Clinical Trial Protocol
Iranian Registry of Clinical Trials

24 Nov 2026

Comparison of the effectiveness of Magnetic Field Therapy and Extracorporeal Shock wave therapy on pain relief and joint function improvement in shoulder impingement syndrome

Protocol summary

Study aim
Determining and comparing the effects of pulsed ElectroMagnetic Field and Shock wave therapy on improving shoulder joint pain and function in patients with shoulder impingement syndrome

Design
A controlled, parallel-group, open labeled, randomized clinical trial on 62 patients. Random allocation version 2 software will be used for randomization.

Settings and conduct
Study will be conducted at the physical medicine and rehabilitation clinics of Isfahan university of medical sciences. Eligible patient will be randomly divided into two groups; group1 will receive magnet therapy 30 minutes per session, 8 session over 3 weeks plus daily Elartrit and exercise. Group2 will receive shock wave therapy 3 session over 3 weeks plus daily Elartit and exercise.

Participants/Inclusion and exclusion criteria
Inclusion critera:1)Patients with shoulder pain who were clinically diagnosed with shoulder impingement syndrome and demonstrated rotator cuff inflammation on ultrasound or MRI, meeting Neer's criteria for grade 1 or 2; 2)At least three months must have passed since symptom onset; 3)Patient's informed consent for study participation; 4)Age range of 18-70 years. Exclusion criteria: 1)Patients candidate for emergency surgery; 2)Previous surgery in the shoulder and arm area; 3)Pregnancy; 4)Cancer; 5)Metal implants, such as heart pacemakers; 6)Uncontrolled internal and neurological diseases; 7)Bleeding disorder; 8)Cortisone injection into the shoulder joint within the last month; 9)Patients with a history of diseases affecting the musculoskeletal system; 10)Rheumatologic diseases and traumatic injuries of the shoulder joint.

Intervention groups
Group A will undergo magnet therapy plus exercise and medication; whereas group B will receive shock wave therapy with exercise and medication .

Main outcome variables
Control of pain; active range of motion of the shoulder joint in abduction; improvement in shoulder function

General information

Reason for update

Acronym
SIS (Shoulder Impingement Syndrome)

IRCT registration information
IRCT registration number: **IRCT20250602066034N1**
Registration date: **2025-07-03, 1404/04/12**
Registration timing: **prospective**

Last update: **2025-07-03, 1404/04/12**
Update count: **0**

Registration date
2025-07-03, 1404/04/12

Registrant information
Name
Sara Ghaffari
Name of organization / entity
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Iran (Islamic Republic of)
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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2025-07-23, 1404/05/01

Expected recruitment end date

2026-07-23, 1405/05/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effectiveness of Magnetic Field Therapy and Extracorporeal Shock wave therapy on pain relief and joint function improvement in shoulder impingement syndrome

Public title

Comparison of magnetic therapy and shock wave therapy in shoulder impingement syndrome

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Patients with shoulder pain who were clinically diagnosed with shoulder impingement syndrome and demonstrated rotator cuff inflammation on ultrasound or MRI, meeting Neer's criteria for grade 1 or 2 At least three months must have passed since symptom onset Patient's informed consent for study participation Age range of 18-70 years

Exclusion criteria:

Patients candidate for emergency surgery Previous surgery in the shoulder and arm area Pregnancy Metal implants, such as heart pacemakers Uncontrolled internal and neurological diseases Bleeding disorders Patients with a history of diseases affecting the musculoskeletal system Cortisone injection into the shoulder joint within the last month Rheumatologic diseases and traumatic injuries of the shoulder joint Cancer

Age

From **18 years** old to **70 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **62**

Randomization (investigator's opinion)

Not randomized

Randomization description

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

Ethics committee of Isfahan Univercity of Medical Sciences

Street address

Hezar Jerib Street

City

Isfahan

Province

Isfehan

Postal code

8174673548

Approval date

2025-06-02, 1404/03/12

Ethics committee reference number

IR.MUI.MED.REC.1404.106

Health conditions studied

1

Description of health condition studied

Shoulder impingement syndrome

ICD-10 code

M75.4

ICD-10 code description

Impingement syndrome of shoulder

Primary outcomes

1

Description

Pain intensity based on VAS score

Timepoint

Before, immediately, one month and three months after the intervention

Method of measurement

VAS questionnaire

2

Description

improvement in shoulder function based on DASH questionnaire

Timepoint

Before, immediately, one month and three months after the intervention

Method of measurement

DASH questionnaire

3

Description

Active range of motion of the shoulder joint in abduction based on goniometer

Timepoint

Before, immediately, one month and three months after the intervention

Method of measurement

Goniometer

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Patients in the first group will undergo magnet therapy with a NOVIN MED model 915G magnet device for 30 minutes, 3 days a week, for 8 sessions with an intensity of 55 and a frequency of 70. The patient will lie supine on the bed and the affected shoulder will be placed inside an applicator with a diameter of 70 cm. Patients in this group will also be treated with El Artrit, one tablet daily with food for 3 weeks and exercise.The exercises include Codman's pendulum exercise, wall walking, stretching of posterior capsule, and shoulder shrug, 3 times a day, 3 sets each time, and each set is 20 seconds long for 3 weeks.

Category

Rehabilitation

2

Description

Intervention group: Patients in the second group will undergo shock wave therapy during 3 sessions, 1 day per week for 3 weeks with the Storz Duolith SD device, with an energy of 1.8-3 bar (according to patient tolerance), with 3000 radial pulses and a moving frequency of 15 Hz per area per session. The shock wave location is performed in four areas of the shoulder: the first location is in the anterior to posterior direction of the shoulder joint, the second location is in the oblique direction towards the glenohumeral, the third location is in the posterior to anterior direction, and the fourth location is in the axillary area. This group will also be treated with the drug ElArtrit, one tablet daily with food and exercise. The exercises include codman’s pendulum exercise, wall walking, stretching of posterior capsule, and shoulder shrug, 3 times daily, 3 sets each time, and 20 seconds each set for 3 weeks.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Amin hospital

Full name of responsible person

Sara ghafari

Street address

Amin Educational and Medical Center, Sonbolistan Street, Shohada Square - Ibn Sina Street

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

Dr. Gholam Reza Askari

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Building No.4, Vice President for Research and Technology, Isfahan Univercity of Medical Sciences and Health Services, Hezar Jerib

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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

Esfahan 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

Esfahan University of Medical Sciences

Full name of responsible person
Sara Ghafari

Position
resident

Latest degree
Medical doctor

Other areas of specialty/work
Physical Medicine

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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