

Clinical Trial Protocol

Iranian Registry of Clinical Trials

01 Jul 2026

Investigation of the relationship between vertical stiffness and time to stability index during landing

Protocol summary

Study aim

Determining the relationship between vertical stiffness and the variable of time to achieve stability in three directions: vertical, anterior-posterior and medio-lateral

Design

From the statistical population of this study, including active male physical education students of Kharazmi University, 20 people participated voluntarily in this study.

Settings and conduct

data collection was performed in Movafaqian Laboratory Motion Analysis Laboratory. the subjects performed the hopping test in the form of 15 consecutive hop on the force plate bilaterally and unilaterally with three strategies (preferred, control and maximal). After performing the hopping tests, A platform with a height of 35 cm was placed at a distance of 10 cm from the force plate. The subject was asked to stand on the platform , barefoot, and on the non-dominant leg, and to jump by landing on the dominant leg in the center of the force plate and as soon as he landed, he would balance in the same position for about 20 seconds.

Participants/Inclusion and exclusion criteria

20 active male physical education students of Kharazmi University Inclusion criteria: Subjects had at least two sessions per week and at least one hour of exercise per session. Exclusion criteria: not having any abnormalities and injuries in the lower extremities during the last six months

Intervention groups

Intervention group: Healthy, active males physical education students. The subjects performed unilaterally and bilaterally hopping tests with three strategies of maximal, control and preferred and then performed landing test on the force plate from a 30 cm height. Finally, the relationship between the vertical stiffness calculated during hopping tests and the time to stability during landing was determined.

Main outcome variables

Vertical stiffness; vertical Time to stability ;anterior-posterior Time to stability ; medio-lateral Time to stability

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20201206049627N1**

Registration date: **2021-01-01, 1399/10/12**

Registration timing: **registered_while_recruiting**

Last update: **2021-01-01, 1399/10/12**

Update count: **0**

Registration date

2021-01-01, 1399/10/12

Registrant information

Name

Mohammadamin Mohammadian

Name of organization / entity

The University of Kharazmi

Country

Iran (Islamic Republic of)

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amin.electronic71@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-12-23, 1399/10/03

Expected recruitment end date

2021-01-20, 1399/11/01

Actual recruitment start date

empty

Actual recruitment end date

empty
Trial completion date
empty

Scientific title
Investigation of the relationship between vertical stiffness and time to stability index during landing

Public title
Investigation of the relationship between vertical stiffness and time to stability index during landing

Purpose
Other

Inclusion/Exclusion criteria
Inclusion criteria:
Subjects had at least two sessions per week and at least one hour of exercise per session.
Exclusion criteria:
Any anomalies or injuries during the last six months

Age
From **24 years** old to **28 years** old

Gender
Male

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **20**

Randomization (investigator's opinion)
N/A

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Single

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of the Institute of Physical Education and Sports Sciences

Street address

No. 3. 5th alley, Miremad Street, Motahary Ave

City

tehran

Province

Tehran

Postal code

1587958711

Approval date

2017-11-26, 1396/09/05
Ethics committee reference number
IR.SSRI.REC.1396.126

Health conditions studied

1

Description of health condition studied

non

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

vertical stiffness

Timepoint

just one visit

Method of measurement

force plate

2

Description

time to stability

Timepoint

just one visit in lab

Method of measurement

force plate

Secondary outcomes

empty

Intervention groups

1

Description

intervention group: Twenty healthy, active males of physical education and sport sciences of Kharazmi University . Each subject performed 15 consecutive hopping jumps bilaterally, unilaterally on dominant leg and unilaterally on non-dominant leg (nine variations in total) with three preferred, maximum and control strategies on the force plate and a single-legged landing test from a 30 cm platform on the force plate with three repetitions. Each subject in just one session in the laboratory performed 15 consecutive hopping jumps bilaterally and unilaterally with three preferred, maximum and control strategies barefoot and hand on waist on the force plate and then performed one-leg landing test on the force plate from a 30 cm platform with three repetitions.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Kharazmi Unuiversity

Full name of responsible person

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Sponsors / Funding sources

1

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Name of organization / entity

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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

The University of Kharazmi

Proportion provided by this source

80

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

The University of Kharazmi

Full name of responsible person

Mohammadamin Mohammadian

Position

PhD candidate

Latest degree

Master

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

No - There is not a plan to make this available

Clinical Study Report

Not applicable

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