# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

22 Nov 2026

## Comparative Analysis on the effectiveness of Hold Relax Technique and Ischemic Compression followed by a sustained stretch in treating Myofacial Trigger Points of Upper Trapezius: A Randomized Controlled Trial

## Protocol summary


**Study aim**

To evaluate and to generalize the comparative effects of Hold-Relax technique and Ischemic compression followed by a sustained stretch in reducing pain and disability in patients with myofascial trigger points of upper trapezius.

**Design**

A single blind Randomized controlled trial with a parallel group design of 60 patients will have a random allocation by Chit-Box method.

**Settings and conduct**

Patients from the Physical-Therapy departments of Khyber Teaching Hospital, Lady Reading Hospital, Peshawar Pakistan. The patients will be recruited in three groups i.e. Group A, Group B and Group C by Randomization through Chit-box method. The outcome assessor will be kept blind during the trial.The readings will be taken for two times during the whole session (one at the start and other at the end of session).

**Participants/Inclusion and exclusion criteria**

1. Inclusion Criteria Age group between 20- 45 years ,Both Male and Female patients ,Chronic cases of Upper trapezius myofacial pain ,Patients with at least 15-24 points (30-48%) score in NDI 2. Exclusion Criteria Patients receiving treatment by other methods like vapocoolants, dry needling, acupuncture injections ,Neck or shoulder surgery within the past year ,Neurological or rheumatic disorders ,Radiculopathy, myelopathy or joint disorders ,Whiplash in the previous 6 months ,Recent fracture of the cervical spine ,Cervical instability ,Cervical spondylosis ,Ankylosing spondylitis ,Disc prolapsed

**Intervention groups**

Group-A patients will be treated with Hold-Relax technique, Group-B patients with Ischemic Compression followed by sustained stretch and Group-C with Both techniques. The patients in all three groups will receive a series of twelve treatments and a follow up consultation over a maximum period of four weeks.

**Main outcome variables**

Pain ,Disability


## General information

**Reason for update**

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT20190707044128N1**
Registration date: **2019-08-30, 1398/06/08**
Registration timing: **retrospective**

Last update: **2019-08-30, 1398/06/08**
Update count: **0**

**Registration date**

2019-08-30, 1398/06/08

**Registrant information**


**Name**

Ishaq Ahmed

**Name of organization / entity**

The university of Lahore

**Country**

Pakistan

**Phone**

+92 42 37592112

**Email address**

ishaqpt786@gmail.com


**Recruitment status**

**Recruitment complete**

**Funding source**

**Expected recruitment start date**

2014-06-15, 1393/03/25

**Expected recruitment end date**

2014-07-30, 1393/05/08

**Actual recruitment start date**

2014-10-10, 1393/07/18

**Actual recruitment end date**

2014-12-28, 1393/10/07

**Trial completion date**

2015-05-10, 1394/02/20

**Scientific title**

Comparative Analysis on the effectiveness of Hold Relax Technique and Ischemic Compression followed by a sustained stretch in treating Myofacial Trigger Points of Upper Trapezius: A Randomized Controlled Trial

**Public title**

Hold Relax Technique and Ischemic Compression followed by a sustained stretch in treating Myofacial Trigger Points of Upper Trapezius

**Purpose**

Treatment

**Inclusion/Exclusion criteria**

**Inclusion criteria:**

Age group between 20- 45 years,, , Both Male and Female patients Chronic cases of Upper trapezius myofacial pain Patients with at least 15-24 points (30-48%) score in Neck Disability Index

**Exclusion criteria:**

Patients receiving treatment by other methods like vapocoolants, dry needling, acupuncture injections etc. Neck or shoulder surgery within the past year Neurological or rheumatic disorders Clinical evidence of radiculopathy, myelopathy or joint disorders Whiplash in the previous 6 months Recent fracture of the cervical spine Cervical instability Cervical spondylosis Ankylosing spondylitis Disc prolapsed Osteoporosis Mental disorders

**Age**

From **20 years** old to **45 years** old

**Gender**

Both

**Phase**

3

**Groups that have been masked**

- Outcome assessor

**Sample size**

Target sample size: **60**

Actual sample size reached: **60**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

The patients will be recruited in three groups i.e. Group A (Hold-Relax technique), Group B (Ischemic Compression followed by sustained stretch) and Group C (Both techniques) by randomization through Chit-box method. Chit-Box Method: For random allocation of 60 cases into three groups equally, prepare 60 chits writing “A” (for Group-A) on 20 chits, “B” (for Group-B) on 20 chits and “C” (for Group-C) on 20 chits. After folding the chits and putting in a box and well mixing, draw a chit, note the letter written on it, and then draw the second chit without replacing the first, note it and proceed similarly until the last i.e. 60th chit is drawn. The generated random allocation sequence may be one as appears in Table below. According to this sequence the first case registered will go to the Group-A, second case again to the Group-A, third to the Group-C and so on to the last case to Group-B. Table: Chit-Box Method for Randomization Draw 1st 2nd 3rd -- 15th Result (Letters on chit) A A C B C B B A A A B C - C A B B Registered Case No. 1 2 3 4 5 6 7 8 9 10 11 12 -- 57 58 59 60 (No. Allocation)

**Blinding (investigator's opinion)**

Single blinded

**Blinding description**

The outcome assessor will be kept blind about the treatment protocols and randomization process during the whole trial.

**Placebo**

Not used

**Assignment**

Parallel

**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**

**Name of ethics committee**

Advanced Studies & Research Board of Khyber Medical University

**Street address**

Block-IV PDA building, Phase-V Hayatabad

**City**

Islamabad

**Postal code**

25000

**Approval date**

2014-09-29, 1393/07/07

**Ethics committee reference number**

ASRB000222/CA/IPM&R

## Health conditions studied

### 1

**Description of health condition studied**

The Myofascial Pain Syndrome (MPS)

**ICD-10 code**

M79.1

**ICD-10 code description**

Myalgia

## Primary outcomes

### 1

**Description**

Pain

**Timepoint**

At the start of intervention and then after one month (12sessions) of treatment administration

**Method of measurement**

VAS (Visual Analogue Scale) for measuring the Pain.

## Secondary outcomes

### 1

**Description**

Disability

**Timepoint**

At the start of intervention and then after one month (12sessions) of treatment administration.

**Method of measurement**

NDI (Neck Disability Index) for measuring the Disability

## Intervention groups

### 1

**Description**

Intervention group: Group-A of 20 patients (Experimental group) will be treated with a Hold-Relax technique that will be applied on the upper Trapezius muscle of the affected side for 1 set of 5 repetitions with 10 seconds hold. It involves a stretch of the muscle up to a point of a resistance barrier. The patient then contracts the muscle to about 25% of their own muscle force against the practitioner’s resistance. The body part remains in a static position resulting in an isometric contraction. The patient holds this contraction for 10 seconds. After this the patient is asked to relax for the next 10 seconds. This is then followed by a further 10 seconds stretch in order to find a new barrier position.

**Category**

Treatment - Other

### 2

**Description**

Control group: Group-B of 20 patients (Control group) will be treated with Ischemic compression followed by a sustained stretch technique. Firstly, the trapezius muscle is stretched to the point of discomfort then a digital pressure is applied for 20 seconds with the examiners thumb or finger which temporarily occludes the blood supply to the area. It is then followed by a sustained stretch of 15 seconds on the same muscle. This procedure will be repeated for five times in one session.

**Category**

Treatment - Other

### 3

**Description**

Control group: Group-C of 20 patients will be treated with a combined therapy containing Hold relax technique plus Ischemic compression followed by a sustained stretch technique for 1 set of 5 repetitions.

**Category**

Treatment - Other

## Recruitment centers

### 1

**Recruitment center**

**Name of recruitment center**

Khyber Teaching Hospital

**Full name of responsible person**

Dr. Abid Ali

**Street address**

University Rd, Rahat Abad

**City**

Peshawer

**Postal code**

25000

**Phone**

+92 922 440008

**Fax**

+92 91 9224423

**Email**

info@kth.com.pk

**Web page address**

https://www.kth.gov.pk/

### 2

**Recruitment center**

**Name of recruitment center**

Lady Reading Hospital

**Full name of responsible person**

Dr. Muhammad Khan

**Street address**

Hospital Road

**City**

Peshawer

**Postal code**

25000

**Phone**

+92 91 9211441

**Fax**

+92 91 9211401

**Email**

info@lrh.gov.pk

**Web page address**

https://lrh.edu.pk/

## Sponsors / Funding sources

### 1

**Sponsor**

**Name of organization / entity**

khyber medical university

**Full name of responsible person**

Dr. Mohammad Bin Afser Jan

**Street address**

Block-IV, PDA building, Phase-V Hayatabad

**City**

Peshawer

**Postal code**
25000
**Phone**
+92 91 5892885
**Email**
ipmr@kmu.edu.pk
**Web page address**
http://www.kmu.edu.pk/

**Grant name**

**Grant code / Reference number**

**Is the source of funding the same sponsor organization/entity?**
Yes

**Title of funding source**
khyber medical university

**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**
The University of Lahore
**Full name of responsible person**
Ishaq Ahmed
**Position**
Assistant Professor/ Head of Department
**Latest degree**
Ph.D.
**Other areas of specialty/work**
Physiotherapy
**Street address**
Soan Garden, Islamabad
**City**
Islamabad
**Province**
Punjab
**Postal code**
75500
**Phone**
+92 42 111 865 865
**Email**
ishaqpt786@gmail.com
**Web page address**
https://www.uol.edu.pk/campuses/islamabadcampus

## Person responsible for scientific inquiries

**Contact**

**Name of organization / entity**
The University of Lahore
**Full name of responsible person**
Ishaq Ahmed
**Position**
Assistant Professor/ Head of Department
**Latest degree**
Ph.D.
**Other areas of specialty/work**
Physiotherapy
**Street address**
Soan Garden, Islamabad
**City**
Islamabad
**Province**
Punjab
**Postal code**
75500
**Phone**
+92 42 111 865 865
**Email**
ishaqpt786@gmail.com
**Web page address**
https://www.uol.edu.pk/campuses/islamabadcampus

## Person responsible for updating data

**Contact**

**Name of organization / entity**
The University of Lahore
**Full name of responsible person**
Ishaq Ahmed
**Position**
Assistant Professor/ Head of Department
**Latest degree**
Ph.D.
**Other areas of specialty/work**
Physiotherapy
**Street address**
Soan Garden, Islamabad
**City**
Islamabad
**Province**
Punjab
**Postal code**
75500
**Phone**
+92 42 111 865 865
**Email**
ishaqpt786@gmail.com
**Web page address**
https://www.uol.edu.pk/campuses/islamabadcampus

## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**
No - There is not a plan to make this available

**Justification/reason for indecision/not sharing IPD**
there is no further information

**Study Protocol**
No - There is not a plan to make this available

**Statistical Analysis Plan**
No - There is not 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**

Yes - There is a plan to make this available

**Data Dictionary**

No - There is not a plan to make this available

**Title and more details about the data/document**

Informed Consent Form, Clinical Study Report, Analytic Code files could be shared

**When the data will become available and for how long**

2 months after publication

**To whom data/document is available**

people working in academic institutions or people working in businesses can also apply to receive it

**Under which criteria data/document could be used**

Intervention purpose

**From where data/document is obtainable**

ishaqpt786@gmail.com

**What processes are involved for a request to access data/document**

Full description about the Purpose/Aim of using the documents Insight about the Disorder and intervention of the research

**Comments**