

# Effects of a home-exercise therapy programme on cervical and lumbar range of motion in nurses

<b>Submission date</b> 25/11/2015	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
<b>Registration date</b> 27/11/2015	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol
<b>Last Edited</b> 02/12/2020	<b>Condition category</b> Musculoskeletal Diseases	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Work-related musculoskeletal pain (pain caused by an injury to the bones, joints and/or muscles) is a serious problem among hospital staff. Nurses have been found to be particularly vulnerable to neck (cervical) and lower back (lumbar) pain, due to daily moving and handling of patients. In many cases, the pain experienced can lead to people avoiding physical activity, which can actually make the problem worse. It has been found that simple exercises designed to gradually increase the range of motion (ROM) of joints could help to reduce pain and stiffness, as well as strengthening muscles. The aim of this study is to investigate the effects of a home-based exercise programme can help to reduce pain and ROM in intensive care nurses.

### Who can participate?

Intensive care nurses who have suffered from mild to moderate MSP during the past 6 months.

### What does the study involve?

At the start of the study, participants are interviewed in order to assess the intensity of back and neck pain they currently experience. Those who are experiencing the most pain undergo an 8 week programme of exercise therapy (experimental group). The participants taught exercises specially designed to improve the range of motion in their neck and back, and are asked to practice the exercises once a day, six days a week. The other participants are asked to continue with their lives as normal for the 8 week study. At the end of the 8 weeks, participants are interviewed in order to find out if their pain levels have changed. Additionally, at the start of the study and after 8 weeks, participants have the range of motion in the cervical spine (neck) and lumbar region (lower back) using a digital goniometer (device used to make precise measurements of angles).

### What are the possible benefits and risks of participating?

Participants may benefit from increased awareness of the importance of physical activity to maintaining their range of motion, which could help to reduce MSP in the neck and lower back. There is a risk related to over-training, which could lead to pain and discomfort.

Where is the study run from?  
Tartu University Hospital (Estonia)

When is the study starting and how long is it expected to run for?  
September 2010 to September 2011

Who is funding the study?  
Archimedes Foundation (Estonia)

Who is the main contact?  
Mrs Tiina Freimann

## Contact information

**Type(s)**  
Scientific

**Contact name**  
Mrs Tiina Freimann

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**Contact details**  
Tartu University Hospital  
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51014

## Additional identifiers

**Protocol serial number**  
N/A

## Study information

**Scientific Title**  
Changes of functional characteristics of cervical and lumbar spine of intensive care unit nurses after 8-week home-exercise therapy

**Acronym**  
HETPN

**Study objectives**  
The specially designed home-exercise therapy programme could improve cervical and lumbar range of motion to reduce neck and lower back pain among ICU nurses.

**Ethics approval required**

Old ethics approval format

## **Ethics approval(s)**

Research Ethics Committee of the University of Tartu, 14/03/2011, ref: 202T-19

## **Study design**

Single-centre non-randomised interventional study

## **Primary study design**

Interventional

## **Study type(s)**

Treatment

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

Cervical and lumbar range of motion

## **Interventions**

The prevalence and intensity of musculo-skeletal pain (MSP) was assessed to select potential participants for the experimental group.

Experimental group: Participants underwent 8-weeks of exercise therapy, with the frequency and intensity of the exercises increasing every two weeks. The participants were asked to perform exercises as one to three sets of 8–10 repetitions. The goal for subjects was to perform exercises once a day, six days a week, for 8 weeks.

Control group: Participants were asked to continue their normal life, and not asked to do any additional exercises.

Cervical and lumbar range of motion of participants in both groups is measured with a digital goniometer at the end of the 8 week intervention period.

## **Intervention Type**

Procedure/Surgery

## **Primary outcome(s)**

1. Cervical range of motion (CROM) is measured using a digital goniometer (Acumar™ Digital Inclinator, Version 5.0) at baseline and 8 weeks
2. Lumbar range of motion (LROM) is measured using a digital goniometer (Acumar™ Digital Inclinator, Version 5.0) at baseline and 8 weeks

## **Key secondary outcome(s)**

Pain is measured using the 11-point Visual Analogue Scale (VAS) at baseline and 8 weeks.

## **Completion date**

23/09/2011

## **Eligibility**

### **Key inclusion criteria**

**Experimental group:**

1. Having worked full time for at least a year in the ICU
2. Being under 40 years of age
3. Having a body mass index <32
4. Having experienced mild to moderate pain in the cervical and or lumbar regions during the previous six months

**Control group:**

1. Being under 40 years of age
2. Having a body mass index <32
3. Experiencing no musculo-skeletal pain (MSP) during the previous six months

**Participant type(s)**

Health professional

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

All

**Total final enrolment**

24

**Key exclusion criteria**

1. Acute orthopaedic and or neurological diseases
2. Pregnancy

**Date of first enrolment**

06/04/2011

**Date of final enrolment**

25/04/2011

**Locations****Countries of recruitment**

Estonia

**Study participating centre**

Tartu University Hospital

L.Puusepa 1a

Tartu

Estonia

50406

# Sponsor information

## Organisation

University of Tartu

## ROR

<https://ror.org/03z77qz90>

# Funder(s)

## Funder type

Government

## Funder Name

Archimedes Foundation (Sihtasutus Archimedes)

## Alternative Name(s)

Archimedes Foundation

## Funding Body Type

Government organisation

## Funding Body Subtype

National government

## Location

Estonia

# Results and Publications

## Individual participant data (IPD) sharing plan

## IPD sharing plan summary

Available on request

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	04/12/2015	02/12/2020	Yes	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes