

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,
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3869565178
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f.sport2008@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Bu Ali Sina University
Full name of responsible person
Farzane Saki
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Bu Ali Sina University, Abu Taleb St, Modares Quarter,
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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
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

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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