

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 2026

The impact of planned breathing exercise on respiratory complication in patients after coronary artery bypass surgery in Shahid Rajaei training, research and treatment heart center

Protocol summary

Summary

This study is conducted for evaluating the effect of planned breathing exercises on pulmonary complication in patients undergoing Coronary artery bypass surgery in Shahid Rajaei Heart Center. In this study 100 patients who are candidate for CABG randomly allocated to groups of experiment and control. Patients who had 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, incentive spirometry and directed cough maneuvers. This breathing exercise is initiated one hour after extubation and will be done in the first four days after surgery. Patients who are allocated in control group will receive the hospital routine treatment. For comparing the outcomes ABG, atelectasis in chest x ray and distance walked in 6 minute will be compared. Arterial blood gases and chest X ray will be compared pre operation and first, second and third day post operatively.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201106126778N1**

Registration date: **2011-06-25, 1390/04/04**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2011-06-25, 1390/04/04

Registrant information

Name

Seyed Tayeb Moradian Vafaei

Name of organization / entity

School of nursing and midwifery, Tehran university of medical sciences

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

School of Nursing and Midwifery of Tehran University of Medical Sciences Research Center

Expected recruitment start date

2010-12-22, 1389/10/01

Expected recruitment end date

2011-03-22, 1390/01/02

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The impact of planned breathing exercise on respiratory complication in patients after coronary artery bypass surgery in Shahid Rajaei training, research and treatment heart center

Public title

Planned breathing exercises and reducing the pulmonary complications in patients undergoing 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

No age limit

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**

School of nursing and midwifery, Tehran University of Medical Sciences

Street address

School of Nursing and Midwifery, Towhid Square

City

Tehran

Postal code**Approval date**

2010-11-21, 1389/08/30

Ethics committee reference number

250.522

Health conditions studied**1****Description of health condition studied**

Atelectasis

ICD-10 code

J98.1

ICD-10 code description

Pulmonary collapse

Primary outcomes**1****Description**

Atelectasis

Timepoint

Daily

Method of measurement

Chest x ray

Secondary outcomes**1****Description**

Physical function

Timepoint

the fourth day after intervention

Method of measurement

six minute walking test

Intervention groups**1****Description**

Patients who are allocated to control group will receive the hospital routine treatment

Category

Prevention

2**Description**

Patients who are allocated to experiment group will receive planned breathing exercises including deep breathing, incentive spirometer and directed cough maneuvers. This breathing exercise is initiated one hour after extubation and will be done in the first four days after surgery.

Category

Prevention

Recruitment centers**1****Recruitment center****Name of recruitment center**

Sahahid Rajaei education, research and therapy center

Full name of responsible person

Dr Majid Haghighi

Street address

the intersection Niayesh, Vali Asr Street

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

School of Nursing and Midwifery of Tehran University of Medical Sciences Research Center

Full name of responsible person

Dr Neda Mehrdad

Street address

School of Nursing and Midwifery, Towhid Square

City

Tehran

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

School of Nursing and Midwifery of Tehran University of Medical Sciences Research Center

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

Person responsible for scientific inquiries

Contact

Name of organization / entity

School of nursing and midwifery, Tehran University of Medical Sciences

Full name of responsible person

Seyed Tayeb Moradian

Position

MSc student of critical care nursing

Other areas of specialty/work

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Web page address

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