

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

The effect of neuromobilization on hand symptoms in patients with carpal tunnel syndrome

Protocol summary

Summary

Twenty patients with carpal tunnel syndrome (32 hands) are assigned to two groups. The patients receive the physiotherapy modalities including rest splint, transcutaneous electrical nerve stimulation (TENS), and therapeutic ultrasound for 4 weeks. The participants in group 2 receive the neuromobilization in addition to the physiotherapy modalities. Before and after the treatment protocol, the subjective evaluations including Boston Questionnaire and visual analogue scale, and also, Phalen's maneuver, median nerve tension test, and median nerve sensory and motor distal latency are assessed.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT138903094052N1**
Registration date: **2008-10-21, 1387/07/30**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2008-10-21, 1387/07/30

Registrant information

Name

Ghadamali Talebi

Name of organization / entity

Tabriz University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Tabriz University of Medical Sciences

Expected recruitment start date

2008-10-21, 1387/07/30

Expected recruitment end date

2009-10-22, 1388/07/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of neuromobilization on hand symptoms in patients with carpal tunnel syndrome

Public title

The effect of physiotherapy on symptoms of nerve entrapment syndrome

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: 1- Diagnosis of carpal tunnel syndrome based on clinical and electrophysiological findings (median nerve motor distal latency >4.2 ms; median nerve sensory distal latency >3.7 ms) 2- Patients with 18-60 old years and mild to moderate carpal tunnel syndrome Exclusion criteria: 1- Entrapment at proximal sites 2- Systemic peripheral neuropathy 3- Surgical release of carpal tunnel 4- Metabolic disorders such as diabetics 5- Pregnancy 6- Steroid injection in carpal tunnel 7- Severe atrophy in hand muscles

Age

From **18 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 32

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Tabriz University of Medical Sciences

Street address

Golgasht street

City

Tabriz

Postal code

Approval date

2008-10-18, 1387/07/27

Ethics committee reference number

6456/4/5

Health conditions studied

1

Description of health condition studied

Carpal tunnel syndrome (CTS)

ICD-10 code

G56.0

ICD-10 code description

Carpal tunnel syndrome

Primary outcomes

1

Description

Subjective findings

Timepoint

Before and after the treatment period, by 4 weeks interval

Method of measurement

Boston Questionnaire (symptom severity scale and functional status scale) and visual analogue scale

2

Description

Findings of physical examination

Timepoint

Before and after the treatment period, by 4 weeks interval

Method of measurement

Phalen's sign and median nerve tension test

3

Description

Electrophysiological findings

Timepoint

Before and after the treatment period, by 4 weeks interval

Method of measurement

Nerve conduction study including the median nerve motor and sensory distal latency

Secondary outcomes

empty

Intervention groups

1

Description

The patients in control group receive the physiotherapy routine including rest splint, TENS, and therapeutic ultrasound for 4 weeks. The patients were asked to avoid any activities that exacerbate hand symptoms. The treatment will be performed 3 days weekly. In each session, conventional TENS (80 Hz frequency, 60 microsecond pulse duration, and intensity at the level of tingling) will be used 20 minutes. Also, in each session, pulsed ultrasound (1 megahertz frequency, 1 W/cm² intensity, and 20% duty cycle) will be used for 5 minutes.

Category

Rehabilitation

2

Description

The participants in group 2 (treatment group) receive the neuromobilization in addition to the physiotherapy routine mentioned in group 1 (control group). The neuromobilization will be used for 4 weeks, 3 sessions weekly. In this study, the neuromobilization includes: 1) transverse extension of the wrist accompanied by extension and radial deviation of the thumb, 2) flexor tendon gliding, and 3) the nerve mobilization by elbow flexion- extension oscillatory movement in upper limb tension test position 1. In each session, the neuromobilization will be performed 3 sets including 10 repetitions. These techniques will be performed passively by a physiotherapist.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Physical Medicine & Rehabilitation Center, Imam Reza Hospital

Full name of responsible person

Dr. Seyyed Kazem Shakouri

Street address

Golgash street

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Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, Tabriz University of Medical Sciences

Full name of responsible person

Dr. Mohammad Reza Rashidi

Street address

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Tabriz

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Vice chancellor for research, Tabriz University of Medical Sciences

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

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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