

Clinical Trial Protocol

Iranian Registry of Clinical Trials

29 Jul 2026

The effect of four weeks of preoperative rehabilitation exercises on Range of motion, strength, balance and Proprioception in athletes with anterior cruciate ligament injury

Protocol summary

Study aim

The effect of four weeks of preoperative rehabilitation exercises on Range of motion, strength, balance and Proprioception in athletes with anterior cruciate ligament injury

Design

After reviewing the records according to the inclusion criteria, 30 people will be selected to perform the preoperative rehabilitation training program. The subjects will be randomly divided into two experimental groups and a control group. The experimental group will perform a rehabilitation training program for 4 weeks and 3 days a week, and the control group will have only their routine activities.

Settings and conduct

Estimation of range of motion by Moby Mod, Equilibrium by Biodex balance system and power and estimation of subjects' deep sense will be done using isokinetic device. These functional evaluations will be performed in specialized pathology laboratories Sports of the Faculty of Sports and Health Sciences of Shahid Beheshti University will be performed.

Participants/Inclusion and exclusion criteria

Inclusion criteria 1-No history of combined surgery (acl surgery with pcl, meniscus,) 2- History of sports activities 3-Unilateral rupture of ACL compared to non-injured leg 4-Women and men with an age range of 29 ± 5 5-No preoperative training 6- A maximum of 3 months have elapsed since ACL injury Exclusion criteria 1- Causing pain and swelling 2- Exacerbation of injury due to the implementation of the training protocol 3- Inability to perform pre-test sections

Intervention groups

The present research design is in two groups (control and experimental). Evaluation is pre-test and post-test. Dynamic balance and depth sense) are evaluated equally and then the intervention, which includes a

specific training program, will be performed on the experimental group for four weeks. The statistical population

Main outcome variables

Range of motion, strength, balance and Proprioception

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20220418054584N1**

Registration date: **2022-10-05, 1401/07/13**

Registration timing: **registered_while_recruiting**

Last update: **2022-10-05, 1401/07/13**

Update count: **0**

Registration date

2022-10-05, 1401/07/13

Registrant information

Name

roya talebi

Name of organization / entity

Faculty of Physical Education and Sport Sciences, Shahid Beheshti University

Country

Iran (Islamic Republic of)

Phone

+98 21 2990 2550

Email address

ro.talebi@sbu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-09-23, 1401/07/01

Expected recruitment end date

2022-12-22, 1401/10/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of four weeks of preoperative rehabilitation exercises on Range of motion, strength, balance and Proprioception in athletes with anterior cruciate ligament injury

Public title

The effect of four weeks of preoperative rehabilitation exercises on Range of motion, strength, balance and Proprioception in athletes with anterior cruciate ligament injury

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

1- No history of combined surgery (anterior cruciate ligament surgery with posterior cruciate ligament, meniscus, etc.) History of sports activities (sports in which this type of injury is very common, such as football, basketball, handball) Existence of a unilateral rupture of the ACL compared to an uninjured leg Women and men with an age range of 24-34 without any training before surgery A maximum of 3 months have passed since the ACL injury

Exclusion criteria:

1- Causing pain and swelling in each stage of the research. Exacerbation of injury due to the implementation of the training protocol. inability to perform pre-test sections (if the patient is not able to perform any of the pre-test sections, they would be excluded from the sample set.)

Age

From **24 years** old to **34 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple random - lottery (in this method, the researcher gives a code or a special number to each member of the society. Then he writes down the number of each of them on a piece of paper, then he pours them into a container and shakes them. Then the papers are separated one by one. take them out, write down their numbers and divide them into experimental and control groups)

Blinding (investigator's opinion)

Not blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of shahid beheshti University

Street address

Ethics committee, Shahid Beheshti University, Shahid Dr. Shahriari Square (University Square), Rashiduddin Fazlullah St., Yaman St., Velanjak, Chamran Highway, Tehran

City

Tehran

Province

Tehran

Postal code

1983969411

Approval date

2022-04-30, 1401/02/10

Ethics committee reference number

IR.SBU.REC.1401.024

Health conditions studied**1****Description of health condition studied**

Rupture of the anterior cruciate ligament

ICD-10 code

S83.5

ICD-10 code description

Sprain and strain involving (anterior)(posterior) cruciate ligament of knee

Primary outcomes**1****Description**

Range of motion

Timepoint

4weeks

Method of measurement

mobee med (for measure Range of motion)

2**Description**

strength

Timepoint

4weeks

Method of measurement

Biodex Systems(for measure strength)

3**Description**

balance

Timepoint

4weeks

Method of measurement

Biodex balance Systems (for measure balance)

4**Description**

Proprioception

Timepoint

4weeks

Method of measurement

Biodex Systems(for measure Proprioception)

Secondary outcomes

empty

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

Intervention group: experimental group 1, after reviewing the records and evaluating the patients with ACL injury, 15 patients will be selected by the surgeon to implement the pre-operative rehabilitation exercise program, and then by obtaining written informed consent and registering the data collection form of the subjects, including Age, sports history, etc., these people will be invited to do the pre-test (measurement of strength, range of motion, balance and proprioception) and follow the training program (for 4 weeks and 3 days a week) and finally we will be reimbursed.

Category

Rehabilitation

2**Description**

Control group: Control group 1, after reviewing the records and evaluation of patients with ACL injury, 15 patients by obtaining written informed consent and registering a form to collect the subjects' information, including age, sports history, etc., by Dr. Jarrah, from this Individuals will be invited to participate in this research. At first, individuals will perform the pre-test (measurement of strength, range of motion, balance, and sense of proprioception) and continue with their routine activities in these 4 weeks, and finally after 4 weeks after the test (measurement of strength, range of motion, balance and proprioception) will be taken.

Category

Other

Recruitment centers**1****Recruitment center****Name of recruitment center**

Akhtar Hospital

Full name of responsible person

Hamidreza Aslani

Street address

Akhtar Orthopedic Center, Azar Dead End, Sharifi Menesh St., Romi Pol, Shariati St., Tehran

City

tehran

Province

Tehran

Postal code

1964714953

Phone

+98 21 2200 1072

Fax

+98 21 2260 8246

Email

akhtarhospital@gmail.com

Web page address**Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

Shahid Beheshti University

Full name of responsible person

Afshar Jafari

Street address

School of Sports and Health Sciences, Shahid Beheshti University, Shahid Dr. Shahriari Square (University Square), Rashiduddin Fazlullah St., Yaman St., Velanjak, Chamran Highway, Tehran

City

Tehran

Province

Tehran

Postal code

1983969411

Phone

+98 21 2990 5824

Email

Af_jafari@sbu.ac.ir

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

No

Title of funding source

Shahid Beheshti University, School of Sports and Health Sciences,

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**

Shahid Beheshti University

Full name of responsible person

Fariborz Hovanlo

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

physical education

Street address

Tehran, Chamran Highway, Velanjak, Yaman St.,
Rashiduddin Fazlullah St., Shahid Dr. Shahriari Square
(University Square), Shahid Beheshti University,
School of Sports and Health Sciences

City

tehran

Province

Tehran

Postal code

1983969411

Phone

+98 21 2990 5821

Email

f_hovanloo@sbu.ac.ir

Person responsible for scientific inquiries**Contact****Name of organization / entity**

shahid Beheshti University

Full name of responsible person

Fariborz Hovanlo

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

physical education

Street address

Tehran, Chamran Highway, Velanjak, Yaman St.,
Rashiduddin Fazlullah St., Shahid Dr. Shahriari Square
(University Square), Shahid Beheshti University,
School of Sports and Health Sciences

City

tehran

Province

Tehran

Postal code

1983969411

Phone

+98 21 2990 5821

Email

f_hovanloo@sbu.ac.ir

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

Shahid Beheshti University

Full name of responsible person

Fariborz Hovanlo

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

physical education

Street address

School of Sports and Health Sciences, Shahid
Beheshti University, Shahid Dr. Shahriari Square
(University Square), Rashiduddin Fazlullah St., Yaman
St., Velanjak, Chamran Highway, Tehran

City

tehran

Province

Tehran

Postal code

1983969411

Phone

+98 21 2990 5821

Email

f_hovanloo@sbu.ac.ir

Sharing plan**Deidentified Individual Participant Data Set (IPD)**

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

The information about the subjects is personal and will
not be shared with others.

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

No - There is not a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

All information except the subjects' personal information.

When the data will become available and for how long

Six months after the results are published.

To whom data/document is available

All researchers.

Under which criteria data/document could be used

The use of research results is unimpeded by acquiring

the source.

From where data/document is obtainable

ro.talebi@Mail.sbu.ac.ir

What processes are involved for a request to access

data/document

At least two working days.

Comments