

Clinical Trial Protocol

Iranian Registry of Clinical Trials

30 May 2026

The effects of focused shock wave on pain, range of motion, muscle strength and quality of life in non-professional athletes with chronic supraspinatus tendinopathy.

Protocol summary

Study aim

Effects of focused shock wave on pain, range of motion, muscle strength and quality of life in non-professional athletes with chronic supraspinatus tendinopathy

Design

Randomized clinical trial, without control group, on 32 participants, using block randomization

Settings and conduct

This is a two-blinded block randomized clinical trial that compares the effects of shock wave and friction massage on supraspinatus tendinopathy. Evaluation and treatment of cases is done by another physiotherapist in the Physiotherapy Clinic of Oxin. The variables and measurement method and treatment protocol in the groups are as follows: Range of flexion, abduction, external rotation with an inclinometer, strength of the supraspinatus with a dynamometer, and pressure pain threshold of the supraspinatus, middle deltoid, and upper trapezius with an algometer. Determination of visual pain using questionnaire before and after each treatment session and quality of life with questionnaire. Treatment protocol for group 1 performing 4 shock wave sessions and for group 2 performing 4 sessions friction massage once a week. Both groups also receive 12 training sessions (3 times a week).

Participants/Inclusion and exclusion criteria

Inclusion criteria: non-professional athletes; pain in sport activities in last 3 months; age limitation 20-45 years old; body mass index below 30; being positive at least 2 of these tests: empty can, painful arc, Hawkins. Exclusion criteria: all contraindications for shock wave; history of surgery, fracture or osteoarthritis in the treatment areas.

Intervention groups

Intervention group 1: 4 shock wave sessions once a week
Intervention group 2: 4 friction massage sessions once a week
Both groups receive 12 sessions of exercise therapy (3 times a week)

Main outcome variables

Pain reduction, improve range of motion and quality of life

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20220829055825N1**

Registration date: **2023-01-01, 1401/10/11**

Registration timing: **prospective**

Last update: **2023-01-01, 1401/10/11**

Update count: **0**

Registration date

2023-01-01, 1401/10/11

Registrant information

Name

Alireza Karimi

Name of organization / entity

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-01-21, 1401/11/01

Expected recruitment end date

2023-04-19, 1402/01/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effects of focused shock wave on pain, range of motion, muscle strength and quality of life in non-professional athletes with chronic supraspinatus tendinopathy.

Public title

Effect of focused shock wave on chronic supraspinatus tendinopathy

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Non-professional athletes (2 to 3 hours per week) Pain in sport activities in last 3 month Age limitation 20-45 years old Body mass index below 30 Being positive at least 2 of these test: empty can, painful arc, Hawkins

Exclusion criteria:

All contraindication of shock wave History of surgery, fracture or osteoarthritis in the treatment areas

Age

From **20 years** old to **45 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Investigator
- Data analyser

Sample size

Target sample size: **32**

Randomization (investigator's opinion)

Randomized

Randomization description

AABB; BBAA; ABAB; BABA; ABBA; BAAB. Write these items on six paper and put in the six packets. Draw eight times until eight envelopes are selected, provided that the envelopes are repeated; each characteristics of the specification of the four allocations of the individual.

Blinding (investigator's opinion)

Double blinded

Blinding description

The main researcher in this study won't aware of the randomization of the patients and the patients will treat by another therapist who will aware of the treatment groups. At the end, the data analyst will analyze the data without knowing what treatment package groups 1 and 2 received.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethic Committee of Iran University of Medical Sciences

Street address

Next to Milad Tower, Hemat Highway, Iran University of Medical Sciences.

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Tehran

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Postal code

1449614535

Approval date

2022-07-28, 1401/05/06

Ethics committee reference number

IR.IUMS.REC.1401.446

Health conditions studied**1****Description of health condition studied**

Chronic supraspinatus tendinopathy

ICD-10 code

M75.80

ICD-10 code description

Other shoulder lesions, unspecified shoulder

Primary outcomes**1****Description**

Range of motion of flexion, abduction, external rotation of the shoulder

Timepoint

At the first and end of treatment program

Method of measurement

Range of motion with inclinometer

2**Description**

Strength of the supraspinatus muscle

Timepoint

At the first and end of treatment program

Method of measurement

Muscle strength with dynamometer

3**Description**

Pain pressure threshold of the muscles of the

supraspinatus, middle deltoid, and upper trapezius.

Timepoint

At the first and end of treatment program

Method of measurement

Pain pressure threshold with algometer

4

Description

Amount of Visual Analog Scale

Timepoint

Before and after each session

Method of measurement

Visual Analog Scale (VAS) questionnaire

5

Description

Quality of life

Timepoint

At the first and end of treatment program

Method of measurement

SF-36 questionner

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group:4 session (one session per week)
Extracorporeal Shockwave Therapy(ESWT) Focused Storz
(Swiss 2019) . Protocol: 1000-2000 plus, frequency 4 Hz,
intensity 0.1 mj/mm2

Category

Rehabilitation

2

Description

Control group:4 session (one session per week) Friction
massage for 10 minutes on supraspinatus tendon,
myofascial tissue of supraspinatus, deltoid and upper
trapezius.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Oxin Physio clinic

Full name of responsible person

Alireza Karimiahmadabadi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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Full name of responsible person

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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

Iran 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

Oxin physiotherapy Clinic

Full name of responsible person

Alireza Karimiahmadabadi

Position

Master student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries

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Ph.D.

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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