

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

01 Aug 2026

### comparison of the effects of nerve and tendon gliding exercise, ultrasound and kinesiotaping on clinical outcomes of carpal tunnel syndrome

#### Protocol summary

##### Study aim

Comparison of therapeutic effects of nerve and tendon gliding exercise, ultrasound and kinesiotaping on clinical outcomes of carpal tunnel syndrome

##### Design

A randomized, parallel group clinical trial with blinded researcher and evaluators, design of 100 wrists. simple randomization with envelope.

##### Settings and conduct

This research is a double-blind, control clinical trial. This research is carried out at the Tehran University of Medical Sciences Rehabilitation Faculty Research Center. In this research, a pilot and reliability study will be conducted than main research will be done. Subjects enter the research after completing the consent form, understanding of how to do the research and having the inclusion criteria . Individual information is collected by questionnaire. After randomization, each subject is placed in one of three intervention groups. Median nerve ultrasound findings and electrodiagnostic are collected before intervention. For the intervention group, nerve and tendon gliding exercise, ultrasound and kinesiotaping are used. Then therapeutic session reassessment takes place. In this study, participants, data collectors and data analyzers are blinded.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: Subjects aged 20 - 60 years with mild and moderate carpal tunnel syndrome. Exclusion criteria: Allergic sign of kinesiotaping, Taking painkiller during research

##### Intervention groups

nerve and tendon gliding exercise, ultrasound and kinesiotaping

##### Main outcome variables

Pain intensity, symptom Severity , Functional Status

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20090301001722N23**

Registration date: **2020-03-05, 1398/12/15**

Registration timing: **registered\_while\_recruiting**

Last update: **2020-03-05, 1398/12/15**

Update count: **0**

##### Registration date

2020-03-05, 1398/12/15

##### Registrant information

##### Name

Samira Karimpour

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 21 7753 3939

##### Email address

hadianrs@sina.tums.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2019-03-21, 1398/01/01

##### Expected recruitment end date

2020-06-19, 1399/03/30

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

**Scientific title**

comparison of the effects of nerve and tendon gliding exercise, ultrasound and kinesiotaping on clinical outcomes of carpal tunnel syndrome

**Public title**

Comparison of physiotherapy methods on symptoms of Carpal tunnel syndrome

**Purpose**

Treatment

**Inclusion/Exclusion criteria****Inclusion criteria:**

patient with mild and moderate carpal tunnel syndrome- age of 20–60 years have no disorders like Hypothyroidism, Gout, Systemic Lupus Erythematosus, rheumatoid arthritis, diabetes mellitus, chronic renal failure, and acromegaly have no history of using analgesic drugs to relieve CTS over the past two weeks have no history of wrist fracture and repetitive trauma to the hand have no history of CTS surgery not pregnant have no any orthopedic or neurologic disorders mimicking CTS such as polyneuropathy, cervical radiculopathy, brachial plexopathy, thoracic outlet syndrome have no corticosteroid injection into the carpal tunnel in the last three months No physiotherapy for CTS in the past 6 month

**Exclusion criteria:**

Patients who were not willing to continue the study for any reason. Allergic sign of kinesio taping Taking painkiller during research

**Age**

From **20 years** old to **60 years** old

**Gender**

Both

**Phase**

N/A

**Groups that have been masked**

- Outcome assessor
- Data analyser

**Sample size**

Target sample size: **90**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

The patients randomly will be divided into three groups by closed envelope method. The allocation of the subjects will be concealed by using sequentially numbered, sealed and opaque envelopes. On the first day of treatment, the envelope allocated will be opened by participant

**Blinding (investigator's opinion)**

Double blinded

**Blinding description**

In this study, the investigator will be blind to the results of all pre- and post-treatment evaluations, also all three evaluators will be blind to each other's results and any patient is located in which intervention group. The data analyzer as a statistics consultant will be also blind. It is not possible to blind patients in this study.

**Placebo**

Not used

**Assignment**

Parallel

**Other design features****Secondary Ids**

empty

**Ethics committees****1****Ethics committee****Name of ethics committee**

Ethics committee of Tehran University of Medical Sciences

**Street address**

Keshavarz bolvar, Ghods Ave, 6 floor, Tehran University of Medical Science building

**City**

Tehran

**Province**

Tehran

**Postal code**

1417653761

**Approval date**

2020-01-25, 1398/11/05

**Ethics committee reference number**

lr.tums.vcr.rec.1398.836

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

carpal tunnel syndrome

**ICD-10 code****ICD-10 code description****Primary outcomes****1****Description**

Pain intensity

**Timepoint**

Before and after therapeutic sessions

**Method of measurement**

Visual Analogue Scale (VAS)

**2****Description**

Symptom Severity

**Timepoint**

Before and after therapeutic sessions

**Method of measurement**

Boston questionnaire

**3****Description**

Functional Status  
**Timepoint**  
Before and after therapeutic sessions  
**Method of measurement**  
Boston questionnaire

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Intervention group: Ultrasound: We use pulse ultrasound with a 5 cm probe, frequency of 1 MHz and intensity 1 W / cm<sup>2</sup> (1: 4 ratio) for 10 minutes on the anterior part of the wrist (carpal tunnel). Treatment sessions are performed once a day, 5 sessions per week for three weeks.

#### Category

Treatment - Devices

### 2

#### Description

Intervention group: taping: we use tape with 5 cm wide and 0.5 mm thick. The tape is kept on the patient for 3 days and after two days rest, the tape is applied again for 3 days. This will be repeated for up to 3 weeks.

#### Category

Treatment - Devices

### 3

#### Description

Intervention group: Tendon and nerve gliding exercises are performed according to the Totten and Hunter method in 3 sets of 10 exercises per day for three weeks.

#### Category

Rehabilitation

### 4

#### Description

Control group: TENS and Infrared: Normal TENS for 20 minutes, infrared for 20 minutes to the anterior part of the wrist.

#### Category

Treatment - Devices

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Rehabilitation clinic of Tehran University of Medical Science

##### Full name of responsible person

Dr Mohsen Mir

##### Street address

Engheleb Ave  
**City**  
Tehran  
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Tehran  
**Postal code**  
65111-11489  
**Phone**  
+98 21 7753 5132  
**Email**  
alieh\_rezazadeh@yahoo.com

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

Tehran University of Medical Sciences

##### Full name of responsible person

Amir Ali Sohrabpour

##### Street address

Keshavarz Blvd, Tehran University of Medical Science

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##### Province

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##### Phone

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##### Email

alieh\_rezazadeh@yahoo.com

#### Grant name

#### Grant code / Reference number

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

No

#### Title of funding source

Tehran University of Medical Sciences

#### 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

Tehran University of Medical Sciences

##### Full name of responsible person

Mohammad Reza Hadian

##### Position

Professor

##### Latest degree

Ph.D.

**Other areas of specialty/work**

Physiotherapy

**Street address**

Engheleb Ave, Rehabilitation School

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**Person responsible for scientific inquiries**

**Contact**

**Name of organization / entity**

Tehran University of Medical Sciences

**Full name of responsible person**

Mohammah Reza Hadian

**Position**

Professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

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**Person responsible for updating data**

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**Name of organization / entity**

Tehran University of Medical Sciences

**Full name of responsible person**

Alieh Rezazadeh

**Position**

PhD Candidate

**Latest degree**

Master

**Other areas of specialty/work**

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65111-11489

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**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**

All rights of this research belongs to TUMS.

**Study Protocol**

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

**Statistical Analysis Plan**

Not applicable

**Informed Consent Form**

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

**Clinical Study Report**

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

**Analytic Code**

Not applicable

**Data Dictionary**

Not applicable