

# Effect of shoulder and neck exercises on improving neck disability of middle-aged and older adults with chronic neck pain.

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		<input type="checkbox"/> Protocol
<b>Registration date</b> 10/01/2019	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
<b>Last Edited</b> 11/01/2019	<b>Condition category</b> Musculoskeletal Diseases	<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

People with neck pain often also have, neck disability and limited neck range of movement. Exercises are widely recommended for the improvement of pain in adults with persistent neck pain, but it is not agreed what the most effective exercises are. This study aimed to investigate whether shoulder and neck exercises can improving the neck disability of middle-aged and older adults with persistent neck pain.

### Who can participate?

Men and women aged over 45 years with neck pain.

### What does the study involve?

Participants were randomly allocated to one of two groups. All participants received interferential current therapy (a type of electrical stimulation therapy) for 15 minutes, intermittent (on and off) neck traction (pulling/stretching) for 17 minutes per time and heat pack for 15 minutes, 3 times a week for 6 weeks. Participants in the intervention group were also asked to participate in a 6-week training program of shoulder and neck exercises performed with supervision 3 times a week.

### What are the possible benefits ?

Participants might experience improvement in pain, disability and range of motion. They might find some of the treatments uncomfortable or time-consuming.

### Where is the study run from?

Wan-Fang Hospital (Taiwan)

### When is the study starting and how long is it expected to run for?

December 2015 to September 2016

### Who is funding the study?

Wan Fang Medical Center (Taiwan)

Who is the main contact?  
I-Hsien Lin, 88262@w.tmu.edu.tw

## Contact information

**Type(s)**  
Scientific

**Contact name**  
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## Additional identifiers

**Protocol serial number**  
N201508012

## Study information

**Scientific Title**  
Effect of shoulder and neck exercises on improving neck disability of middle-aged and older adults with chronic neck pain.

**Acronym**  
shoulder and neck exercises on improving neck disability.

**Study objectives**  
This study explored the effectiveness of 6-week shoulder and neck exercises on improving the neck disability of middle-aged and older adults with chronic neck pain.

**Ethics approval required**  
Old ethics approval format

**Ethics approval(s)**  
The Institutional Review Board of Taipei Medical University, 18/12/2015, ref: N201508012

**Study design**  
Randomized controlled assessor-blinded trial

**Primary study design**

Interventional

**Study type(s)**

Treatment

**Health condition(s) or problem(s) studied**

Chronic neck pain

**Interventions**

All participants attended physical therapy for 6 weeks. The therapy was composed of interferential current therapy (a type of electrical stimulation therapy) for 15 minutes, intermittent cervical traction for 17 minutes per time and heat pack for 15 minutes, 3 times per week for 6 weeks.

Participants in the intervention group also received a shoulder and neck exercises program consisting of craniocervical flexion exercises and progressive elastic-band resistance exercises. They performed these exercises with one-on-one supervision performed 3 times per week for 6 consecutive weeks.

**Intervention Type**

Other

**Primary outcome(s)**

Pain measured using a visual analogue scale (VAS) before and after the 6-week intervention.

**Key secondary outcome(s)**

1. Neck disability measured using a neck disability index (NDI) before and after the 6-week intervention.
2. Neck flexibility measured using cervical range of motion (CROM) instrument (CROM Deluxe, Performance Attainment Associates, Lindstrom, MN) before and after the 6-week intervention. The participants were seated on a chair with back support and were asked to perform the maximum angles of flexion, extension, and side bending and rotation until they felt pain. In each direction, the mean CROM derived from the 3 angles was obtained.

**Completion date**

04/11/2016

**Eligibility**

**Key inclusion criteria**

1. Aged 45 years or older
2. Have experienced neck pain for more than 3 months
3. Neck pain exceeding 30 mm on a visual analogue scale (VAS)

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

All

**Key exclusion criteria**

1. Aged younger than 45 years
2. History of spine surgery
3. Major cardiovascular diseases
4. Rheumatoid arthritis
5. Pregnancy
6. Shoulder impingement syndrome
7. Spinal tumor
- 8 Participated in a neck exercise program in past 12 months.

**Date of first enrolment**

20/12/2015

**Date of final enrolment**

17/09/2016

## **Locations**

**Countries of recruitment**

Taiwan

**Study participating centre**

**Wan-Fang Hospital**

111 Hsing-Long Road, Section 3

Taipei

Taiwan

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## **Sponsor information**

**Organisation**

Wan Fang Medical Center

**ROR**

<https://ror.org/058y0nn10>

## **Funder(s)**

**Funder type**

Hospital/treatment centre

**Funder Name**

Wan Fang Medical Center

## Results and Publications

**Individual participant data (IPD) sharing plan**

The data sets generated and/or analysed during the current study during this study will be included in the subsequent results publication

**IPD sharing plan summary**

Other

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes