Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 mint, 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
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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

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Lahore

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+92 544 270702

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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
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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

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Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity
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Urooj Afzal
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Bachelor
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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