Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The Comparison of Different Intensities of Modified Holmich Protocol on Performance, Pain and Return-to-Sport in Athletes with Long-Standing Adductor Longus Related Groin Pain

Protocol summary

Study aim

To evaluate the effect of Exercise Treatment (Modified Holmich Protocol) in different intensities (low, moderate, and high) on groin pain

Design

Clinical trial with parallel groups consist of 3 intervention groups on 36 subjects

Settings and conduct

36 athletes according to the inclusion and exclusion criteria will be included in the study and in order their entrance date, they will be divided in intervention groups from 1 to 3,respectively . After the initial evaluations, they will perform therapeutic exercises for ten weeks with three different intensities. Then, after the tenth session, the initial evaluations will be performed again.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Male athletes (18-35 years) , groin pain for at least 2 months Exclusion criteria: inguinal hernia, Pelvic or lower extremity fracture, chronic urinary system disorder

Intervention groups

Intervention group 1: Low-intensity modified Holmich therapeutic exercise protocol with 10% of maximum voluntary isometric contraction of addactur muscle, three times a week for ten weeks, intervention group 2: moderate-intensity modified Holmich therapeutic exercise protocol with 30% to 50% of maximum voluntary isometric contraction of addactur muscle, , three times a week for ten weeks and intervention group 3: high-intensity modified Holmich therapeutic exercise protocol with 70% of maximum voluntary isometric contraction of addactur muscle, , three times a week for ten weeks will perform.

Main outcome variables

pain, hip adductor and abductor muscle strengths, hip range of motion, 8 figure test

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20130121012210N9**
Registration date: **2021-06-18, 1400/03/28**
Registration timing: **prospective**

Last update: **2021-06-18, 1400/03/28**
Update count: **0**

Registration date

2021-06-18, 1400/03/28

Registrant information

Name

Azadeh Shadmehr

Name of organization / entity

Teharn University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 21 7752 8468

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-07-11, 1400/04/20

Expected recruitment end date

2021-10-12, 1400/07/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title
The Comparison of Different Intensities of Modified Holmich Protocol on Performance, Pain and Return-to-Sport in Athletes with Long-Standing Adductor Longus Related Groin Pain

Public title
The Comparison of Different exercise therapy on improvement of Long-Standing Groin Pain in Athletes

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Male athletic with Right dominant leg age 18-35 years desire to return to the former level of sports activity groin pain for at least 2 months pain at palpation of the adductor tendons or the insertion on the pubic bone or both moderate groin pain during active adduction against resistance (squeeze test) moderate pain during adduction against resistance had to be more than two and less than six at least two of the following criteria had to be present: a clear history of groin pain and stiffness in the morning, cough-induced or sneeze-induced groin pain, nocturnal groin pain , radiological evidence demonstrating osteitis pubis

Exclusion criteria:
inguinal hernia fracture of the pelvis or the lower limbs entrapment of the genitofemoral nerve taking any nonsteroidal anti-inflammatory drugs participation in principled strength training of the hip adductors for more than once a week in the 6 months prior to the study chronic urinary tract disorder

Age
From **18 years** old to **35 years** old

Gender
Male

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **36**

Randomization (investigator's opinion)
Randomized

Randomization description
Participants are divided into three intervention groups according simple randomization. Randomization will performed using sealed, randomly filled envelopes describing the treatment groups. We prepare three envelopes, in each of which one of the three methods is written. Each participant will choose one of them without knowing the contents of the envelope and will be placed in the relevant group.

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 School of Medicine ,Tehran University of Medical Sciences

Street address
School of Medicine, Poorsina street, Keshavarz Ave.

City
Tehran

Province
Tehran

Postal code
1417613151

Approval date
2020-10-31, 1399/08/10

Ethics committee reference number
IR.TUMS.MEDICINE.REC.1399.697

Health conditions studied

1

Description of health condition studied
Groin Pain

ICD-10 code
G89.11

ICD-10 code description
Acute pain due to trauma

Primary outcomes

1

Description
pain

Timepoint
before treatment, at the end of treatment (after the 10th week)

Method of measurement
according to the Visual analog scale, patient pain will be assessed during resisted hip adduction.

2

Description
Hip adductors strength by dynamo-meter

Timepoint
before treatment, at the end of treatment (after the 10th week)

Method of measurement
Average of three Maximal Voluntary Contraction (MVC) recorded on the Biodex Dynamometer during hip isometric adduction

3

Description
Hip abductors strength by dynamo meter
Timepoint
before treatment, at the end of treatment (after the 10th week)
Method of measurement
Average of three Maximal Voluntary Contraction (MVC) recorded on the Biodex Dynamometer during hip isometric abduction

4

Description
Hip range of motion by goniometer
Timepoint
before treatment, at the end of treatment (after the 10th week)
Method of measurement
It is the range of motion of the hip joint abduction recorded by goniometer

5

Description
Time to return to sport
Timepoint
When the athlete fully returns to team training and competitions after treatment.
Method of measurement
The time needed for the player to return to Sport in weeks and days

6

Description
figure of eight hop test
Timepoint
before treatment, at the end of treatment (after the 10th week)
Method of measurement
The athlete completes the 8-English course by jumping on one foot and the time of this work is recorded.

Secondary outcomes

empty

Intervention groups

1

Description
First intervention group: Low intensity Exercise. In this group Maximum Voluntary Contraction of hip adduction is defined using the Dynamometer and adjust low-intensity exercise by 10% of Maximum Voluntary Contraction. This exercises will continue for 10 weeks. The duration of each session is one hour and will be performed three times a week.
Category
Rehabilitation

2

Description
Second intervention group: Moderate intensity Exercise. In this group Maximum Voluntary Contraction of hip adduction is defined using the Dynamometer and adjust moderate-intensity exercise by 30-50% of Maximum Voluntary Contraction. This exercises will continue for 10 weeks. The duration of each session is one hour and will be performed three times a week.
Category
Rehabilitation

3

Description
Third intervention group: High intensity Exercise. In this group Maximum Voluntary Contraction of hip adduction is defined using the Dynamometer and adjust high-intensity contractions exercise by 70% of Maximum Voluntary Contraction. This exercises will continue for 10 weeks. The duration of each session is one hour and will be performed three times a week.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
School of Rehabilitation
Full name of responsible person
Azadeh Shadmehr
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Web page address

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
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Web page address
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Tehran University of Medical 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
Tehran University of Medical Sciences
Full name of responsible person
Rami Mazbouh
Position
Resident
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Person responsible for updating data

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Rami Mazbouh
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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
Not applicable

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

Not applicable

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available