Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of active release and active recovery techniques for delayed onset muscle soreness on recovery and fatigue among athletes.

Protocol summary

Study aim
To compare active release and active recovery techniques for delayed onset muscle soreness on recovery and fatigue among athletes.

Design
This study will be a randomized clinical trial.

Settings and conduct
Data will be collected from Pakistan Sports Board.

Participants/Inclusion and exclusion criteria
Inclusion Criteria: • Height range: 165 cm-180 cm • weight range: 60 kg-80 kg; • Healthy • free from cardiovascular diseases, muscle damage and pain, and neurological diseases • Voluntarily participated in the study without any discomfort and sign informed consent. • Have past history of DOMS. • Sprinters, runners. Exclusion Criteria: • Have had an open wound or inflammatory disease within the last 6 month • Have neurological or muscular disorders that may affect muscle strength • Are with missing limbs • Have a seriously unstable medical condition determined from a physical examination. • Players who are taking steroids, analgesics, muscle relaxants, or other medications. • Have taken other clinical trial drugs for less than 3 months • Have genetic problems, such as galactose intolerance, Lapp lactase deficiency, or glucose-galactose malabsorption • Are unwilling or unable to follow the study guidelines

Intervention groups
Group A: Group A will perform active recovery technique that 30 min Cardio/Jogging, 10 repetitions of Resistance bands exercises, Stretches of targeted muscles and Foam roller exercise of 45 seconds to minimize effect of fatigue in Active Recovery Techniques. Participants will perform Active recovery techniques with an interval of 10 sec. Group B: Group B will get Active Release technique manually. This technique will be performed for duration of 15 minutes. This protocol will be performed twice after Workout.

Main outcome variables
Rating of fatigue scale Numeric Pain Rating Scale: Functional Performance Tests: Likert Scale of Muscle Soreness:

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20231103059939N1**
Registration date: **2023-11-24, 1402/09/03**
Registration timing: **prospective**

Last update: **2023-11-24, 1402/09/03**
Update count: **0**

Registration date
2023-11-24, 1402/09/03

Registrant information

Name
Sibgha Anum

Name of organization / entity
Riphah International University ,Lahore Campus,Pakistan

Country
Pakistan

Phone
+92 324 6456629

Email address
sibghaanum8@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2023-12-04, 1402/09/13

Expected recruitment end date
2023-12-07, 1402/09/16

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of active release and active recovery techniques for delayed onset muscle soreness on recovery and fatigue among athletes.

Public title

Athlete's Guide to Faster Recovery: Comparing Muscle Soreness Relief Methods

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Height range: 165 cm-180 cm weight range: 60 kg-80 kg; Healthy free from cardiovascular diseases, muscle damage and pain, and neurological diseases Voluntarily participated in the study without any discomfort and sign informed consent Have past history of DOMS. Sprinters, runners.

Exclusion criteria:

Have had an open wound or inflammatory disease within the last 6 month Have neurological or muscular disorders that may affect muscle strength Are with missing limbs Have a seriously unstable medical condition determined from a physical examination, such as cardiovascular disease, respiratory disease, gastrointestinal disease, hepatobiliary disease, metabolic disease, endocrine disease, renal disease, urinary disease, or problems with the nervous system or mental health Players who are taking steroids, analgesics, muscle relaxants, or other medications that the researchers decide to be inappropriate, such as antispasmodics, antidepressants, antidiarrheal, antibiotics, or thrombolytic substances. Have taken other clinical trial drugs for less than 3 months Have genetic problems, such as galactose intolerance, Lapp lactase deficiency, or glucose-galactose malabsorption Are unwilling or unable to follow the study guidelines

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **44**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple Randomization each member of the population is assigned a number, after which numbers are selected at random.

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

Research and Ethics committee

Street address

Riphah International University, Gulberg campus, Lahore , Pakistan

City

Lahore

Postal code

54810

Approval date

2023-08-03, 1402/05/12

Ethics committee reference number

REC/RCR & AHS/23/0452

Health conditions studied

1

Description of health condition studied

DELAYED ONSET MUSCLE SYNDROME

ICD-10 code

M79.1

ICD-10 code description

Myalgia

Primary outcomes

1

Description

RECOVERY AMONG ATHLETES

Timepoint

Five readings will be taken. First baseline reading will be taken 24 hours before workout. Pre and post readings of recovery Technique will be taken immediate after workout. Next two readings will be taken after 24 h and 48hours.

Method of measurement

Numeric Pain Rating Scale AND Functional Performance Tests:

Secondary outcomes

1

Description

FATIGUE AMONG ATHLETES

Timepoint

Five readings will be taken. First baseline reading will be taken 24 hours before workout. Pre and post readings of recovery Technique will be taken immediate after workout. Next two readings will be taken after 24 h and 48hours.

Method of measurement

Rating of fatigue scale AND Likert Scale of Muscle Soreness:

Intervention groups

1

Description

Intervention group:22 participants will be randomly allocated in Group A. Rating of fatigue scale, FPT and NPRS will be considered as baseline measure. Active recovery technique will follow the regime of 4 to 12 reps, 1 to 5 sets, at interval of 30 to 40 sec.

Category

Treatment - Other

2

Description

Intervention group:22participants will be randomly allocated in Group B. This group will receive active release technique for 15 minutes. ART includes manual therapy to apply compressive, tensile and shear. We will apply deep tension at the area of tenderness whilst the participants will instructed to actively move the DOMS site from a shortened to a lengthened position.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Pakistan Sports Board Lahore

Full name of responsible person
Sibgha Anum

Street address
Pakistan Sports Board , Qaddafi Stadium, Lahore , Pakistan

City
Lahore

Postal code
54810

Phone
+92 42 99232074

Email
infopsb@sports.gov.pk

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Riphah International University Lahore

Full name of responsible person
Dr. Muhammad Hashim

Street address
Riphah International University, Gulberg campus, Lahore , Pakistan

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Lahore

Postal code
54660

Phone
+92 323 4071564

Email
Muhammad.hashim@riphah.edu.pk

Web page address
https://www.riphah.edu.pk/lahore/

Grant name

Grant code / Reference number

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

Title of funding source
Riphah International University 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
Sibgha Anum

Position
student

Latest degree
Bachelor

Other areas of specialty/work
Physiotherapy

Street address
Riphah International University, Gulberg campus, 25 Raza Saeed Rd, Bhabra Block M Gulberg III, Lahore, Punjab 25-M Block, Lahore, 54660Lahore , Pakistan

City
Lahore

Province
Punjab

Postal code
54660

Phone

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Email

sibghaanum8@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Riphah International University Lahore

Full name of responsible person

Sibgha Anum

Position

student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Person responsible for updating data

Contact

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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

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