Clinical Trial Protocol
Iranian Registry of Clinical Trials

12 Sep 2026

The effect of four weeks of selected rehabilitation exercises before surgery with the emphasis on core stability exercises on knee functional indexes after surgery in athletes with anterior cruciate ligament rupture: clinical trial

Protocol summary

Study aim
The effect of 4 weeks of selected rehabilitation exercises before surgery with the emphasis on core stability exercises on knee functional indexes after surgery in athletes with anterior cruciate ligament rupture

Design
This study is in the form of pre-test and post-test, according to the entry criteria, 40 people will be divided into two groups. Both groups will be pre-tested before surgery, and post-test will be taken from them 4 weeks after surgery

Settings and conduct
Evaluation of the range of motion and TKE using a goniometer, fear of movement using Tampa questionnaire, pain level using the vas questionnaire, and knee function using the IKDC questionnaire these functional evaluations will be done in the IFSM

Participants/Inclusion and exclusion criteria
The inclusion criteria of this research are: 1. Fear of movement between 18 and above 27 according to Tampa fear of movement questionnaire 2. The time from injury to surgery is maximum 3 months 3. Age range between 18 and 35 years 4. Rupture of the anterior cruciate ligament on one side 5. Not participating in any sports activities after tearing the anterior cruciate ligament The exclusion criteria of this study are: 1. Not using the same graft for each of the studied subjects 2. Intensification of injury, pain and swelling during each of the stages of the research 3. Lack of regular participation in each of the training sessions during each of the stages of the research 4.Dissatisfaction of any of the subjects during the research stages

Intervention groups
At this stage, the subjects will be randomly divided into experimental and control groups. The people of the experimental group will carry out the rehabilitation training program for 4 weeks and 3 days a week, and the control group will have their routine activities

Main outcome variables
Range of motion, pain, fear of movement, terminal knee extension, knee function

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20231006059636N1**
Registration date: **2023-10-17, 1402/07/25**
Registration timing: **registered_while_recruiting**

Last update: **2023-10-17, 1402/07/25**
Update count: **0**

Registration date
2023-10-17, 1402/07/25

Registrant information

Name
Negar Iranmanesh

Name of organization / entity
Faculty of Physical Education and Sport Sciences,shahid Beheshti University

Country
Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2023-10-14, 1402/07/22
Expected recruitment end date
2024-01-12, 1402/10/22
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
The effect of four weeks of selected rehabilitation exercises before surgery with the emphasis on core stability exercises on knee functional indexes after surgery in athletes with anterior cruciate ligament rupture: clinical trial

Public title
The effect of four weeks of selected rehabilitation exercises before surgery with the emphasis on core stability exercises on knee functional indexes after surgery in athletes with anterior cruciate ligament rupture: clinical trial
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Fear of movement between 18 and above 27 according to the Tampa fear of movement questionnaire The time from injury to surgery is a maximum of 3 months Age range between 18 and 35 years One-sided anterior cruciate ligament rupture Not participating in any sports activity after tearing the anterior cruciate ligament
Exclusion criteria:
Not using the same graft for each of the studied subjects Intensification of injury, pain and swelling during each of the stages of research Lack of regular participation in any of the training sessions during any of the stages of the research Dissatisfaction of any of the subjects during the research process
Age
From **17 years** old to **35 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **40**
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
The Ethics Committee of the Research Institute of Physical Education and Sports Sciences
Street address
No.3, 5th Alley, Miremad St., Ostad Motahari St., Tehran
City
Tehran
Province
Tehran
Postal code
1587958711
Approval date
2023-10-13, 1402/07/21
Ethics committee reference number
SSRI.REC-2305-2220

Health conditions studied

1

Description of health condition studied
Rupture of 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
4 weeks before ACL reconstruction and 4 weeks after surgery
Method of measurement
Goniometer

2

Description

Terminal knee extension

Timepoint

4 weeks before ACL reconstruction and 4 weeks after surgery

Method of measurement

Goniometer

3

Description

Fear of movement

Timepoint

4 weeks before ACL reconstruction and 4 weeks after surgery

Method of measurement

Tampa questionnaire

4

Description

Pain

Timepoint

4 weeks before ACL reconstruction and 4 weeks after surgery

Method of measurement

Visual Analouge scale

5

Description

Knee joint function

Timepoint

4 weeks before ACL reconstruction and 4 weeks after surgery

Method of measurement

International Knee Documentation Committee questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The experimental group, after reviewing the records and meeting the entry criteria, all of whom have torn the anterior cruciate ligament and are athletes, 20 people will be selected by the surgeon to implement an exercise program to strengthen the muscles of the central region before the operation, and then with written consent will be obtained from these people, then for 4 weeks and 3 sessions a week, all these athletes will receive their exercises under the direct supervision of a physiotherapist, finally, immediately before the operation, in order to assess the level of pain ,The range of motion, terminal knee extension, function of the knee joint and fear of movement of these people will be examined and post-tested, then the experimental group will undergo anterior cruciate ligament reconstruction, and 4 weeks after the reconstruction of the anterior cruciate ligament they will be tested again. The test will be taken and will be compared with the control group.

Category

Rehabilitation

2

Description

Control group: after examining the records and evaluating the patients with anterior cruciate ligament injury, 20 patients were invited by the surgeon to obtain informed written consent from the subjects, and in these 4 weeks, the control group continued their routine activities. given and before the surgery under the direct supervision of the physiotherapist immediately before the operation, the amount of pain, the range of motion, terminal knee extension, the function of the knee joint and the fear of movement of these people will be examined and pre-tested, then the control group will undergo ligament reconstruction. Anterior cruciate ligaments will be placed and 4 weeks after the reconstruction of the anterior cruciate ligament, they will be tested again and will be compared with the experimental group.

Category

Treatment - Surgery

Recruitment centers

1

Recruitment center

Name of recruitment center

Sports Medicine Federation of Islamic Republic of Iran

Full name of responsible person

Farshad Ghazalian

Street address

Sport Medicine Federation, No.17, Varzandeh St.,Tehran

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Fax

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Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Ṣhahid Beheshti University

Full name of responsible person

Mostafa Zareei

Street address
Shahid Beheshti University,Shahid Shahriari Square,Evin,Tehran,Iran
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m_zareei@sbu.ac.ir

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?
Yes

Title of funding source
Shahid Beheshti 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
Shahid Beheshti University

Full name of responsible person
Amirhosein Barati

Position
Associate professor

Latest degree
Medical doctor

Other areas of specialty/work
Sport Medicine

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Person responsible for updating data

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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 month 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 result is unimpeded by acquiring the source

From where data/document is obtainable

n.iranmanesh@mail.sbu.ac.ir

What processes are involved for a request to access data/document

At least two working days

Comments