Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparative Effects Of Modified Hölmich Protocol versus Eccentric Training On Strength, Speed And Agility In Young Cricketers With Groin Pain

Protocol summary

Study aim

To determine and compare the effects of modified Hölmich protocol versus eccentric strengthening training in reliving adductor related groin pain, improving strength, speed and agility in young cricketers

Design

Double blind, Pragmatic, community based, Randomised clinical trial

Settings and conduct

Participants will be recruite from following academies/clubs 1. Saeed Ajmal cricket academy, Faisalabad 2. Al-fateh Sports complex, Faisalabad 3. Pakistan Sports Board, Lahore

Participants/Inclusion and exclusion criteria

Participants only those are added to the study which fits to the selection criteria of study. Selection criteria includes following: only male cricketers were added to the study, professional Cricketers aged under 19 years, cricketers ranging from 15-19 years, self-reported groin pain presenting during sport or at rest (unilateral or bilateral) and obvious history of morning groin pain and stiffness. Those who did not met these conditions along with other conditions were not added to the study. Other conditions includes radiating pain or pain with neurogenic and systemic origin, history of pelvic or lower extremity fracture and surgery, trochanteric bursitis, inguinal or femoral hernia and persistent urinary tract disease.

Intervention groups

Group A will perform modified Hölmich protocol training which is in two parts. Part 1 will be used from week 1-3 and Part 2 will be used from week 3 to onwards. Group B will perform eccentric strength training which will include dynamic hip adduction with resistance band wrapped around ankle joint, eccentric hip adduction, isometric hip abduction and isometric hip adduction.

Main outcome variables

Main outcome variables includes improvement in: 1. pain 2. strength 3. speed and agility in young cricketers

General information

Reason for update

Acronym

ARGP (Adductor-Related Groin Pain)

IRCT registration information

IRCT registration number: **IRCT20220510054804N2**
Registration date: **2025-06-02, 1404/03/12**
Registration timing: **registered_while_recruiting**

Last update: **2025-06-02, 1404/03/12**
Update count: **0**

Registration date

2025-06-02, 1404/03/12

Registrant information

Name

Muhammad Farhan

Name of organization / entity

Government College University Faisalabad, Pakistan

Country

Pakistan

Phone

+92 309 6670876

Email address

farhangujjar607@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-07-07, 1403/04/17

Expected recruitment end date

2025-07-22, 1404/04/31

Actual recruitment start date

2025-01-15, 1403/10/26

Actual recruitment end date

2025-08-25, 1404/06/03

Trial completion date

2025-08-28, 1404/06/06

Scientific title

Comparative Effects Of Modified Hölmich Protocol versus Eccentric Training On Strength, Speed And Agility In Young Cricketers With Groin Pain

Public title

Effects Of Modified Hölmich Protocol versus Eccentric Training In Young Cricketers With Groin Pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Professional Cricketers aged under 19 years Cricketers ranging from 15-19 years (ICC Player Eligibility Regulations Article 4) Self-reported groin pain presenting during sport or at rest (unilateral or bilateral) Obvious history of morning groin pain and stiffness Only male cricketers

Exclusion criteria:

Radiating pain or pain with neurogenic and systemic origin History of pelvic or lower extremity fracture and surgery Trochanteric bursitis Inguinal or femoral hernia Persistent urinary tract disease

Age

From **15 years** old to **19 years** old

Gender

Male

Phase

N/A

Groups that have been masked

- Participant
- Outcome assessor

Sample size

Target sample size: **46**

Actual sample size reached: **42**

Randomization (investigator's opinion)

Randomized

Randomization description

After evaluation, individuals will be randomly allocated as a cluster to either the group receiving the intervention (of modified Hölmich protocol) or the group receiving the intervention (eccentric strengthening training). This will be done randomly using table of random numbers to reduce the risk of bias.

Blinding (investigator's opinion)

Double blinded

Blinding description

Blinding in this study will involves making sure that the evaluator who measure outcome variables (pain, power, speed and agility) will be uninformed of which participants will be in which intervention cluster groups and the participants will also be blinded so that they will not be aware of other cluster group. This double-blind strategy will help to avoid measurement bias.

Placebo

Not used

Assignment

Other

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Research and Ethical Committee Riphah College of Rehabilitation Sciences, Faculty of Rehabilitation

Street address

26-M Gulberg III, Lahore

City

Faisalabad

Postal code

54660

Approval date

2024-07-30, 1403/05/09

Ethics committee reference number

REC/RCR & AHS/24/0446

Health conditions studied

1

Description of health condition studied

Groin pain associated with adductor muscle strain inn young cricketers

ICD-10 code

S76.21

ICD-10 code description

Strain of adductor muscle, fascia and tendon of thigh

Primary outcomes

1

Description

Primary outcome includes improvement in groin pain, strength, speed and agility

Timepoint

outcomes are measured at three different time intervals which are base line, at the end of 4th week and at the end of 8th week

Method of measurement

Pain was measured using NPRS, Strength was measured using a dynamometer, Speed and Agility was measured in seconds by performing T-test

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Group 1 After giving participants baseline treatment. Group 1 have performed modified Hölmich protocol training which is in two parts. Part 1 will be used from week 1-3 and Part 2 will be used from week 3 to onwards. Part 1 includes Isometric, pain-free adduction against a soccer ball placed between the knees in the crook lying position, Bilateral straight leg raising in a seated V position, Isometric standing hip adduction using elastic bands (both legs should be trained), Abdominal sit-ups in both straight and oblique directions, Prone bridging on forearms and toes (the back should be completely straight), Unilateral bridge exercise starting from the crook lying position (with one knee flexed and the opposite hip and knee extended so that trunk is in neutral spine alignment, Wobble board balance training (beginning with both feet and gradual increase in difculty by single leg standing and then adding some maneuvers like small knee bends to challenge the balance . Part 2 included Low back extension exercise in the prone position with arms at the sides, Abdominal sit-ups, in both straight and oblique directions, while holding a 3 kg medicine ball in hands, Standing hip add-abd. exercise with elastic bands (both legs) , Folding knife sit-ups beginning from the crook lying position, with a soccer ball located between the knees, simultaneous ab. sit-ups and hip flex , In the prone position with arms stretched overhead, partial lifting of opposite arm and leg for 6 sec and then reverse sides, Prone bridging on forearms and toes with single limb lifting (Rt. arm, Lt. arm, Rt. leg, and Lt. leg are lifted consecutively, Side bridging on the elbow plus single hip abd, Unilateral bridge exercise. Start from crook lying position with one knee flexed and the opposite hip and knee extended while the flexed limb is on an unstable surface such as a Dyna Disc®, Copenhagen Adduction exercise beginning from the 7th week, if it does not provoke pain.

Category

Treatment - Other

2

Description

Intervention group: Group 2 After giving participants baseline treatment. Group B have performed eccentric strength training which included dynamic hip adduction with resistance band wrapped around ankle joint, eccentric hip adduction, isometric hip abduction and isometric hip adduction.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Saeed Ajmal Cricket Academy, Faisalabad

Full name of responsible person

DC Sports Officer Miss Sajida

Street address

C22R+W6J, Jhang Rd, Firdous Colony Faisalabad

City

Faisalabad

Postal code

38000

Email

farhangujjar607@gmail.com

2

Recruitment center

Name of recruitment center

Al-Fateh Sports Complex

Full name of responsible person

District Sports Officer Mr. M. Tariq Nazeer

Street address

C442+X8H, D Ground Block B People's Colony No 1, Faisalabad

City

Faisalabad

Postal code

38000

Email

farhnagujjar607@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Riphah International Universtiy, Gulberg Green III, Lahore

Full name of responsible person

Prof. Dr. Sayyed Asadullah Arslan Gillani

Street address

25 Raza Saeed Rd, Bhabra Block M Gulberg III, Lahore, Punjab 25-M Block, Lahore

City

Lahore

Postal code

54660

Phone

Email

54192@students.riphah.edu.pk

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Riphah International Universtiy, Gulberg Green III, Lahore

Proportion provided by this source

100

Public or private sector

Private

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

Riphah International University, Lahore

Full name of responsible person

Muhammad Farhan

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

Dr.Muhammad Farhan;PT

Position

Master's Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Person responsible for updating data

Contact

Name of organization / entity

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Full name of responsible person

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Position

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Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

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

Yes - There is 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

Cases of groin pain associated with adductor muscle strain in young cricketers with the primary outcome measures of pain, strength, speed and agility

When the data will become available and for how long

Data will be available after completion of trial (i.e 28 August 2025) and publication period and will be available until removed upon the author's demand

To whom data/document is available

To all the researchers community, analysts and clinicians

Under which criteria data/document could be used

For research purpose and evidence based practice at clinics for the imporved treatment of adductor related groin pain in young cricketers and other athletes (i.e footballers) as well as applicable to the general patients also suffering with the same condition.

From where data/document is obtainable

Google scholar (https://scholar.google.com/) and PubMed

(https://pubmed.ncbi.nlm.nih.gov/)	None
What processes are involved for a request to access data/document	**Comments**