

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

15 Jun 2026

### Evaluation of the effectiveness of periscapular trigger points deactivation on pain and disability in patients with carpal tunnel syndrome

#### Protocol summary

##### Summary

The aim of this study is to evaluate the effectiveness of periscapular trigger points deactivation on pain and disability of patients with carpal tunnel syndrome. The patients with mild to moderate carpal tunnel syndrome according to the electrodiagnostic findings, existence of trigger points in at least 2 muscles of periscapular region and age between 24 to 60 years old are included. The exclusion criteria are: history of physical therapy, surgery or steroid injection for the treatment of CTS; history of treatment for periscapular trigger points, rheumatoid arthritis and cervical disk herniation. The sample population are patients with carpal tunnel syndrome who are referred to the physiotherapy clinic of Shiraz school of rehabilitation by orthopedic surgeons. The sample size is 30. Patients are randomly assigned either to control or intervention groups. Both groups receive routine physical therapy including transcutaneous electrical nerve stimulation, ultrasound and hot pack. The intervention group also receive ischemic compression method for deactivation of periscapular trigger points in 10 sessions for 2 weeks. Variables including pain, grip strength, hand functional disability and sensitivity of trigger points will be measured and compared before 1st and after 10th sessions.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2014071915932N6**

Registration date: **2014-08-14, 1393/05/23**

Registration timing: **prospective**

Last update:

Update count: **0**

##### Registration date

2014-08-14, 1393/05/23

##### Registrant information

###### Name

Alireza Motealleh

###### Name of organization / entity

Shiraz University of Medical Sciences

###### Country

Iran (Islamic Republic of)

###### Phone

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##### Recruitment status

###### Recruitment complete

##### Funding source

Shiraz University of Medical Sciences, School of Rehabilitation

##### Expected recruitment start date

2014-08-29, 1393/06/07

##### Expected recruitment end date

2014-11-03, 1393/08/12

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Evaluation of the effectiveness of periscapular trigger points deactivation on pain and disability in patients with carpal tunnel syndrome

##### Public title

The effectiveness of manual therapy of shoulder trigger points on pain and disability in patients with carpal tunnel syndrome

##### Purpose

Treatment

## Inclusion/Exclusion criteria

inclusion criteria: patients with CTS syndrome for more than 1 month; positive Tinne's sign at the wrist area; positive Phalen's test; mild to moderate carpal tunnel syndrome by electrodiagnostic findings; existence of trigger points in at least two periscapular muscles (teres minor & major; supraspinatus; infraspinatus; subscapularis; upper trapezius); aged between 24 to 60 years. exclusion criteria: any neuropathy such as diabetic neuropathy; thoracic outlet syndrome; cervical disk herniation; double crush syndrome (positive neck compression test); regular use of analgesics or anti-inflammatory drugs; Pregnancy; Rheumatoid Arthritis; history of physical therapy, surgery or steroid injection for the treatment of CTS; history of treatment for periscapular trigger points such as steroid injection in last 3 months; fibromyalgia; T4 syndrome.

### Age

From **24 years** old to **60 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)

Not blinded

### Blinding description

### Placebo

Not used

### Assignment

Parallel

### Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Shiraz University Of Medical Sciences

##### Street address

Shiraz University of Medical Sciences, Zand Street, Shiraz.

##### City

Shiraz

##### Postal code

71345-1987

##### Approval date

2014-05-22, 1393/03/01

##### Ethics committee reference number

CT-P-9369-6959

## Health conditions studied

### 1

#### Description of health condition studied

carpal tunnel syndrome

#### ICD-10 code

G56.0

#### ICD-10 code description

carpal tunnel syndrome

## Primary outcomes

### 1

#### Description

power grip

#### Timepoint

First and tenth session

#### Method of measurement

Be assessed by hand-held dynamometer

### 2

#### Description

pain

#### Timepoint

First and tenth session

#### Method of measurement

Visual analogue scale

### 3

#### Description

sensitivity of periscapular trigger points

#### Timepoint

First and tenth session

#### Method of measurement

algometry

### 4

#### Description

functional disability

#### Timepoint

First and tenth session

#### Method of measurement

DASH questionnaire

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Patients in control group received 10 sessions of physical therapy at the wrist area as the following: -Therapeutic ultrasound for 3 min with a continuous 3.0 MHz applicator, ERA = 5 cm<sup>2</sup>, intensity= 1.0 W/cm<sup>2</sup>. - TENS-

Burst type with parameters (frequency = 110Hz, pulse width = 200µsec) and the size of the electrode 4\* 6 for 20 min and the electrode placed on the median nerve path. - Hot pack on wrist area

**Category**

Rehabilitation

**2**

**Description**

Patients in intervention group received 10 sessions of physical therapy at the wrist area as the following: - Therapeutic ultrasound for 3 min with a continuous 3.0 MHz applicator, ERA = 5 cm2, intensity= 1.0 W/cm2. - TENS- Burst type with parameters (frequency = 110Hz, pulse width = 200µsec) and the size of the electrode 4\* 6 for 20 min and the electrode placed on the median nerve path. - Hot pack on wrist area Deactivation of periscapular trigger points applying ischemic compression method.

**Category**

Rehabilitation

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**

physiotherapy clinic of Shiraz School of Rehabilitation

**Full name of responsible person**

Mrs. katayoon Rezaee

**Street address**

NO.32, Abiverdi 1 Avenue, Chamran Blvd, Shiraz

**City**

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**Sponsors / Funding sources**

**1**

**Sponsor**

**Name of organization / entity**

Shiraz University of Medical Science

**Full name of responsible person**

Dr Basir Hashemy

**Street address**

Shiraz University Of Medical Sciences Building, Zand Street,shiraz.

**City**

shiraz

**Grant name**

**Grant code / Reference number**

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

Yes

**Title of funding source**

Shiraz University of Medical Science

**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**

Shiraz University of Medical Science - Rehabilitation School.

**Full name of responsible person**

Forouzan Foroughi

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Student

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**Web page address****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*