.).

Quality assessment / Risk of bias analysis The revised Cochrane risk-of-bias tool for randomized trials (RoB2) will be applied to assess the potential risk of bias. This tool has five risk-of-bias domains: (1) bias arising from the randomisation process; (2) bias due to deviations from intended interventions; (3) bias due to missing outcome data; (4) bias in measurement of the outcome; (5) bias in selection of the reported result. The overall risk-of-bias judgment will be made for each assessed outcome in each trial.
The revised risk-of-bias assessment tool for non-randomized studies (RoBANS 2) will be used to analyze the included non-randomized studies. This tool has eight risk-of-bias domains: (1) bias due to the selection of inappropriate comparison target group; (2) bias due to inappropriate intervention or inappropriate selection of exposure group or patient group; (3) bias due to inappropriate confounder confirmation and consideration; (4) bias due to inappropriate intervention or inappropriate exposure measurement; (5) bias due to inappropriate blinding of assessors; (6) bias due to inappropriate outcome assessment methods; (7) bias due to inappropriate handling of incomplete data; (8) bias due to selective outcome reporting.

Strategy of data synthesis For all the included articles in the analyses, we will consider the following information: (1) study design with number of groups; (2) geographical location where the study was conducted; (3) sport; (4) sample (size, age and sex); (5) study outcomes; (6) intervention; (7) Findings.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

Language restriction Articles only written in English.

Country(ies) involved Portugal.

Keywords Elastic bands; Performance; Athletes; Resistance Training.

Contributions of each author
Author 1 - Henrique Sousa - The author contributed to the study idea and design, data analysis and interpretation, elaboration of the manuscript - original draft and editing.
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