

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

19 Jun 2026

### The Effect of a Combination of Short Foot Exercise and Three-Dimensional Ankle Exercises on Balance, Proprioception and Foot Pressure Variables in People with Flat Foot

#### Protocol summary

##### Study aim

The Effect of a Combination of Short Foot Exercise and Three- Dimensional Ankle Exercises on Balance, Proprioception and Foot Pressure Variables in People with Flat Foot

##### Design

Clinical trial with two training group, with parallel groups, single blinded, randomized

##### Settings and conduct

The tests will be taken by a specialist in the sports rehabilitation laboratory of Razi University. And then intervention and exercises will take place in the sports hall of this university. In such a way that the outcome assessors will not know about the allocation of study groups and the reason for their presence in this research.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: age between 18 and 25 years old; not having history of injury or surgery of the lower limbs; the indicator of navicular bone drop be more than 10 mm. non-entry criteria: presence or creation of pain during the study, and not continuously attending the exercises (absence in the two consecutive sessions or absence in three sessions during the period); the indicator of navicular bone drop be less than 10 mm.

##### Intervention groups

The intervention group of short foot exercises which includes the release of plantar fasciitis and doing short foot exercises, the intervention group of the combination of short foot and 3D ankle exercises including the release of plantar fasciitis and the release of peroneal muscles. Both groups will perform balance, strength, proprioceptive, short foot and three-dimensional exercises for 8 weeks and 1-hour sessions for 3 weeks. Equipment such as foam roller, elastic band, balance board and marbles will be used to perform the exercises.

##### Main outcome variables

Lower body deformities

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20221215056826N1**

Registration date: **2022-12-28, 1401/10/07**

Registration timing: **registered\_while\_recruiting**

Last update: **2022-12-28, 1401/10/07**

Update count: **0**

##### Registration date

2022-12-28, 1401/10/07

##### Registrant information

##### Name

Yasaman Ghadiri

##### Name of organization / entity

Boali Sina University

##### Country

Iran (Islamic Republic of)

##### Phone

+98 81 3838 1423

##### Email address

y.ghadiri@phe.basu.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2022-12-24, 1401/10/03

##### Expected recruitment end date

2023-01-04, 1401/10/14

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

### Scientific title

The Effect of a Combination of Short Foot Exercise and Three- Dimensional Ankle Exercises on Balance, Proprioception and Foot Pressure Variables in People with Flat Foot

### Public title

The Effect of Short Foot Exercise and Three- Dimensional Ankle Exercises in People with Flat Foot

### Purpose

Treatment

### Inclusion/Exclusion criteria

#### Inclusion criteria:

Age between 18 and 25 years old Not having history of injury or surgery of the lower limbs The indicator of navicular Bone drop be more than 10 mm

#### Exclusion criteria:

Presence or creation of pain during the study And not continuously attending the exercises(absence in the two consecutive sessions or absene in three sessions during the period) The indicator of navicular Bone drop be less than 10 mm

### Age

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

### Gender

Female

### Phase

N/A

### Groups that have been masked

- Participant

### Sample size

Target sample size: **30**

### Randomization (investigator's opinion)

Randomized

### Randomization description

Randomization is done based on the Random Number Generator software, and they will be assigned to double groups based on the allocation concealment using the SNOSE method. The randomization of subjects is done in two stages. First, each of the subjects chooses a number between 1-30 using a lottery, then using the Random number generator software, fifteen random numbers are selected between the numbers 1-30, and according to the generated numbers and the selected numbers, the subjects are divided into two groups.

### Blinding (investigator's opinion)

Single blinded

### Blinding description

These people will be unaware of the purpose of the research, the allocation of study groups and the reason for their presence in the laboratory. And they only evaluate the variables and record their observations. The blinding of the participants will be done in such a way that each group will do their own exercises and in order to achieve the blinding, the members of the two groups will be present in the hall to receive the exercises on two different days.

### 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

Bu Ali Sina University, Abu Taleb St, Modares Quarter, Hamedan

##### City

Hamedan

##### Province

Hamadan

##### Postal code

3869565178

#### Approval date

2022-03-08, 1400/12/17

#### Ethics committee reference number

IR.BASU.REC.1401.025

## Health conditions studied

### 1

#### Description of health condition studied

Flat Foot

#### ICD-10 code

M21.4

#### ICD-10 code description

M21.4

## Primary outcomes

### 1

#### Description

Navicular drop, Y balance, proprioception, strength, function, plantar pressure distribution, postural fluctuations, earth reaction force

#### Timepoint

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

#### Method of measurement

Brody's method, Y balance device, inclinometer, hand dynamometer, tape measure, foot scan machine

## Secondary outcomes

empty

## Intervention groups

## 1

### Description

Intervention group one: short foot exercises, exercises for 8 weeks and 3 sessions of 1 hour per week. Equipment such as foam roller, balance board, elastic band, small glass stones will be used. The training protocol includes plantar fasciitis release, short foot exercises, strength, balance, and proprioceptive exercises.

### Category

Rehabilitation

## 2

### Description

Intervention group two: the combination of short foot and three-dimensional ankle exercises, the exercises will be for 8 weeks and 3 sessions of 1 hour each week. Equipment such as foam roller, balance board, elastic band, small glass stones will be used. The training protocol includes plantar fasciitis release, peroneal release, short foot and three-dimensional exercises, strength, balance, and proprioception.

### Category

Rehabilitation

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Kermanshah province General Administration of sport

##### Full name of responsible person

Yasaman Ghadiri

##### Street address

Bu Ali Sina University, Abu Taleb St, Modares Quarter, Hamedan

##### City

Hamedan

##### Province

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##### Postal code

3869565178

##### Phone

+98 81 3838 1423

##### Email

y.ghadiri@phe.basu.ac.ir

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

Bu Ali Sina University

##### Full name of responsible person

Farzane Saki

##### Street address

Bu Ali Sina University, Abu Taleb St, Modares Quarter, Hamedan

##### City

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##### Province

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##### Postal code

3869565178

##### Phone

+98 81 3838 1423

##### Email

f.sport2008@gmail.com

##### 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

Bo Ali Sina University

##### Full name of responsible person

Yasaman Ghadiri

##### Position

Student

##### Latest degree

Bachelor

##### Other areas of specialty/work

Sport Rehabilitation

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## Person responsible for scientific inquiries

#### Contact

##### Name of organization / entity

Bo Ali Sina University

**Full name of responsible person**

Yasaman Ghadiri

**Position**

Student

**Latest degree**

Bachelor

**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

**Person responsible for updating data****Contact****Name of organization / entity**

Bo Ali Sina University

**Full name of responsible person**

Yasaman Ghadiri

**Position**

Student

**Latest degree**

Bachelor

**Other areas of specialty/work**

Sport Rehabilitation

**Street address**