

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

The effect of preoperative respiratory exercises on pulmonary complications in coronary artery diseased patients After cardiac surgery

Protocol summary

Summary

This study is conducted for evaluating the effect of preoperative respiratory exercise on pulmonary complication in patients undergoing Coronary artery bypass surgery in Kowthar Hospital. In this study 100 patients who are candidate for CABG randomly allocated to groups of experiment and control. Patients who have emergency surgery and neuromuscular and cognitive disorders will not be studied. Patients who are allocated in experiment group will receive planned breathing exercises including deep breathing and directed cough maneuvers 3 days before operation. This breathing exercise is initiated one hour after extubation and will be done in the first four days after surgery, two times every day. Patients who are allocated in control group will receive the hospital routine treatment. For comparing the outcomes ABG and atelectasis in chest x ray will be compared. Arterial blood gasses and chest X ray will be compared preoperation and first, second and third day post operatively.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201404096778N5**

Registration date: **2014-08-16, 1393/05/25**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2014-08-16, 1393/05/25

Registrant information

Name

Seyed Tayeb Moradian Vafaei

Name of organization / entity

School of nursing and midwifery, Tehran university of medical sciences

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Recruitment status

Recruitment complete

Funding source

Baqiyatallah university of medical sciences

Expected recruitment start date

2014-01-12, 1392/10/22

Expected recruitment end date

2014-03-12, 1392/12/21

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of preoperative respiratory exercises on pulmonary complications in coronary artery diseased patients After cardiac surgery

Public title

The effect of preoperative respiratory exercises on pulmonary complications after coronary artery bypass graft surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: Negative history of neurological disorders; muscular or cognitive disorders; no emergency surgery; negative history of previous CABG; Lack of preoperative pulmonary disease (pneumonia, chronic obstructive pulmonary disease, atelectasis,

pleural effusion and asthma); the ability to perform planned breathing exercises; negative history of severe renal dysfunction) Exclusion criteria: need for mechanical ventilation more than 24 hour; need for reoperation due to surgery complications; Patient refusal of further participation in the study at any stage of the work; incidence of cognitive and neurological disorders after surgery; severe hemodynamic impairment

Age

From **30 years** old to **80 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **100**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Baqiyatallah University of medical sciences

Street address

Baghyattallah university of medical sciences, Sheikh Bahaei St, Tehran

City

Tehran

Postal code

Approval date

2013-11-09, 1392/08/18

Ethics committee reference number

11/340/س

Health conditions studied

1

Description of health condition studied

Atelectasis

ICD-10 code

J98.1

ICD-10 code description

Collapse of lung

Primary outcomes

1

Description

Atelectasis

Timepoint

First, second and third day after surgery

Method of measurement

Chest X ray

Secondary outcomes

1

Description

saturation of arterial oxygen

Timepoint

First, second and third day after surgery

Method of measurement

arterial blood gas analysis

Intervention groups

1

Description

Patients who are allocated to experiment group will receive planned breathing exercises including deep breathing and directed cough maneuvers three days before operation. In every waking hour they will do five deep breathes following by five direct cough maneuvers.

Category

Prevention

2

Description

Patients who are allocated in control group will receive the hospital routine treatment. Any intervention is not done before surgery for this group of patients.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Kowsar Hospital

Full name of responsible person

Mrs Abolghasemi

Street address

Kowsar Hospital, Ghasroldasht St, Shiraz

City

Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Nursing faculty, Baghiyatallah University of medical sciences

Full name of responsible person

Dr Abbas Ebadi

Street address

Baghiyatallah University of medical sciences, Sheykh Bahaei street, Tehran

City

Tehran

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Nursing faculty, Baghiyatallah University of medical sciences

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 Faculty, Baqiyyatallah University Of medical Sciences

Full name of responsible person

Amir Abbas Heydari

Position

Master of science student

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Person responsible for scientific inquiries

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Seyed Tayeb Moradian

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Person responsible for updating data

Contact

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