# INPLASY PROTOCOL

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**Corresponding author:**
**Joel Barrera**

**jibarrera@outlook.es**

**Author Affiliation:**
**University of Coimbra. Faculty of Sport Sciences and Physical EducationUniversity of Coimbra.**

**Support:** **Not applicable.**

**Review Stage at time of this submission:** **Data analysis.**

**Conflicts of interest:**
**None declared.**

# INJURY PREVENTION PROTOCOLS IN MALE SOCCER PLAYERS: AN UMBRELLA REVIEW OF SYSTEMATIC REVIEWS AND META-ANALYSES

Barrera, J[1]; Figueiredo, AJ[2]; Clemente, FM[3]; Afonso, J[4]; Field, A[5]; Valenzuela, L[6]; Sarmento, H[7].

**Review question / Objective:** **This article synthesizes the findings of systematic reviews (SR) and meta-analyzes (SRMA) available on injury prevention programs in male soccer players and their effectiveness.**
**Condition being studied:** **The objective of this study was to carry out a systematic review of the systematic reviews and meta-analyzes published up to now, on injury prevention programs and their effectiveness in male soccer players, trying to find a broader vision on the strategies most used for this. problem that affects so many clubs and athletes. Additionally, this research will allow a better understanding of the spread of summary effects, heterogeneity, evidence of bias, and the quality of the findings.**

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 September 2021 and was last updated on 21 September 2021 (registration number INPLASY202190066).

## INTRODUCTION

**Review question / Objective:** **This article synthesizes the findings of systematic reviews (SR) and meta-analyzes (SRMA) available on injury prevention programs in male soccer players and their effectiveness.**

**Rationale:** **Scientific studies in the different dimensions of soccer have increased significantly in recent years, with important applications for the prevention of injuries with different strategies and methods. In this context and given the age range of the players and the gender difference, it makes difficult to understand its application and**

effectiveness. Therefore, it has become essential to develop an umbrella review on injury prevention, synthetizing the scientific evidence that can generate a real impact for coaches and players.

**Condition being studied:** The objective of this study was to carry out a systematic review of the systematic reviews and meta-analyzes published up to now, on injury prevention programs and their effectiveness in male soccer players, trying to find a broader vision on the strategies most used for this. problem that affects so many clubs and athletes. Additionally, this research will allow a better understanding of the spread of summary effects, heterogeneity, evidence of bias, and the quality of the findings.

## METHODS

**Search strategy:** This general review of systematic reviews (SR) with meta-analysis (SRMA) was developed according to the recommendations of Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA). The search will be performed in a comprehensive manner in the following electronic databases: (1) Web of Science (all databases); (2) Scopus; (3) SPORTDiscus; and (4) PubMed. The required publications were systematic reviews and meta-analyzes, for which, the following search string was used: ((Soccer OR football) AND ("Injur*" OR "Injur* prevention" OR "Injur* characteristics" OR "Injur* prediction" OR "Injur* reduction" OR "game Injur*" OR "training Injur*" OR "prevention strategies" OR "muscle injur*" OR "joint injur*" OR "contusion injur*" OR "Anterior cruciate ligament" OR "ACL") AND ("Systematic Review" OR "Meta-analysis")). The eligibility criteria for this general review were the following: (i) only SR or SRMA in injury prevention (not limited to the type of study designs included in SR or SRMA) in professional or amateur soccer players: (ii) any SR or SRMA in SSG including results related to injury prevention program protocols, duration of interventions, and effectiveness of their application: and (iii) peer-reviewed SR and SRMA written in English that provided full text. Studies that did not meet the following criteria were excluded: (i) they were not SR or SRMA; (ii) they do not include relevant data on the prevention of injuries in soccer players; (iii) they were not written entirely in English; and (iv) consisted only of abstracts, without a full-text complement. The selection of the title, the abstract and the reference list of each study to search for studies with the potential to be included in this study, will be performed independently by two of the authors (JB and HS). Additionally, they comprehensively reviewed the articles included to identify those that met the selection criteria. A third author (FMC) participated to resolve discrepancies in the selection process.

**Participant or population:** Male soccer players of all ages and levels of competition.

**Intervention:** Injury prevention programs for male soccer players.

**Comparator:** Not applicable.

**Study designs to be included:** Systematic reviews and meta-analysis.

**Eligibility criteria:** The publications included had to meet the following criteria: (1) it contains relevant data on injury prevention programs for male soccer players of all ages and levels; (2) to be an SR or SRMA; (3) be written in the English language.

**Information sources:** The search was carried out in a comprehensive manner in the following electronic databases: (1) Web of Science (all databases); (2) Scopus; (3) SPORTDiscus; and (4) PubMed. Also, the reference lists of the publications were examined to find articles relevant to this general review.

**Main outcome(s):** This general review highlights the different design problems in relation to injury prevention programs, given their complex and unpredictable nature. Which generates multiple economic and sports difficulties for the clubs. The evidence is extensive, but in some cases

confusing, due to sex, age, or sport level among other issues, therefore, this general review aims to demonstrate which are the best prevention programs for male soccer players of different ages. and competitive level.

**Data management:** To organize the results, the articles were classified into categories established according to the main topic of the research that emerged from the content analysis.

**Quality assessment / Risk of bias analysis:** The quality of the selected studies was determined using AMSTAR 2, which is a critical evaluation tool for systematic reviews with randomized or non-randomized studies.

**Strategy of data synthesis:** The most discussed topics were grouped into four (4) general categories: (1) non-contact injury prevention; (2) prevention of muscle injuries; (3) prevention of joint injuries; (4) prevention of anterior cruciate ligament (ACL) injuries.

**Subgroup analysis:** The four (4) main categories will be analyzed according the following subcategories: (1) non-contact injury prevention: i) muscle tears, ii) contractures, iii) strains. (2) prevention of muscle injuries: i) lower limb muscles. (3) prevention of joint injuries: i) knee sprains, ankle sprains, Shoulder dislocations. (4) prevention of anterior cruciate ligament (ACL) injuries: i) muscle strengthening.

**Sensitivity analysis:** Not applicable.

**Language:** The selection was for the original articles in English.

**Country(ies) involved:** Portugal.

**Keywords:** soccer players, prevention, muscle strengthening, optimization.

**Contributions of each author:**

Author 1 - Joel Barrera - Led the project, established the protocol, and wrote and revised the original manuscript.
Email: jibarrera@outlook.es
Author 2 - Antonio J. Figueiredo - Led the project, established the protocol, and wrote and revised the original manuscript.
Email: afigueiredo@fcdef.uc.pt
Author 3 - Filipe Manuel Clemente - Wrote and revised the original manuscript.
Email: filipe.clemente5@gmail.com
Author 4 - José Afonso - Wrote and revised the original manuscript.
Author 5 - Adam Field - Wrote and revised the original manuscript.
Email: adam.field@hud.ac.uk
Author 6 - Luis Valenzuela - Wrote and revised the original manuscript.
Email: lvalenzuela@ucsh.cl
Author 7 - Hugo Sarmento - Led the project, established the protocol, and wrote and revised the original manuscript.
Email: hugo.sarmento@uc.pt