

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

Graston technique vs Direct Myofascial Release: A comparative study for alleviating symptoms of upper trapezius trigger points among visual display terminal users

Protocol summary

Study aim

The aim of this study will be to measure the effects of instrument-assisted soft tissue mobilization using (the graston) vs direct myofascial-release technique in patients with trigger points and tightness in the trapezius due to visual display terminal syndrome

Design

Two arm parallel group randomised trial with blinded postoperative care and outcome assessment sample size was 45 and lottery method was used for randomization

Settings and conduct

Superior university faisalabad campus. participants were blinded The blinding will be implemented through the use of coded treatments provided by an independent party.

Participants/Inclusion and exclusion criteria

Inclusion criteria: musculoskeletal strain (upper trapezius) symptoms for more than 3 months. both males and females. dry eyes. visual blurring. exclusive mobile and laptop users. 4 to 5 hours per day and five to six days a week. history of consecutive near-screen exposure from the past 8 weeks. participants complained of pain of ≥ 3 on the numeric pain rating scale (moderate). age between 18-35 years. a 20° to 30° loss of active neck flexion/extension with a loss of cervical rotation of 20° to 40° to both sides and a 10° to 15° loss of lateral flexion. exclusion criteria: patients who have a history of trauma affecting mainly the neck any radiating pain or prolapsed intervertebral disc-related neurological symptoms. patients with co-morbidities other chronic neck pain and trapezius trigger points and tightness. osteoporosis/ osteoarthritis cervical spondylosis/spondylolisthesis and asymptomatic trigger points.

Intervention groups

intervention group 1: direct myofascial release technique
intervention group 2: graston technique control group:

ultrasonic therapy

Main outcome variables

Main outcome variables are pain, range of motion, muscle flexibility, and work performance parameters

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20240403061406N1**

Registration date: **2024-09-23, 1403/07/02**

Registration timing: **retrospective**

Last update: **2024-09-23, 1403/07/02**

Update count: **0**

Registration date

2024-09-23, 1403/07/02

Registrant information

Name

Nowal Nasir

Name of organization / entity

Superior University Lahore

Country

Pakistan

Phone

+92 301 6045532

Email address

nowal.nasir@superior.edu.pk

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-02-20, 1402/12/01

Expected recruitment end date

2024-06-20, 1403/03/31

Actual recruitment start date

2024-02-20, 1402/12/01

Actual recruitment end date

2024-06-20, 1403/03/31

Trial completion date

2024-08-01, 1403/05/11

Scientific title

Graston technique vs Direct Myofascial Release: A comparative study for alleviating symptoms of upper trapezius trigger points among visual display terminal users

Public title

Graston technique vs direct myofascial release in upper trapezius trigger points

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Neck pain (upper traps) Musculoskeletal strain (upper trapezius) symptoms for more than 3 months Both males and females Asthenopia Dry eyes Visual blurring Exclusive mobile and laptop users. 4 to 5 hours per day and five to six days History of consecutive near-screen exposure from the past 8 weeks Participants complaining of pain of ≥ 3 on NPRS (moderate) A full passive range of cervical flexion/extension, rotation, and lateral flexion Age between 18 and 35 year A 20° to 30° loss of active neck flexion/extension with loss of cervical rotation of 20° to 40° to both sides and a 10° to 15° loss of lateral flexion

Exclusion criteria:

Patients who have a history of trauma affecting mainly the neck Any radiating pain or prolapsed intervertebral disc-related neurological symptoms Patients with co-morbidities other chronic Neck pain and Trapezius trigger points and tightness Osteoporosis/ osteoarthritis Cervical spondylosis/spondylolisthesis Asymptomatic trigger points

Age

From 18 years old to 35 years old

Gender

Both

Phase

2-3

Groups that have been masked

No information

Sample size

Target sample size: 45

Actual sample size reached: 45

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization was done using the lottery method using simple randomization technique to make sure that participants were assigned to the study groups in an unbiased and random manner. patients were allocated by chit & draw method wherein individuals were given sealed envelopes. all with alphabet A were allocated to Graston technique group & all with Alphabet B to direct myofascial release group and with alphabet C to control

group. allocation concealment was done and patients were given different time of the day on different alternate days to avoid any discussion between them.

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 The University of Faisalabad

Street address

Canal Road Amin Campus

City

Faisalabad

Postal code

380000

Approval date

2014-01-05, 1392/10/15

Ethics committee reference number

TUF/Addl Reg/SB/774

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

Primary disorders of muscles

ICD-10 code

G71

ICD-10 code description

Primary disorders of muscles

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

pain calculated through numeric pain rating scale

Timepoint

pain is measured before intervention at 2nd week of intervention and at 4th week

Method of measurement

pain measurement through numeric pain rating scale

2**Description**

Range of motion

Timepoint

range of motion is measured before intervention at 2nd week of intervention and at 4th week

Method of measurement

range of motion is measured through goniometer

Secondary outcomes

1

Description

Muscle flexibility

Timepoint

muscle flexibility is measured before intervention at 2nd week and at 4th week

Method of measurement

muscle flexibility is measured through goniometer

2

Description

Work performance

Timepoint

work performance is measured before intervention at 2nd week and at 4th week

Method of measurement

work performance is measured through ocular surface index questionnaire

Intervention groups

1

Description

Intervention group 1: direct myofascial release technique. The direct myofascial release technique is a hands-on physiotherapy manual technique that aims to release tension and improve mobility in the affected muscles by applying sustained pressure. The technique will be applied to the affected side of the trapezius muscle each session of myofascial release will be applied for 3 to 4 minutes. The intervention will be administered thrice a week for 4 weeks. no additional devices or tools will be used other than the practitioner's hands.

Category

Treatment - Other

2

Description

Intervention group 2: graston technique, an instrument-assisted soft tissue mobilization tool. The graston technique involves using a specially designed stainless-steel instrument to detect and treat areas of muscle tightness, scar tissue, and adhesions. the tool is used to apply controlled pressure and strokes to the affected tissue. The technique will be applied to the affected side of the trapezius muscle. each session of graston treatment will be applied for 3 to 4 minutes. The intervention will be administered thrice a week for 4 weeks. graston tool stainless steel instrument.

Category

Treatment - Other

3

Description

Control group 3: participants in this group received only the baseline treatment, which consisted of therapeutic ultrasound using the enraf-nonius souls 190 device. the ultrasound was applied in continuous mode for seven minutes at a frequency of 1 MHz and an intensity of 1.5 watt/cm². this treatment was administered three times a week for a total duration of four weeks. Following the completion of the treatment protocol, post-treatment readings were taken using standardized outcome measures to assess the effectiveness of the intervention.

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

Superior University Lahore, Faisalabad Campus

Full name of responsible person

Additional Registrar

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University of Faisalabad

Full name of responsible person

Additional Registrar

Street address

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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

The University of Faisalabad

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**

The University of Faisalabad

Full name of responsible person

Mariam Mehmood

Position

Senior Lecturer

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

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Full name of responsible person

Mariam Mehmood

Position

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

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Position

Lecturer

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Physiotherapy

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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

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

Not applicable

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available

Title and more details about the data/document

Graston vs direct myofascial release technique: a comparative study for alleviating symptoms of upper trapezius trigger points among visual display terminal users

When the data will become available and for how long

after publication

To whom data/document is available

available for people working in academic institutions

Under which criteria data/document could be used

reviewing requests may also be provided.

From where data/document is obtainable

email addresses, URL addresses for websites,

What processes are involved for a request to access

data/document
nothing

Comments
no