

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### EFFECTS OF TENDON GLIDING EXERCISES AND NEURODYNAMIC TECHNIQUES ON TWO POINT DISCRIMINATION IN PATIENTS WITH CARPAL TUNNEL SYNDROME

#### Protocol summary

##### Study aim

To find the effects of tendon gliding exercises and neurodynamic techniques on two point discrimination in patients with carpal tunnel syndrome (CTS).

##### Design

Two groups, Single blinded, Randomized Controlled Trial.

##### Settings and conduct

Riphah College of Rehabilitation & Allied Health Sciences  
Fatima Memorial Hospital

##### Participants/Inclusion and exclusion criteria

Inclusion criteria Age 20-40 years Gender both male and female Numbness and tingling in the area of the median nerve Positive Phalen's test Positive Tinel's sign Pain in the wrist area Exclusion Criteria Prior surgical treatment for carpal tunnel syndrome Tendon sheath inflammation Rheumatoid disease Past trauma to the wrist

##### Intervention groups

Intervention group A Tendon Gliding Exercises,  
Intervention group B Neurodynamic Technique

##### Main outcome variables

Two Point Discrimination, Boston Carpal Tunnel Questionnaire (BCTQ), Disability of Arm, Shoulder and Hand Questionnaire (DASH)

#### General information

##### Reason for update

##### Acronym

ETGENTPDIPCTS

##### IRCT registration information

IRCT registration number: **IRCT20160901029636N1**

Registration date: **2019-11-13, 1398/08/22**

Registration timing: **registered\_while\_recruiting**

Last update: **2019-11-13, 1398/08/22**

Update count: **0**

##### Registration date

2019-11-13, 1398/08/22

#### Registrant information

##### Name

Muhammad Salman Bashir

##### Name of organization / entity

School of Rehabilitation, Tehran University of Medical Sciences

##### Country

Iran (Islamic Republic of)

##### Phone

+98 919 831 4562

##### Email address

chistisalman@yahoo.com

#### Recruitment status

##### Recruitment complete

#### Funding source

##### Expected recruitment start date

2019-11-01, 1398/08/10

##### Expected recruitment end date

2020-01-15, 1398/10/25

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

#### Scientific title

EFFECTS OF TENDON GLIDING EXERCISES AND NEURODYNAMIC TECHNIQUES ON TWO POINT DISCRIMINATION IN PATIENTS WITH CARPAL TUNNEL SYNDROME

#### Public title

EFFECTS OF TENDON GLIDING EXERCISES AND NEURODYNAMIC TECHNIQUES ON TWO POINT DISCRIMINATION IN PATIENTS WITH CARPAL TUNNEL

SYNDROME

**Purpose**  
Treatment

**Inclusion/Exclusion criteria**  
**Inclusion criteria:**  
Age 20-40 years Gender both male and female  
Numbness and tingling in the area of the median nerve  
Paresthesia at night Positive Phalen's test Positive Tinel's sign Pain in the wrist area  
**Exclusion criteria:**  
Prior surgical treatment for carpal tunnel syndrome  
Cervical radiculopathy Tendon sheath inflammation  
Rheumatoid disease Diabetes Pregnancy Past trauma to the wrist Muscular atrophy of the thenar eminence

**Age**  
From **20 years** old to **40 years** old

**Gender**  
Both

**Phase**  
N/A

**Groups that have been masked**

- Outcome assessor

**Sample size**  
Target sample size: **40**

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

**Randomization description**  
Written informed consent will be taken. After enrollment into study, patient will be allocated either to group A or Group B by lottery method. No. of Chits will be equal to total sample size, odd Numbers will be allocated to Group A and even number will be allocated to Group B. Each patient will be requested to draw a chit from the box and after that patient will be recruited into either Group A or Group B

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

**Blinding description**  
Assessor Blind: Data safety will be ensured by assigning Specific Identity numbers and all consent, readings forms will be placed in locker to blind Assessors

**Placebo**  
Not used

**Assignment**  
Parallel

**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

secretary ethical review committee, Riphah College of Rehabilitation and Allied Health Sciences

##### Street address

28-M, Quaid-e-Azam Industrial Estate, Kot Lakhpat, Lahore.

#### City

Lahore

#### Postal code

54000

#### Approval date

2019-09-07, 1398/06/16

#### Ethics committee reference number

Ref. No,RCR & AHS/REC/MS-NMPT/005

## 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

Two point discrimination

#### Timepoint

Before treatment and after completing the sessions

#### Method of measurement

Dellon discriminator tool

## Secondary outcomes

### 1

#### Description

symptom severity/ functional status, physical functioning

#### Timepoint

Before and after completing treatment sessions

#### Method of measurement

Boston Carpal Tunnel Questionnaire (BCTQ), Disability of Arm, SHOULDER and Hand (DASH) Questionnaire

## Intervention groups

### 1

#### Description

Intervention group A Tendon Gliding Exercises

#### Category

Treatment - Other

### 2

#### Description

Intervention group B Neurodynamic Technique

#### Category

Treatment - Other

## Recruitment centers

### 1

#### Recruitment center

**Name of recruitment center**

Riphah College of Rehabilitation & Allied Health Sciences

**Full name of responsible person**

Muhammad Salman Bashir

**Street address**

28-M Quaid-e-Azam, Industrial Estate, Kot Lakhpat, Lahore.

**City**

Lahore

**Postal code**

54000

**Phone**

+92 42 35126110

**Email**

chistisalman@yahoo.com

**Web page address**

### 2

#### Recruitment center

**Name of recruitment center**

Fatima Memorial Hospital

**Full name of responsible person**

Dr. Farhia Shah

**Street address**

Main road, Shadman, Lahore.

**City**

Lahore

**Postal code**

54000

**Phone**

+92 42 35126110

**Email**

farhia@gmail.com

## Sponsors / Funding sources

### 1

#### Sponsor

**Name of organization / entity**

Riphah International University

**Full name of responsible person**

Muhammad Salman Bashir

**Street address**

28-M Quaid-e-Azam Industrial Estate, Kot Lakhpat, Lahore.

**City**

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**Postal code**

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**Phone**

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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**

Riphah International University

**Proportion provided by this source**

20

**Public or private sector**

Private

**Domestic or foreign origin**

Foreign

**Category of foreign source of funding**

Sponsor: country of origin

**Country of origin**

PK

**Type of organization providing the funding**

Academic

## Person responsible for general inquiries

#### Contact

**Name of organization / entity**

Riphah International University

**Full name of responsible person**

Muhammad Salman Bashir

**Position**

Associate professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Physiotherapy

**Street address**

28-M Quaid-e-Azam, Industrial Estate, Kot Lakhpat, Lahore

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**Province**

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## Person responsible for scientific inquiries

#### Contact

**Name of organization / entity**

Riphah International University

**Full name of responsible person**

Muhammad Salman Bashir

**Position**

Associate professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

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## Person responsible for updating data

### Contact

**Name of organization / entity**  
Riphah International University  
**Full name of responsible person**  
Muhammad Salman Bashir  
**Position**  
Associate professor  
**Latest degree**  
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**Other areas of specialty/work**  
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**Postal code**  
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**Phone**  
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**Email**  
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## Sharing plan

### Deidentified Individual Participant Data Set (IPD)

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

### 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