Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effects of Preoperative Aerobic training for Improving Postoperative Functional Mobility in Coronary Artery Bypass Graft Patients

Protocol summary

Study aim
To evaluate effects of preoperative aerobic training for improving postoperative functional mobility in coronary artery bypass graft patients.

Design
Non Blinded non randomized Quasi experimental design.

Settings and conduct
Faisalabad Institute of Cardiology Faisalabad. After complete evaluation, informed consent will be taken from patients who include in the study. Sample size of 38 patients will be allocated in two groups with one receive aerobic training and other group will receive conventional treatment. the outcomes measure will be evaluating at baseline, 3rd week preoperative and postoperative before discharge.

Participants/Inclusion and exclusion criteria
Inclusion criteria:40-60 years of age. patients with double and triple Coronary artery bypass graft. patients with left ventricular ejection fraction > 50%. Exclusion criteria: patients with congestive heart failure. patients with pacemaker dependents. patients with neurological deficit.

Intervention groups
Treatment will be provided for 4 days in a week for 3 weeks for both groups. Group 1 will perform the Aerobic exercises.Group 2 will perform the breathing exercises.

Main outcome variables
Time Up and Go Test, Canadian Cardiovascular Society Grading, Duration of Oxygen Therapy

General information

Reason for update

Acronym
CABG

IRCT registration information
IRCT registration number: **IRCT20221004056085N1**
Registration date: **2022-10-07, 1401/07/15**
Registration timing: **retrospective**
Last update: **2022-10-07, 1401/07/15**
Update count: **0**

Registration date
2022-10-07, 1401/07/15

Registrant information

Name
Usama Munir

Name of organization / entity
Government College University Faisalabad

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Pakistan

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2022-05-20, 1401/02/30

Expected recruitment end date
2022-09-20, 1401/06/29

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effects of Preoperative Aerobic training for Improving Postoperative Functional Mobility in Coronary Artery Bypass Graft Patients

Public title
Effects of Aerobic training for Improving Functional Mobility in Coronary Artery Bypass Graft Patients

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age 40-60 years Patients awaiting coronary artery bypass graft patients with stable angina Patients with double and triple coronary artery disease Patients with left ventricular ejection fraction >50% Patients who have diabetes Patients who are smokers Patients who have hypertension

Exclusion criteria:

Patients with congestive heart failure Patients having dysrhythmias and pacemaker dependent Patients with neurological deficit(stroke, epilepsy, Alzheimer disease) Patients with renal dysfunction require dialysis Concomitant valve disease Patients with pulmonary complications

Age

From **40 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **38**

More than 1 sample in each individual

Number of samples in each individual: **19**

Patients will be non randomly assigned into two groups.Each group will comprise of 19 patients

Randomization (investigator's opinion)

Not 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

Name of ethics committee: Ethical committee of Government College University Faisalabad

Street address

Kotwali Rd, Gurunankpura, Faisalabad, Punjab 38000

City

Faisalabad

Postal code

38000

Approval date

2022-04-17, 1401/01/28

Ethics committee reference number

FIHS/2022/911

Health conditions studied

1

Description of health condition studied

Coronary artery bypass graft is a surgical operation in which blocked arteries are partially or completely bypass using grafts taken from other arteries or veins. a therapeutic procedure used to treat coronary artery disease.

ICD-10 code

T82.2

ICD-10 code description

Mechanical complication of coronary artery bypass graft and biological heart valve graft

Primary outcomes

1

Description

Time up and go test was used to measure the functional mobility of the patients. record the readings in seconds in time up and go test.

Timepoint

3 time-points including Baseline, 3rd week preoperative, postoperative before discharge

Method of measurement

Time up and go test will be utilized to access functional mobility

Secondary outcomes

1

Description

Canadian cardiovascular society grading is a grading scale used to grade the angina of patients. There are 4 grade of it. Grade 1 mean ordinary physical activity does not cause angina. Grade 2 mean slight limitation of ordinary physical activity. Grade 3 mean marked limitation of ordinary physical activity. Grade 4 mean inability to carry on any physical activity.

Timepoint

3 time-points including Baseline, 3rd week preoperative, postoperative before discharge

Method of measurement

CCS will be used to grading the angina of patients.

Intervention groups

1

Description

Aerobic training group. Warm up activity include range of motion exercises of upper and lower limb (8-12 repetitions) one set in a day. Aerobic exercises in the form of walking on flat surface in corridor, light to moderate pace(10-15 min).Stepping (8-12 repetitions)

once a day , 4 days in a week for 3 weeks.Cool down activity include static stretching(20-60 sec hold) exercise of upper and lower limb one set in a day. As in conventional group treatment.

Category

Rehabilitation

2

Description

Conventional group. Early mobilization(bed mobility, transfer) according to the protocol. Deep breathing exercises include Diaphragmatic and Pulse lip breathing.In this exercise breath in deeply and slowly through your nose, expanding your lower rib cage and letting your abdomen move forward,hold for a count 3-5. Breath out slowly and completely through your pulsed lips, once a day, 4 days in a week for 3 weeks. Huff and cough technique once a day, 4 days in a week for 3 weeks.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Faisalabad Institute of cardiology Faisalabad

Full name of responsible person

Dr. Sajid Ahmad

Street address

New Chenab Club, Sargodha Rd, Civil lines, Faisalabad, Punjab 38850

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Government College University Faisalabad

Full name of responsible person

Dr. Komal Tariq; PT

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Email

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Web page address

https://www.gcuf.edu.pk/

Grant name

Grant code / Reference number

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

No

Title of funding source

Self financed

Proportion provided by this source

100

Public or private sector

Private

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Other

Person responsible for general inquiries

Contact

Name of organization / entity

Government College University Faisalabad

Full name of responsible person

Usama Munir

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be a plan to make this available
Study Protocol
Undecided - It is not yet known if there will be a plan to make this available
Statistical Analysis Plan
Not applicable
Informed Consent Form
Undecided - It is not yet known if there will be a plan to make this available
Clinical Study Report
Not applicable
Analytic Code
Not applicable
Data Dictionary
Not applicable