

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

16 Sep 2026

### The Effect of Functional Stabilization Exercise on Selected Neuromechanical Factors in Athletes After Anterior Cruciate Ligament Reconstruction (ACLR)

#### Protocol summary

##### Study aim

The purpose of the present study was to investigate the effect of functional stability training on selected neuromechanical factors in athletes after ACL reconstruction.

##### Design

A clinical trial with a 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

Inclusion criteria include: Athletes aged 15-30 years who have undergone ACL reconstruction surgery and their surgical technique including hamstring tendon implantation, athletes complete rehabilitation course and return to exercise, having at least 4 years experience Club sports, lack of injury history in the past 6 months, and activity in one of the volleyball or wrestling basketball disciplines and exclusion criteria include failure to participate in research, absence of more than two sessions of training sessions, surgery each Two feet.

##### Intervention groups

Functional stability training group, Control group

##### Main outcome variables

Anterior cruciate ligament injury

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20190224042827N2**

Registration date: **2019-12-19, 1398/09/28**

Registration timing: **retrospective**

Last update: **2019-12-19, 1398/09/28**

Update count: **0**

##### Registration date

2019-12-19, 1398/09/28

##### 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

2018-03-01, 1396/12/10

##### Expected recruitment end date

2018-04-21, 1397/02/01

##### Actual recruitment start date

2018-04-04, 1397/01/15

##### Actual recruitment end date

2018-05-21, 1397/02/31

##### Trial completion date

2018-08-06, 1397/05/15

##### Scientific title

The Effect of Functional Stabilization Exercise on Selected Neuromechanical Factors in Athletes After Anterior Cruciate Ligament Reconstruction (ACLR)

##### Public title

The Effect of Functional Stability Exercises on Athletes After Anterior Cruciate Ligament Reconstruction

## **Purpose**

Treatment

## **Inclusion/Exclusion criteria**

### **Inclusion criteria:**

Athletes who have undergone anterior cruciate ligament reconstruction with hamstring tendon graft surgery.

Athletes who have completed a full rehabilitation course and returned to the sport. Having at least 4 years of club sporting experience. No history of injury in the past 6 months. Working in one of the volleyball or wrestling, soccer, basketball fields.

### **Exclusion criteria:**

Surgery of both legs.

## **Age**

From **15 years** old to **30 years** old

## **Gender**

Male

## **Phase**

N/A

## **Groups that have been masked**

- Participant
- Care provider
- Outcome assessor
- Data analyser

## **Sample size**

Target sample size: **26**

Actual sample size reached: **26**

## **Randomization (investigator's opinion)**

Randomized

## **Randomization description**

Random Number Generator software is randomized.

## **Blinding (investigator's opinion)**

Double blinded

## **Blinding description**

Individuals will be assigned to dual groups based on SNOSE allocation concealment. In this method, based on the sample size of the research, a number of envelopes are prepared and each random sequence created is recorded on a card and the cards are inserted into the letter envelopes respectively. In order to maintain a random sequence, the outer surface of the envelopes is numbered in the same manner. Finally, the lid envelopes are attached and placed in a box, respectively. At the beginning of the registration of participants according to the order of entry of the eligible participants into the study, one of the envelopes of the letter will be opened in order and the assigned group of the participant will be revealed.

## **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**

2018-02-24, 1396/12/05

##### **Ethics committee reference number**

IR.UMSHA.REC.1396.840

## **Health conditions studied**

### **1**

#### **Description of health condition studied**

##### **ICD-10 code**

##### **ICD-10 code description**

## **Primary outcomes**

### **1**

#### **Description**

Selected Neuromechanical Factors

#### **Timepoint**

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

#### **Method of measurement**

Y balance test, the dynamometer, the McGill endurance tests, Hoop Tests and the digital camera

## **Secondary outcomes**

empty

## **Intervention groups**

### **1**

#### **Description**

Intervention group: Functional stability exercises, exercises will last 8 weeks and 3 sessions 1 hour each week, no special equipment is needed to perform the exercises.

#### **Category**

Rehabilitation

### **2**

#### **Description**

Control group: No Intervention  
**Category**  
Other

## Recruitment centers

### 1

#### Recruitment center

**Name of recruitment center**  
Hamadan province General Administration of Sport  
**Full name of responsible person**  
Hossein Shafiei  
**Street address**  
Bu Ali Sina University, Abu Taleb St, Modares Quarter,  
Hamedan  
**City**  
Hamedan  
**Province**  
Hamadan  
**Postal code**  
3869565178  
**Phone**  
+98 81 3838 1423  
**Email**  
f.sport2008@gmail.com

## 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,  
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Hamedan  
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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**  
Bu Ali Sina University  
**Full name of responsible person**  
Hossein Shafiei  
**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

f.sport2008@gmail.com

### Contact

**Name of organization / entity**

Bu Ali Sina University

**Full name of responsible person**

Hossein Shafiei

**Position**

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**Email**

## 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