Clinical Trial Protocol
Iranian Registry of Clinical Trials

18 Sep 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 beblind 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
Ir.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 / cm2 (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. Thetape 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 cilinic of Tehran University of Medical Science

Full name of responsible person

Dr Mohsen Mir

Street address

Engheleb Ave

City

Tehran

Province

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

City

Tehran

Province

Tehran

Postal code

1417653761

Phone

+98 21 8893 3767

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

City

Tehran

Province

Tehran

Postal code

65111-11489

Phone

+98 21 7753 6586

Email

hadianrs@sina.tums.ac.ir

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

Physiotherapy

Street address

Engheleb Ave, Rehabilitation School

City

Tehran

Province

Tehran

Postal code

65111-11489

Phone

+98 21 7753 6586

Email

hadianrs@sina.tums.ac.ir

Person responsible for updating data

Contact

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

Physiotherapy

Street address

Engheleb Ave, Rehabilitation School

City

Tehran

Province

Tehran

Postal code

65111-11489

Phone

+98 21 7753 5132

Email

alieh_rezazadeh@yahoo.com

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