

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

The effect of soccer-specific fatigue on two-dimensional trunk and lower limb kinematics during single-leg landing in soccer players

Protocol summary

Study aim

The aim of this study is to investigate the effect of soccer-specific fatigue on two-dimensional trunk and lower extremity kinematics during single-leg landing in male soccer players aged 18–25 years

Design

This study is a single-group quasi-experimental pretest-posttest trial involving 20 male soccer players aged 18–25 years. Participants will be recruited through purposive sampling and will undergo a soccer-specific fatigue protocol. Trunk and lower extremity kinematic variables will be assessed before and immediately after the intervention. The study does not include randomization or blinding and will be conducted as a single-center trial.

Settings and conduct

The desired tests will be taken at the Sports Rehabilitation Laboratory of Bu-Ali Sina University, Hamadan, by specialists in this field.

Participants/Inclusion and exclusion criteria

Inclusion Criteria: Male soccer players aged 18–25 years who are in good general health, regularly participate in soccer training and competition, and provide written informed consent after receiving a full explanation of the study procedures will be eligible for inclusion. Exclusion Criteria: Inability or unwillingness to complete the soccer-specific fatigue protocol, occurrence of any injury or discomfort during testing, presence of musculoskeletal abnormalities of the pelvis or lower extremities, history of fracture, surgery, joint disorders, or neuromuscular conditions affecting movement performance, pathological signs involving the spine, shoulder girdle, or pelvic girdle, and withdrawal from the study at any stage will be considered exclusion criteria.

Intervention groups

Soccer-Specific Fatigue Group

Main outcome variables

Two-dimensional trunk and lower extremity kinematics during single-leg landing.

General information

Reason for update

Edit the date of registration of the code of ethics

Acronym

IRCT registration information

IRCT registration number: **IRCT20260620069887N1**

Registration date: **2026-06-26, 1405/04/05**

Registration timing: **prospective**

Last update: **2026-06-28, 1405/04/07**

Update count: **1**

Registration date

2026-06-26, 1405/04/05

Registrant information

Name

Raziyeh Taheri

Name of organization / entity

Bu-ali sina-hamedan

Country

Iran (Islamic Republic of)

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+98 81 3323 2831

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2026-07-04, 1405/04/13

Expected recruitment end date

2026-08-01, 1405/05/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of soccer-specific fatigue on two-dimensional trunk and lower limb kinematics during single-leg landing in soccer players

Public title

Effects of Fatigue on Trunk and Lower Extremity Kinematics During Landing Tasks in Soccer Players

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Male soccer players aged 18–25 years At least 3 years of regular soccer participation Regular participation in soccer training Willingness to participate and provision of written informed consent No lower-extremity musculoskeletal injury during the previous 6 months

Exclusion criteria:

History of surgery involving the lower extremities, pelvis, or spine History of fracture or severe injury involving the lower extremities, pelvis, or spine Structural or functional abnormalities of the pelvis or lower extremities Neurological, musculoskeletal, or balance disorders affecting motor performance Use of medications affecting balance or neuromuscular function

Age

From **18 years** old to **25 years** old

Gender

Male

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **20**

Randomization (investigator's opinion)

Randomized

Randomization description

eligible participants were randomly allocated to the study groups. Randomization was performed using the Random Number Generator software. A random number was assigned to each participant, and group allocation was determined according to the generated random sequence.

Blinding (investigator's opinion)

Single blinded

Blinding description

The outcome assessor was blinded to participants' group allocation throughout data collection and analysis

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Bu Ali Sina University

Street address

Hamadan, Modares Town, Abu Taleb Street, Bu Ali Sina University

City

Hamadan

Province

Hamadan

Postal code

3869565178

Approval date

2026-04-18, 1405/01/29

Ethics committee reference number

IR.BASU.REC.1405.010

Health conditions studied

1

Description of health condition studied

assessment of trunk and lower extremity kinematic changes following soccer-specific fatigue and lower extremity injury risk factors

ICD-10 code

Z13.8

ICD-10 code description

Encounter for screening for other specified diseases and disorders

Primary outcomes

1

Description

Trunk flexion/extension angle, knee flexion angle, dynamic knee valgus angle, and ankle dorsiflexion/plantarflexion angle during single-leg landing

Timepoint

Before the intervention begins, One day after the end of the intervention

Method of measurement

Trunk and lower extremity kinematic variables during single-leg landing will be measured using two-dimensional video recording and analyzed with Kinovea software. Joint and trunk angles will be calculated in degrees and assessed before and immediately after the soccer-specific fatigue protocol.

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Soccer-Specific Fatigue Group

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Hamadan Province Sports Directorate

Full name of responsible person

heidar aldalimi

Street address

Hamadan, Modares Town, Abu Taleb Street, Bu Ali Sina University

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Bu Ali Sina University

Full name of responsible person

Farzane saki

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Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Bu Ali Sina University

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Bu Ali Sina University

Full name of responsible person

heidar aldalimi

Position

student

Latest degree

Bachelor

Other areas of specialty/work

Sport Rehabilitation

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Person responsible for updating data

Contact

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Full name of responsible person

raziyeh taheri

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Latest degree

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Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available