# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

22 Nov 2026

## The effect of respiratory physiotherapy by nurses on pain, oxygenation, hemodynamic indexes and inspiratory capacity after coronary artery bypass surgery

## Protocol summary

**Summary**

This study was conducted to evaluate the effects of chest physiotherapy by nurses on pain, oxygenation, and hemodynamic indexes and inspiratory capacity in patients after coronary artery bypass surgery . In this controlled clinical trial, 60 patients undergoing open heart surgery at the hospital of Imam Reza (AS) in Mashhad will be selected with available sampling method and then randomly will be divided into two groups (physiotherapy by nurses and physiotherapy by routine group (physiotherapists)) . variables Such as pain, hemoglobin oxygen saturation, p/f ratio, mean arterial pressure, heart rate, pulse pressure and inspiratory capacity before, during and after intervention in both groups will be measured; and then within group and between group Comparison will be done.

## General information

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT2015020820994N1**
Registration date: **2015-06-15, 1394/03/25**
Registration timing: **retrospective**

Last update:
Update count: **0**

**Registration date**

2015-06-15, 1394/03/25

**Registrant information**

**Name**

Hadi Roshani Yosefabad

**Name of organization / entity**

Nursing and Midwifery Faculty, Mashhad University of Medical Sciences

**Country**

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**Recruitment status**

**Recruitment complete**

**Funding source**

mashhad university of medical science

**Expected recruitment start date**

2014-11-22, 1393/09/01

**Expected recruitment end date**

2015-03-19, 1393/12/28

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

The effect of respiratory physiotherapy by nurses on pain, oxygenation, hemodynamic indexes and inspiratory capacity after coronary artery bypass surgery

**Public title**

The effect of physiotherapy in the prevention of complications after surgery.

**Purpose**

Prevention

**Inclusion/Exclusion criteria**

Inclusion criteria include: patients undergoing coronary artery bypass surgery without cardiopulmonary pump technique, hemodynamic conditions are stable and do not have preoperative pulmonary diseases. Exclusion criteria include: during the study hemodynamic situation is unstable and during the study there is need to intubation, CPR, or receiving inotropic support.

**Age**
From **18 years** old to **65 years** old
**Gender**
Both

**Phase**
N/A
**Groups that have been masked**
*No information*
**Sample size**
Target sample size: **60**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
**Blinding (investigator's opinion)**
Not blinded
**Blinding description**
**Placebo**
Not used
**Assignment**
Parallel
**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**
**Name of ethics committee**
The committee ethics in research Mashhad University Of Medical Science
**Street address**
Research ethics committee, GHorayshi building, University Avenue, Mashhad,Iran
**City**
Mashhad
**Postal code**
**Approval date**
2014-11-22, 1393/09/01
**Ethics committee reference number**
930481

## Health conditions studied

### 1

**Description of health condition studied**
physiotherapy
**ICD-10 code**
z50
**ICD-10 code description**
Care involving use of rehabilitation procedures

## Primary outcomes

### 1

**Description**
Pain
**Timepoint**
Before, during and immediately after the intervention
**Method of measurement**
Numerical Rating Scale of pain

### 2

**Description**
Oxygen Saturation Of Hemoglobin
**Timepoint**
Before, during and immediately after the intervention
**Method of measurement**
Pulse oxymetry

### 3

**Description**
P/F Ratio
**Timepoint**
Befor and immediately after the intervention
**Method of measurement**
With formula ( Pao2/Fio2 )

### 4

**Description**
Mean Arterial Pressure (MAP)
**Timepoint**
Before, during and immediately after the intervention
**Method of measurement**
With monitoring of saadat

### 5

**Description**
Heart Rate
**Timepoint**
Before, during and immediately after the intervention
**Method of measurement**
With monitoring of saadat

### 6

**Description**
Pulse Pressure
**Timepoint**
Before, during and immediately after the intervention
**Method of measurement**
With formula ( systolic blood pressure- diastolic blood pressure )

### 7

**Description**
Inspiratory Capacity
**Timepoint**
Befor and immediately after the intervention
**Method of measurement**
With volumetric exerciser model : respiflo vs 5000

## Secondary outcomes

empty

## Intervention groups

### 1

**Description**
Chest physiotherapy with nursing protocol of physiotherapy intervention ( in intervention group )
**Category**
Prevention

### 2

**Description**
Chest physiotherapy by physiotherapist ( control group )
**Category**
Prevention

## Recruitment centers

### 1

**Recruitment center**
**Name of recruitment center**
Emam Reza(A.S.) Hospital
**Full name of responsible person**
Hadi Roshani
**Street address**
Nursing and Midwifery Faculty, Ebne Sina Avenue, Mashhad, Iran
**City**
Mashhad

## Sponsors / Funding sources

### 1

**Sponsor**
**Name of organization / entity**
Mashhad University of Medical Science
**Full name of responsible person**
Dr. Saeed Eslami
**Street address**
GHorayshi building, Daneshghah avenue, Mashhad, Iran
**City**
Mashhad
**Grant name**
**Grant code / Reference number**
**Is the source of funding the same sponsor organization/entity?**
Yes
**Title of funding source**
Mashhad University of Medical Science
**Proportion provided by this source**
100
**Public or private sector**
*empty*
**Domestic or foreign origin**
*empty*
**Category of foreign source of funding**
*empty*
**Country of origin**
**Type of organization providing the funding**
*empty*

## Person responsible for general inquiries

**Contact**
**Name of organization / entity**
Nursing and Midwifery Faculty
**Full name of responsible person**
Hadi Roshani
**Position**
Master of Nursing Student
**Other areas of specialty/work**
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## Person responsible for scientific inquiries

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## Person responsible for updating data

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## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**

*empty*

**Study Protocol**

*empty*

**Statistical Analysis Plan**

*empty*

**Informed Consent Form**

*empty*

**Clinical Study Report**

*empty*

**Analytic Code**

*empty*

**Data Dictionary**

*empty*