

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

06 Jul 2026

### Effect of feedback plyometric exercise on Electromyographic activity of lower limb muscle in female with dynamic knee valgus

#### Protocol summary

##### Study aim

The purpose of this study is to investigate the effect of feedback plyometric exercise on kinematics and electromyographic activity of some of the selected muscles of the lower limb.

##### Design

Clinical trial with control group, with parallel groups, single blinded, randomized

##### Settings and conduct

The tests will be carried out by the specialists at the Sport Rehabilitation Laboratory of Bu-Ali Sina University in Hamadan, and then interventions and exercises will take place in the gym. During the testing, the participant will be unaware of the main purpose of the research.

##### Participants/Inclusion and exclusion criteria

The inclusion criteria included: age range 16 to 26 years, having knee dynamic valgus angle greater than 12 degrees, having at least two years of regular exercise history, and exit criteria including history of mechanical back pain in the past year, history of any damage in the past six months, history of surgery Knee and ankle.

##### Intervention groups

feedback plyometric exercise group, control group

##### Main outcome variables

Disorder in muscle activity; anterior cruciate ligament injury; knee and ankle injury

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20190224042827N1**  
Registration date: **2019-05-12, 1398/02/22**  
Registration timing: **retrospective**

Last update: **2019-05-12, 1398/02/22**

Update count: **0**

##### Registration date

2019-05-12, 1398/02/22

##### Registrant information

###### Name

Farzane Ramezani

###### Name of organization / entity

Bu Ali Sina University

###### Country

Iran (Islamic Republic of)

###### Phone

+98 81 3838 1423

###### Email address

f.ramezani@phe.basu.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2019-03-16, 1397/12/25

##### Expected recruitment end date

2019-04-20, 1398/01/31

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Effect of feedback plyometric exercise on Electromyographic activity of lower limb muscle in female with dynamic knee valgus

##### Public title

The effect of feedback pleometric exercises on muscle electromyographic activity

##### Purpose

Treatment

##### Inclusion/Exclusion criteria

**Inclusion criteria:**

Having a knee dynamic valgus angle of more than 12 degrees Having at least two years of regular sports experience

**Exclusion criteria:**

History of mechanical back pain in the last year History of any damage in the last six months History of knee surgery History of ankle surgery

**Age**

From **15 years** old to **26 years** old

**Gender**

Female

**Phase**

N/A

**Groups that have been masked**

- Participant
- Outcome assessor
- Data analyser

**Sample size**

Target sample size: **26**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

Random Number Generator software is randomized and then assigned to double groups based on SNOSE allocation hiding.

**Blinding (investigator's opinion)**

Single blinded

**Blinding description**

Participants

**Placebo**

Not used

**Assignment**

Parallel

**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**

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

**City**

Hamedan

**Province**

Hamadan

**Postal code**

3869565178

**Approval date**

2019-03-13, 1397/12/22

**Ethics committee reference number**

IR.UMSHA.REC.1397.1000

**Health conditions studied**

**1**

**Description of health condition studied**

Dynamic Knee Valgus

**ICD-10 code**

**ICD-10 code description**

**Primary outcomes**

**1**

**Description**

Electromyographic activity of lower limb muscle

**Timepoint**

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

**Method of measurement**

Electromyographic device

**Secondary outcomes**

**1**

**Description**

impairment of muscle activity

**Timepoint**

Before and after intervention

**Method of measurement**

Surface Electromyography Device Model Data Log p3 X8

**Intervention groups**

**1**

**Description**

Intervention group: feedback plyometric exercise, Exercises will be 3 sessions of 2 hours per week for 8 weeks, and equipment will be used for exercises such as mirrors, stairs and cones.

**Category**

Rehabilitation

**2**

**Description**

Control group: No Intervention

**Category**

Other

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**

committee of volleyball and basketball of Hamedan

**Full name of responsible person**

Farzane Ramezani

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**Email**

f.ramezani@phe.basu.ac.ir

## 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**

Frazane Ramezani

**Position**

Student

**Latest degree**

Bachelor

**Other areas of specialty/work**

Sport Rehabilitation

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## Person responsible for scientific inquiries

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## Person responsible for updating data

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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