Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 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 envelops. 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 stainles 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/cm^2. 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

Street address

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University of Faisalabad

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

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
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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