

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Effect of median and ulnar nerve neurodynamics to improve motor hand function in carpal tunnel syndrome patients

#### Protocol summary

##### Study aim

To find out the effect of median and ulnar nerve neurodynamics to improve motor hand function in carpal tunnel syndrome patients

##### Design

Single blinded, parallel assigned, multi center, randomized clinical trial that will be conducted on 30 participants with diagnosed carpal tunnel syndrome. purposive sampling technique will be used and randomization would be done by sealed and identical slips of paper which will contain their group numbers.

##### Settings and conduct

Allied hospital and district head quarter hospital Faisalabad. Participants will be kept anonymous for conducting single blinded trial.

##### Participants/Inclusion and exclusion criteria

30 to 50 years age both male and female patients, Work related and unilaterally diagnosed carpal tunnel syndrome, Mild (only sensory symptoms pain, paresthesias and numbness) and moderate carpal tunnel syndrome (motor weakness and symptoms) symptoms from less than one year, Without any conservative treatment before, Willing to participate will be included. Participants with pain due to severe carpal tunnel syndrome, Trauma to affected hand from last 12 months, Cervical radiculopathy, Brachial plexopathy, Previously use of any steroid injection, Current pregnancy, Thoracic outlet syndrome, Inflammatory joint diseases, Rheumatoid arthritis and osteoarthritis, Central nervous system disorder, Guyon tunnel syndrome, Neoplasm, Language and cognitive disorder patients, Drug abusers will be excluded.

##### Intervention groups

Active control group A: Participants will first receive common treatment (ultrasound and tendon gliding exercises) then median nerve neurodynamics. Intervention group B: participants will receive common treatment then median nerve neurodynamics and ulnar nerve neurodynamics.

#### Main outcome variables

Boston carpal tunnel questionnaire: symptoms severity and functional status scale and quick disabilities of arm shoulder and hand questionnaire

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20210820052237N1**

Registration date: **2021-08-31, 1400/06/09**

Registration timing: **retrospective**

Last update: **2021-08-31, 1400/06/09**

Update count: **0**

##### Registration date

2021-08-31, 1400/06/09

##### Registrant information

##### Name

Azka Mustafa

##### Name of organization / entity

The university of faisalabad

##### Country

Pakistan

##### Phone

+92 41 5389581

##### Email address

dr.azkamustafa@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2021-05-31, 1400/03/10

##### Expected recruitment end date

2021-08-10, 1400/05/19

##### Actual recruitment start date

empty

**Actual recruitment end date**  
empty

**Trial completion date**  
empty

**Scientific title**  
Effect of median and ulnar nerve neurodynamics to improve motor hand function in carpal tunnel syndrome patients

**Public title**  
Effect of nerve mobilization in carpal tunnel syndrome patients

**Purpose**  
Health service research

**Inclusion/Exclusion criteria**  
**Inclusion criteria:**  
Carpal tunnel syndrome patients range from 30 to 50 years age including both male and females Unilateral carpal tunnel syndrome Diagnosed with mild carpal tunnel syndrome (only sensory symptoms pain, paresthesia and numbness) and moderate carpal tunnel syndrome (motor weakness and symptoms) Work related carpal tunnel syndrome Symptoms shorter than one year duration Willing to participate in the study Had not undergone any conservative treatment before  
**Exclusion criteria:**  
Previous carpal tunnel syndrome surgery in the study hand Pain and trauma to the study hand past 12 months Severe CTS (thenar muscles atrophy) Previous pharmacotherapy e.g steroid injection in carpal tunnel of study hand in 2 weeks before the study Polyneuropathy e.g diabetes Cervical radiculopathy Current pregnancy Inflammatory joint diseases e.g rheumatoid arthritis and osteoarthritis Brachial plexopathy Thoracic outlet syndrome Central nervous system disorders (multiple sclerosis and small cerebral infarct) Thyroid disease Severe medical illness Any skin disease and wound condition History of neoplasm Previous fracture to the study hand Language difficulties and cognitive disorders Known abuse of drugs and alcohol abuse

**Age**  
From **30 years** old to **50 years** old

**Gender**  
Both

**Phase**  
3

**Groups that have been masked**

- Participant

**Sample size**  
Target sample size: **30**

**Randomization (investigator's opinion)**  
Randomized

**Randomization description**  
Non probability purposive sampling technique will be used for randomization of 30 patients of carpal tunnel syndrome and participants will be allocated into two groups: Active control group A and intervention group B. Participants will be randomized by choosing sealed and identical slips of paper which will contain their group

numbers.

**Blinding (investigator's opinion)**  
Single blinded

**Blinding description**  
The participants will not be aware of the study groups and this will be accomplished by keeping them anonymous for the study period

**Placebo**  
Not used

**Assignment**  
Parallel

**Other design features**

**Secondary Ids**  
empty

**Ethics committees**

**1**

**Ethics committee**  
**Name of ethics committee**  
Ethics and technical committee of the University of Faisalabad  
**Street address**  
University Town, Sargodha Road Faisalabad.  
**City**  
Faisalabad  
**Postal code**  
38000  
**Approval date**  
2021-05-25, 1400/03/04  
**Ethics committee reference number**  
TUF/DR/MSPP/306

**Health conditions studied**

**1**

**Description of health condition studied**  
Decreased motor hand function with sensory, motor hand symptoms and weakness due to median nerve entrapment at wrist joint

**ICD-10 code**  
**ICD-10 code description**

**Primary outcomes**

**1**

**Description**  
Function and symptoms of hand

**Timepoint**  
Before intervention, and after 4th week of intervention

**Method of measurement**  
Boston carpal tunnel questionnaire subscale functional status scale and symptoms severity scale will be used to measure function of affected hand

2

**Description**

Disabilities and functional abilities of upper limb

**Timepoint**

Before intervention, and after 4th week of intervention

**Method of measurement**

Quick disabilities of arm, shoulder and hand scale will be used to assess disabilities and functional capacity of upper limb.

**Secondary outcomes**

empty

**Intervention groups**

1

**Description**

Control group: Active control Group A will receive common treatment (ultrasound therapy and tendon gliding exercises) for 10 minutes and median nerve neurodynamics (10 reps , 3 sets/ session with 1 minute rest interval for 15 minutes duration) 3 days per week for 4 weeks duration.

**Category**

Treatment - Other

2

**Description**

Intervention group: Intervention group B will receive common treatment (ultrasound therapy and tendon gliding exercises) for 10 minutes with median and ulnar nerve neurodynamics (10 reps of each technique , 3 sets/session, with 1 minute rest interval between sets for 30 minutes duration) 3 days per week for 4 weeks duration.

**Category**

Treatment - Other

**Recruitment centers**

1

**Recruitment center**

**Name of recruitment center**

Allied Hospital Faisalabad

**Full name of responsible person**

Sobia Nawaz

**Street address**

Government Hospital, Dr. Tusi Rd, Faisalabad

**City**

Faisalabad

**Postal code**

38000

**Phone**

+92 41 9210082

**Email**

info@pmc.edu.pk

**Web page address**

<https://health.hamariweb.com/faisalabad/hospitals/alli>

ed-hospital\_hos3722

2

**Recruitment center**

**Name of recruitment center**

District Head Quarter Hospital

**Full name of responsible person**

Shaista Bano

**Street address**

Mall Road, Faisalabad

**City**

Faisalabad

**Postal code**

38000

**Phone**

+92 41 9200140

**Email**

info@pmc.edu.pk

**Web page address**

<https://citybook.pk/listing/district-headquarter-hospital-faisalabad/>

**Sponsors / Funding sources**

1

**Sponsor**

**Name of organization / entity**

Yasmin physiotherapy center

**Full name of responsible person**

Osama Ramzan

**Street address**

Sargodha Road, Near Muslim town 3 opposite KIA motors

**City**

Faisalabad

**Postal code**

38000

**Phone**

+92 41 8785675

**Email**

osamaramzan@gmail.com

**Web page address**

<http://omiphysio.com/>

**Grant name**

**Grant code / Reference number**

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

No

**Title of funding source**

Yasmin physiotherapy center

**Proportion provided by this source**

100

**Public or private sector**

Private

**Domestic or foreign origin**

Domestic

**Category of foreign source of funding**

empty

**Country of origin**

**Type of organization providing the funding**

Other

## Person responsible for general inquiries

### Contact

**Name of organization / entity**

Allied hospital faisalabad

**Full name of responsible person**

Azka Mustafa

**Position**

Clinical physiotherapist

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

**Street address**

Government hospital, Dr. Tusi Rd, Faisalabad

**City**

Faisalabad

**Province**

Punjab

**Postal code**

38000

**Phone**

+92 41 5389581

**Email**

info@pmc.edu.pk

**Web page address**

[https://health.hamariweb.com/faisalabad/hospitals/allied-hospital\\_hos3722](https://health.hamariweb.com/faisalabad/hospitals/allied-hospital_hos3722)

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**

Allied hospital faisalabad

**Full name of responsible person**

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Master

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38000

**Phone**

+92 41 5389581

**Email**

dr.azkamustafa@gmail.com

**Web page address**

<https://www.marham.pk/hospitals/faisalabad/allied-hospital/jail-road>

## Person responsible for updating data

### Contact

**Name of organization / entity**

Allied hospital faisalabad

**Full name of responsible person**

Azka Mustafa

**Position**

Clinical physiotherapist

**Latest degree**

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**Other areas of specialty/work**

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**Web page address**

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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**

Consent form would be signed by the participants and they would make sure that their data will not be shared anywhere else other than in current study.

**Study Protocol**

Yes - There is a plan to make this available

**Statistical Analysis Plan**

Yes - There is a plan to make this available

**Informed Consent Form**

Yes - There is a plan to make this available

**Clinical Study Report**

Yes - There is a plan to make this available

**Analytic Code**

Not applicable

**Data Dictionary**

Not applicable

**Title and more details about the data/document**

The primary outcome measures data will be shared and no further details regarding patients personal information will be provided.

**When the data will become available and for how long**

Starting in January 2022

**To whom data/document is available**

For everyone regarding field

**Under which criteria data/document could be used**

Whoever will request for the data

**From where data/document is obtainable**

Through Email address

**What processes are involved for a request to access data/document**

An email starting the use of data will be appreciated  
**Comments**