

Clinical Trial Protocol

Iranian Registry of Clinical Trials

02 Aug 2026

Evaluation of the effect of ultrasound therapy and nerve gliding techniques in patients with mild to moderate carpal tunnel syndrome

Protocol summary

Study aim

Evaluation of the effect of ultrasound therapy and nerve gliding techniques in patients with carpal tunnel syndrome

Design

Clinical trial with control group, with parallel groups, single-blind, randomized, phase 3 on 48 patients. The block method will be used for randomization.

Settings and conduct

A study in Imam Reza Birjand Hospital, South Khorasan Province, on 48 patients who were randomly divided into two treatment groups: ultrasound and neurogliding techniques. Patients are evaluated at the beginning of the study and 4 weeks after the start of the study

Participants/Inclusion and exclusion criteria

Patients suffering from carpal tunnel syndrome refer to Imam Reza hospital clinic in Birjand city. Inclusion criteria: No need for surgery, no use of non-steroidal anti-inflammatory drugs or steroids, balanced mental status and consent to participate in the research and exclusion criteria: Patients under 18 years of age, pregnant women, reports of previous treatment of the syndrome with ultrasound or laser or regular use of analgesic and anti-inflammatory drugs, use of local steroid injections inside the carpal tunnel during the last year or during the study, severe atrophy of the thenar region, history of to malignant tumors, suffering from peripheral system neuropathy, suffering from any disease that affects the results of the study Irregular attendance in treatment programs.

Intervention groups

Patients with carpal tunnel syndrome referring to Imam Reza Hospital Clinic, Birjand city, were randomly assigned to two ultrasound groups A (frequency of 1 megahertz, current intensity of 1 watt per square centimeter, 3 times a week for 10 sessions of 5 minutes). , the group of neuro-gliding techniques (3 times a week for 10 sessions of 20 minutes) will be placed.

Main outcome variables

pain Severity of symptoms (paresthesia)

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190618043934N23**

Registration date: **2023-11-18, 1402/08/27**

Registration timing: **registered_while_recruiting**

Last update: **2023-11-18, 1402/08/27**

Update count: **0**

Registration date

2023-11-18, 1402/08/27

Registrant information

Name

Zabihullah Mohaghegh

Name of organization / entity

Country

Iran (Islamic Republic of)

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Email address

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-10-23, 1402/08/01

Expected recruitment end date

2023-12-22, 1402/10/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty	
Scientific title	
Evaluation of the effect of ultrasound therapy and nerve gliding techniques in patients with mild to moderate carpal tunnel syndrome	
Public title	
Evaluation of the effect of ultrasound therapy and nerve gliding techniques in patients with mild to moderate carpal tunnel syndrome	
Purpose	
Treatment	
Inclusion/Exclusion criteria	
Inclusion criteria:	
Having carpal tunnel syndrome based on clinical findings or electrodiagnostic criteria Not needing surgery and having mild to moderate disease symptoms based on muscle nerve strip and clinical examinations Not taking non-steroidal anti-inflammatory drugs or steroids before or during the intervention Balanced mental state and full satisfaction to participate in the research	
Exclusion criteria:	
Patients under 18 years of age Pregnant women Report of previous treatment of syndrome with ultrasound or laser or regular use of analgesic and anti-inflammatory drugs Use of local steroid injections inside the carpal tunnel during the last year or during the study Severe atrophy of the thenar region History of malignant tumors Having neuropathy of the peripheral system Having any disease that affects the results of the study Irregular attendance at treatment programs Unwillingness to participate in the study	
Age	
From 18 years old	
Gender	
Both	
Phase	
3	
Groups that have been masked	
Outcome assessor	
Sample size	
Target sample size: 24	
Randomization (investigator's opinion)	
Randomized	
Randomization description	
Placement of people in each group will be simple random and in a block method, in one of the two group A, ultrasound therapy (with a frequency of 1 Mhtz, current intensity of 1 wt/cm2) 3 times a week for 10 sessions and Each session for 5 minutes), group B will receive neuro-gliding techniques (3 times a week for 10 sessions and each session for 20 minutes). In this way, first, various blocks of four (AABB, BBAA, ABAB, BABA, ABBA and BABA) are created on different cards. One of these blocks will be randomly selected using the lottery method and the patients will be divided into one of two groups A or B. Then randomization is done for other patients as well. This will be done by the study manager.	
Blinding (investigator's opinion)	
Single blinded	
Blinding description	
Outcome evaluator: The physical medicine specialist examines and records the desired variables without knowing the placement of patients in two groups.	
Placebo	
Not used	
Assignment	
Parallel	
Other design features	
Secondary Ids	
empty	
Ethics committees	
1	
Ethics committee	
Name of ethics committee	
Ethics Committee of Birjand University of Medical Sciences	
Street address	
Vice Chancellor for Research and Technology, Birjand University of Medical Sciences, Ghaffari Blvd, Birjand Town	
City	
Birjand	
Province	
South Khorasan	
Postal code	
9717811674	
Approval date	
2022-09-26, 1401/07/04	
Ethics committee reference number	
IR.BUMS.REC.1401.248	
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	
Pain	
Timepoint	
At the beginning of the study and 4 weeks after the intervention in patients	
Method of measurement	
Using the visual pain scale questionnaire (VAS)	

2

Description

Severity of symptoms (paresthesia)

Timepoint

At the beginning of the study and 4 weeks after the intervention in patients

Method of measurement

Using the Boston questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Intervention group 1 patients with carpal tunnel syndrome who are treated with ultrasound with a frequency of 1 megahertz, current intensity of 1 watt/cm² 3 times a week for 10 sessions and each session for 5 minutes.

Category

Treatment - Devices

2

Description

Intervention group: Intervention group 2 patients with carpal tunnel syndrome who will be treated with neuro-gliding techniques 3 times a week for 10 sessions and each session for 20 minutes.

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

Imam Reza Hospital-Birjand

Full name of responsible person

Maryam Nazariyan

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Taleghani Street

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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Full name of responsible person

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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

Birjand 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

Birjand University of Medical Sciences

Full name of responsible person

Zabihullah Mohaghegh

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

General Practitioner

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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

There is no need to publish individual patient information

Study Protocol

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

Statistical Analysis Plan

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

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

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

Data Dictionary

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