# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

27 Jul 2026

## Comparative effects of Integrated Neuromuscular Inhibition Technique and Active Release Technique on Pain, Range of Motion, and Neck Disability in Patients with Upper Trapezius Myofascial Trigger Points; A Randomized Clinical Trial

## Protocol summary

**Study aim**

To analyze the comparative effects of integrated neuromuscular inhibition technique and active release technique in patients with upper trapezius myofascial trigger points.

**Design**

Two arm parallel group Randomized trial with participant blinded. Randomization was centralised and computerised with concealed randomization sequence carried out through a randomization software.

**Settings and conduct**

The trial is conducted in Riphah International university Faisalabad Campus. Subjects are chosen according to inclusion criteria. Subjects are blinded as the don't know their treatment protocol and group.

**Participants/Inclusion and exclusion criteria**

Inclusion criteria: Participants aged between 20 to 35 years; Work/sedentary activity of 5 hours per day; Minimum of 4 months of neck pain due to trigger points; Decreased cervical lateral flexion and rotation Exclusion criteria: History of whiplash injury, fracture or other congenital disorders; Cervical radiculopathy, radiculitis or myelopathy or vascular syndromes; Degenerative conditions of cervical spine e.g., spondylosis; Any deformity of cervical and thoracic spine or scapular deformity; Participant received any treatment of neck in past 3 months; VAS score >7

**Intervention groups**

Group A: Integrated neuromuscular inhibition technique. Intermittent Ischemic compression for 15 seconds, Strain-Counterstrain for 20-30 seconds, Muscle Energy Technique in which isometric contraction held for 7-10 seconds and stretch held for 30 seconds (3-5 repetitions) Group B: Active Release Technique - 3 sets with 10 repetitions

**Main outcome variables**

Neck pain; Cervical lateral flexion and rotation; Neck disability

## General information

**Reason for update**

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT20230524058279N1**
Registration date: **2023-06-08, 1402/03/18**
Registration timing: **registered_while_recruiting**

Last update: **2023-06-08, 1402/03/18**
Update count: **0**

**Registration date**

2023-06-08, 1402/03/18

**Registrant information**

**Name**

Rida E Fatima

**Name of organization / entity**

Riphah International University, Faisalabad Campus.

**Country**

Pakistan

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**Recruitment status**

**Recruitment complete**

**Funding source**

**Expected recruitment start date**

2023-05-29, 1402/03/08

**Expected recruitment end date**

2023-09-29, 1402/07/07

**Actual recruitment start date**
empty
**Actual recruitment end date**
empty
**Trial completion date**
empty

**Scientific title**
Comparative effects of Integrated Neuromuscular Inhibition Technique and Active Release Technique on Pain, Range of Motion, and Neck Disability in Patients with Upper Trapezius Myofascial Trigger Points; A Randomized Clinical Trial

**Public title**
Comparative effects of Integrated Neuromuscular Inhibition Technique and Active Release Technique on Pain, Range of Motion, and Neck Disability in Patients with Upper Trapezius Myofascial Trigger Points; A Randomized Clinical Trial
**Purpose**
Treatment
**Inclusion/Exclusion criteria**
**Inclusion criteria:**
Participants aged between 20 to 35 years.
Work/Sedentary activity of 5 hours per day. Minimum of 4 months of neck pain due to trigger points. Decreased cervical lateral flexion and rotation.
**Exclusion criteria:**
History of whiplash injury, fracture or other congenital disorders. Cervical radiculopathy, radiculitis or myelopathy or vascular syndromes. Degenerative conditions of cervical spine e.g. spondylosis Any deformity of cervical and thoracic spine or scapular deformity. Participant received any treatment of neck in past 3 months. VAS score >7
**Age**
From **20 years** old to **35 years** old
**Gender**
Both

**Phase**
N/A
**Groups that have been masked**

- Participant

**Sample size**
Target sample size: **44**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
A computer-generated method was employed to randomly assign subjects to groups, namely Group A and Group B, for the purpose of conducting the intervention. Random allocation software was used for the purpose. The number of participants and Interventions assign to groups were added in the software, after which participants were assigned to their respective groups randomly.
**Blinding (investigator's opinion)**
Single blinded
**Blinding description**
There were two interventional groups in this study. Groups were allocated to the subjects by the computer generated randomization method but subjects were not told which group they belonged to. The measurements taken from participants on questionnaire were also not shown to participants.
**Placebo**
Not used
**Assignment**
Parallel
**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**
**Name of ethics committee**
Research and Ethical Committee
**Street address**
Main Satyana Road, Adjacent Fish Farm Faisalabad.
**City**
Faisalabad
**Postal code**
38000
**Approval date**
2023-05-16, 1402/02/26
**Ethics committee reference number**
REC-FSD-00319

## Health conditions studied

### 1

**Description of health condition studied**
Latent myofascial trigger points causing neck pain for 3 months or more
**ICD-10 code**
M70.8
**ICD-10 code description**
soft tissue disorders, use, overuse, pressure

## Primary outcomes

### 1

**Description**
Cervical Pain
**Timepoint**
Baseline reading before intervention, post reading was taken after 2 weeks and Follow up reading was measured 4 weeks after intervention
**Method of measurement**
Cervical pain of each individual was measured by using Visual analogue scale (VAS)

### 2

**Description**

Cervical range of motion - Side bending and Lateral rotation

**Timepoint**

Baseline reading before intervention, post reading was taken after 2 weeks and Follow up reading was measured 4 weeks after intervention

**Method of measurement**

Cervical range of motion of side bending and rotation was measured using a Goniometer

## Secondary outcomes

### 1

**Description**

Neck disability

**Timepoint**

Baseline reading before intervention, post reading was taken after 2 weeks and Follow up reading was measured 4 weeks after intervention

**Method of measurement**

Neck disability of each individual was calculated using Neck Disability Index (NDI)

## Intervention groups

### 1

**Description**

Intervention Group A; this group will receive 'Integrated Neuromuscular Inhibition Technique' which will target upper trapezius trigger points to improve neck pain, range of motion and neck disability. The intervention will be applied 2 days for 2 weeks. This whole technique will take upto 20 minutes per session. Hotpack will be used as a baseline treatment before intervention and cervical stretching exercises (three repetitions) will be performed after applying intervention.

**Category**

Treatment - Other

### 2

**Description**

Intervention Group B; This group will receive ten repetitions of 'Active Release Technique' which will target upper trapezius latent trigger points to improve neck pain, range of motion and neck disability. The intervention will be applied 2 days for 2 weeks. This whole technique will take upto 20 minutes per session. Hotpack will be used as a baseline treatment before intervention and cervical stretching exercises (three repetitions) will be performed after applying intervention.

**Category**

Treatment - Other

## Recruitment centers

### 1

**Recruitment center**

**Name of recruitment center**

Riphah International University Faisalabad Campus

**Full name of responsible person**

Dr. Sehreen Anwar

**Street address**

Riphah International University, Adjacent Fish Farm, Satyana Road, Faisalabad.

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## Sponsors / Funding sources

### 1

**Sponsor**

**Name of organization / entity**

Riphah International University Faisalabad Campus

**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**

Riphah International University Faisalabad Campus

**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**

Riphah International University Faisalabad Campus

**Full name of responsible person**

Rida E Fatima

**Position**

Lecturer

**Latest degree**
Master

**Other areas of specialty/work**
Physiotherapy

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## Person responsible for scientific inquiries

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## Person responsible for updating data

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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**
Not applicable

**Analytic Code**
Not applicable

**Data Dictionary**
Not applicable