Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 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
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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 neuromibilization 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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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
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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

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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