

Clinical Trial Protocol

Iranian Registry of Clinical Trials

21 Jul 2026

Comparing the Effects of Instrument-Assisted Soft Tissue Mobilization and Self-Stretching Techniques To Improve Pain, Range of Motion and Function in Athletes with Subacromial Impingement Syndrome

Protocol summary

Study aim

The aim of this study is to compare the effects of instrument assisted soft tissue mobilization and self-stretching techniques to improve shoulder pain, range of motion and function in athletes with subacromial impingement syndrome

Design

Randomized clinical trial; a single blinded study

Settings and conduct

Future Badminton Academy, Single blinded study (assessors of the study would be kept blind of the treatment group to which the patient will be allocated)

Participants/Inclusion and exclusion criteria

Inclusion criteria: Age 20-40 years old, Both male and female athletes, Athletes with painful arc, Athletes with positive Hawkins-Kennedy and Neers sign, Athletes with unilateral/bilateral impingement. Non-inclusion criteria: Any other musculoskeletal disorder of shoulder, Any Previous surgery of shoulder, Patients with co-morbidities, Hypertension, Diabetes

Intervention groups

Control group: they will get Self-stretching techniques (e.g., cross body stretch, sleeper stretch) using towel, shoulder pulleys or Thera-bands, each technique was performed for at least 5-7 times with 5-10 seconds hold under the supervision of physiotherapist with proper instructions with base line treatment (Hot pack for 10 minutes, TENS 15 minutes) before stretching. Intervention group: they will get Hawk grip (HGPro multitool) under the supervision of Hawk-grip IASTM practitioner. Starting with the superficial muscles of the shoulder girdle, continuing along the intrascapular region and up into the cervical region main focus was on rotator cuff muscles (supraspinatus, infraspinatus, teres minor, subscapularis) with base line treatment (Hot Pack for 10 min, TENS 15 min) before IASTM.

Main outcome variables

Function, Pain, Range of motion of shoulder

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210530051449N1**

Registration date: **2021-09-24, 1400/07/02**

Registration timing: **retrospective**

Last update: **2021-09-24, 1400/07/02**

Update count: **0**

Registration date

2021-09-24, 1400/07/02

Registrant information

Name

Urooj Afzal

Name of organization / entity

Riphah international univeristy lahore

Country

Pakistan

Phone

+92 42 35325503

Email address

uroojafzal95@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-01-05, 1399/10/16

Expected recruitment end date

2021-06-05, 1400/03/15

Actual recruitment start date

2021-02-05, 1399/11/17

Actual recruitment end date

2021-07-05, 1400/04/14

Trial completion date
2021-07-05, 1400/04/14

Scientific title
Comparing the Effects of Instrument-Assisted Soft Tissue Mobilization and Self-Stretching Techniques To Improve Pain, Range of Motion and Function in Athletes with Subacromial Impingement Syndrome

Public title
Effects of Instrument-Assisted Soft Tissue Mobilization and Self-Stretching Techniques On Pain, Range of Motion and Function

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Age of 20-40 years old Both male and female athletes
Athletes with painful arc Athletes with positive Hawkins-Kennedy and Neers sign Athletes with unilateral/bilateral impingement
Exclusion criteria:
Any other musculoskeletal disorder of shoulder Any Previous surgery of shoulder Patients with co-morbidities Hypertension Diabetes

Age
From **20 years** old to **40 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **26**
Actual sample size reached: **22**

Randomization (investigator's opinion)
Randomized

Randomization description
The subjects fulfilling the inclusion criteria will be enrolled after independent outcome assessor then, coin toss method will be used for randomization. We simply flip the coin into the air and seeing which side lands facing up. The subject's randomization method reduces the chances of bias group allocation.

Blinding (investigator's opinion)
Single blinded

Blinding description
The study would be single blinded as assessor of the study will be kept blind of the treatment group to which the patient will be allocated.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee

Name of ethics committee

Research & Ethical Review Committee, Riphah College of Rehab. & Allied Health Sciences.

Street address

Madar-e-Millat Road, Quaid-e-Azam Industrial Estate Quaid e Azam Industrial Estate, Lahore, Punjab

City

Lahore

Postal code

54000

Approval date

2020-12-24, 1399/10/04

Ethics committee reference number

REC/RCR & AHS/20/0406

Health conditions studied

1

Description of health condition studied

Subacromial Impingement Syndrome

ICD-10 code

M75.4

ICD-10 code description

Impingement syndrome of shoulder

Primary outcomes

1

Description

Pain

Timepoint

Before treatment and then on 6th week

Method of measurement

Numeric pain rating scale

2

Description

Function

Timepoint

Before treatment and on 6th week

Method of measurement

Oxford shoulder score

3

Description

Range of Motion

Timepoint

Before treatment and on 6th week

Method of measurement

Universal Goniometer

Secondary outcomes

empty

Intervention groups

1

Description

Control group: Self-stretching techniques (e.g., cross body stretch, sleeper stretch) using towel, shoulder pulleys or Thera-bands were used on Group A, each technique was performed for at least 5-7 times with 5-10 seconds hold under the supervision of physiotherapist with proper instructions with base line treatment (Hot pack for 10 minutes, TENS 15 minutes) before stretching

Category

Rehabilitation

2

Description

Intervention group: Hawk grip (HGPro multitool) was used on group B under the supervision of Hawk-grip IASTM practitioner. Starting with the superficial muscles of the shoulder girdle, continuing along the intrascapular region and up into the cervical region main focus was on rotator cuff muscles (supraspinatus, infraspinatus, teres minor, subscapularis) with base line treatment (Hot Pack for 10 mint, TENS 15 min) before IASTM.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Future Badminton Academy

Full name of responsible person

Dr Muteeb Sohail Dar

Street address

Johar Town Badminton Hall

City

Lahore

Postal code

54000

Phone

+92 544 270702

Email

Fbcop321@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Riphah International University, Lahore

Full name of responsible person

Urooj Afzal

Street address

Madar-e-Millat Road, Quaid-e-Azam Industrial Estate
Quaid e Azam Industrial Estate, Lahore, Punjab

City

Lahore

Postal code

54000

Phone

+92 42 37414349

Email

uroojafzal95@gmail.com

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

Tasneem Shehzadi

Position

Senior Lecturer

Latest degree

Master

Other areas of specialty/work

Physiotherapy

Street address

Madar-e-Millat Road, Quaid-e-Azam Industrial Estate
Quaid e Azam Industrial Estate, Lahore, Punjab

City

Lahore

Province

Punjab

Postal code

54000

Phone

+92 42 111 747 424

Email

tasneem.shehzadi@riphah.edu.pk

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Riphah International University, Lahore

Full name of responsible person

Tasneem Shehzadi

Position

Senior Lecturer

Latest degree

Master

Other areas of specialty/work

Physiotherapy

Street address

Madar-e-Millat Road, Quaid-e-Azam Industrial Estate

Quaid e Azam Industrial Estate, Lahore, Punjab

City

Lahore

Province

Punjab

Postal code

54000

Phone

+92 42 111 747 424

Email

Tasneem.shehzadi@riphah.edu.pk

Web page address

Lahore

Province

Punjab

Postal code

54000

Phone

+92 42 111 747 424

Email

uroojafzal95@gmail.com

Web page address**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

All collected deidentified IPD will be shared.

When the data will become available and for how long

After Publication

To whom data/document is available

people working in academic institutions and researchers

Under which criteria data/document could be used

on permission from investigator

From where data/document is obtainable

Through email to Investigator uroojafzal95@gmail.com

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

Through email to Investigator uroojafzal95@gmail.com

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

Riphah International University, Lahore

Full name of responsible person

Urooj Afzal

Position

Post graduate student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

Street address

Madar-e-Millat Road, Quaid-e-Azam Industrial Estate

Quaid e Azam Industrial Estate, Lahore, Punjab

City