

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 2026

A comparison between muscle energy technique with low-level laser in reducing neck and shoulder pain and disability in subjects with trapezius and levator scapula myofascial trigger points

Protocol summary

Summary

This study aimed to compare the effects of muscle energy technique with low-level laser on reducing neck and shoulder pain and disability in patients with myofascial trigger points in upper trapezius and levator scapula. This double-blind randomized controlled trial was performed in Zahedan University of Medical Sciences, in 2009. Thirty patients with trigger points in upper trapezius and levator scapula were participated through simple non probability sampling. Patients were randomly assigned to one of three groups, 10 in each group: including muscle energy technique, low-level laser, and placebo groups. In laser group, a low-level Ga-As laser was applied with 5 KHz frequency, a 100 mW point probe (average power), wavelength 905 nm, pulse duration 200 ns, 6 J/cm² dosages per minute, for 3 minutes duration. In muscle energy group, we used stretching after post_ isometric relaxation. Placebo group treated using low-level laser without output. A 10 session treatment program, during two weeks, five sessions per week was performed for all groups. Before and after intervention, we assessed neck disability with Neck Disability Index, neck pain with Visual Analogue Scale and shoulder pain and disability with Shoulder Pain and Disability Index and cervical ranges of motion with specific neck goniometer.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201011281675N3**

Registration date: **2011-01-20, 1389/10/30**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2011-01-20, 1389/10/30

Registrant information

Name

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Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Zahedan University of Medical Sciences

Expected recruitment start date

2009-04-06, 1388/01/17

Expected recruitment end date

2009-12-21, 1388/09/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

A comparison between muscle energy technique with low-level laser in reducing neck and shoulder pain and disability in subjects with trapezius and levator scapula myofascial trigger points

Public title

A comparison between muscle energy technique with low-level laser in reducing neck and shoulder pain and

disability in subjects with trapezius and levator scapula myofascial trigger points

1411/3030

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Age between 18-25, having trigger point in trapezius and levator scapula muscles with main complaint: muscle pain without neurological sign, no history of respiratory diseases, surgery, and neck & thoracic spine structural disorders. Exclusion criteria: no completion of the treatment, using other therapeutic modalities during study, trauma and surgery during the study.

Age

From **18 years** old to **25 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Double blinded

Blinding description

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

1

Registry name

no registration

Secondary trial Id

no trial id

Registration date

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Tehran Payam-e- Noor University

Street address

No 233, Cross of Sepand, Shahid nejatollahi St.,

City

Tehran

Postal code

Approval date

2011-01-08, 1389/10/18

Ethics committee reference number

Health conditions studied

1

Description of health condition studied

subjects with trigger points in upper trapezius and levator scapula

ICD-10 code

M62

ICD-10 code description

Other soft tissue disorders

Primary outcomes

1

Description

Neck pain

Timepoint

Before intervention, 2 weeks after intervention

Method of measurement

Visual Analogue Scale

2

Description

Neck disability

Timepoint

Before intervention, 2 weeks after intervention

Method of measurement

Neck Disability Index

3

Description

Shoulder pain and disability

Timepoint

Before intervention, 2 weeks after intervention

Method of measurement

Shoulder Pain and Disability Index

4

Description

Cervical ranges of motion

Timepoint

Before intervention, 2 weeks after intervention

Method of measurement

Specific neck goniometer

Secondary outcomes

1

Description

No secondary outcome

Timepoint

No secondary outcome

Method of measurement

No secondary outcome

Intervention groups

1

Description

A low-level Ga-As laser was applied with 5 KHz frequency, a 100 mW point probe (average power), wavelength 905 nm, pulse duration 200 ns, 6 J/cm² dosages per minute, for 3 minutes duration

Category

Rehabilitation

2

Description

Muscle energy technique: stretching after post_ isometric relaxation.

Category

Rehabilitation

3

Description

low-level laser without output

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Razmejo-Moghadam physiotherapy clinic, Zahedan

Full name of responsible person

Dr. Asghar Akbari

Street address

Razmejo-Moghadam Laboratory, School of Rehabilitation Sciences, Zahedan University of Medical Sciences, Ayatoallah Kafami St.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Zahedan University of Medical Sciences

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

Zahedan University of Medical Sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Zahedan University of Medical Sciences

Full name of responsible person

Dr. Asghar Akbari

Position

Associate Professor, Head of Dept. of Physiotherapy, PhD, Deputy of education and research of school

Other areas of specialty/work

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Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty