

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

Study of the effect of Ankle Bracing and Taping on Electromyographic Activity of Selected Muscles of Ankle Joint in Different Foot Landing Positions

Protocol summary

Study aim

This study was conducted to determine the effect of the ankle brace and tape on the electromyographic activity of the selected muscles of the ankle joint in different foot landing positions.

Design

Clinical trial in one group, not randomized, not blinded,

Settings and conduct

All tests were performed at the sport rehabilitation lab at Bu-Ali Sina University. Fifteen female college athletes participated in the present study in one group. The landing was carried out from a stair with a height of 20 cm with wedged insoles and normal insoles before and after the fatigue protocol. The test conditions (normal and with tape and brace) and the order of wearing the insoles were selected randomly and by drawing.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Not had the previous history of an ankle sprain, no history of neurological or neuromuscular disorders, skeletal deformities such as scoliosis, lordosis, kyphosis, varus or valgus knees, lower extremity injuries (such as fractures and sprain) and pelvic or spinal injuries. Exclusion criteria: the difference of more than 5 mm in the feet length, excessive supination and pronation (navicular drop in one or both feet on the navicular drop test for pronation >10 and supination <4 mm) and lateral pelvic tilt >2.5° or transverse plane pelvic rotation.

Intervention groups

This study was conducted in one group. Five models of 5 and 10 degrees medial, lateral and normal wedged insoles were used to simulate the position of the feet on the ground at the wrong landing technique as an intervention in this study.

Main outcome variables

The electromyographic activity of medial gastrocnemius muscle and peroneus longus was recorded in four

intervals (100 milliseconds before and after landing, before and after fatigue) for investigation.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20181002041203N2**

Registration date: **2019-05-23, 1398/03/02**

Registration timing: **retrospective**

Last update: **2019-05-23, 1398/03/02**

Update count: **0**

Registration date

2019-05-23, 1398/03/02

Registrant information

Name

ali yalfani

Name of organization / entity

The University of bualisina

Country

Iran (Islamic Republic of)

Phone

+98 81 3838 1422

Email address

ali_yalfani@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2015-11-22, 1394/09/01

Expected recruitment end date

2015-12-22, 1394/10/01

Actual recruitment start date

2015-11-22, 1394/09/01

Actual recruitment end date

2015-12-11, 1394/09/20

Trial completion date

2016-03-17, 1394/12/27

Scientific title

Study of the effect of Ankle Bracing and Taping on Electromyographic Activity of Selected Muscles of Ankle Joint in Different Foot Landing Positions

Public title

Effect of Ankle Bracing and Taping on Electromyographic Activity of Selected Muscles of Ankle Joint during Landing

Purpose

Prevention

Inclusion/Exclusion criteria**Inclusion criteria:**

no previous history of ankle sprain no history of neurological or neuromuscular disorders no history of skeletal deformities no history of lower extremity injuries (such as fractures and sprain)

Exclusion criteria:

difference of more than 5 mm in the feet length excessive foot supination and pronation lateral pelvic tilt>2.5°

AgeFrom **20 years** old to **30 years** old**Gender**

Female

Phase

N/A

Groups that have been masked*No information***Sample size**Target sample size: **15**Actual sample size reached: **15****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 Hamedan University of Medical Sciences

Street address

Khaje Rashid Crossroads - Ayatollah Kashani Blvd.

City

Hamedan

Province

Hamadan

Postal code

6517838696

Approval date

2019-02-10, 1397/11/21

Ethics committee reference number

IR.UMSHA.REC.1397.762

Health conditions studied**1****Description of health condition studied****ICD-10 code****ICD-10 code description****Primary outcomes****1****Description**

The electromyographic activity of medial gastrocnemius muscle was recorded in four intervals (100 milliseconds before and after landing, before and after fatigue).

Timepoint

Before and after fatigue

Method of measurement

ME6000 Biomonitor Device

2**Description**

The electromyographic activity of peroneus longus muscle was recorded in four intervals (100 milliseconds before and after landing, before and after fatigue).

Timepoint

Before and after fatigue

Method of measurement

ME6000 Biomonitor Device

Secondary outcomes

empty

Intervention groups**1****Description**

Intervention group: Bruce fatigue protocol was used for exerting fatigue. The subjects ran on a treadmill until exhaustion while increasing speed and incline.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Bu-Ali Sina university

Full name of responsible person

Ali Yalfani

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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Full name of responsible person

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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

The University of Bu-Ali Sina

Full name of responsible person

Ali Yalfani

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Sport Medicine

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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

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is 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

Title and more details about the data/document

The information about electromyographic of muscle activity is being studied is the ability to share.

When the data will become available and for how long

Start Access 2021

To whom data/document is available

Researchers working in academic institutions

Under which criteria data/document could be used

Some of the information obtained after the analysis will be possible only for specialists in this field.

From where data/document is obtainable

Ali Yalfani آدرس ایمیل: Ali_yalfani@yahoo.com

What processes are involved for a request to access data/document

Information will be available one year after publication.

Comments