

Read the study summary and complete the activities below.

### The Health Impact of High Intensity Exercise Training With Intervals During Cardiac Rehabilitation

Cardiac rehabilitation is a program designed to help patients regain good health through lifestyle change after a heart attack, heart surgery or other heart problems. Patients will take part in exercise sessions and education lessons, tailored to meet their personal needs. The exercise training component of cardiac rehabilitation may be delivered as intervals of short intense sessions (also known as high intensity intervals) or the current standard care of longer but less intense sessions (moderate intense intervals). Both exercises have been shown to increase fitness levels and also prevent future risk of heart disease.

The purpose of this study is to determine the efficacy and safety of high intensity interval exercise training (HIIT) in patients who had a recent cardiac revascularization procedure or recovering from a heart attack, in comparison to current standard of moderate intensity exercise training in terms of their physical fitness and psychological well-being.

Cardiac rehabilitation is an eight week program designed to help patients regain good health through changed lifestyle after a possible heart attack, heart surgery or other heart problems. Patients will take part in exercise sessions and education lessons, tailored to meet their personal needs. The exercise training component of cardiac rehabilitation may be delivered as intervals of short intense sessions (also known as high intensity intervals) or the current standard care of longer but less intense sessions (moderate intense intervals). Both exercises have been shown to increase fitness levels and also prevent future risk of heart disease. Although there is some evidence to suggest that high intensity interval training produces better body muscles recovery and fitness during cardiac rehabilitation, many important health outcomes have not yet been determined. Such outcomes include the ability of the body to safely control blood pressure and heartbeat rate. Others include health-related quality of life and emotional well-being.

This study will explore whether there are any differences in health outcomes before and after the introduction of the intervention for patients undergoing high intensity interval exercise compared to those on moderate intensity interval exercise in terms of the recovery of the ability to control blood pressure and heartbeat rate, and also health-related quality of life and emotional well-being. In addition, patients' opinions will be sought regarding pain levels, the acceptability and the extent of enjoyment they get from each of the two types of exercise training.

#### What is the primary goal of cardiac rehabilitation?

- a) To improve physical fitness only
- b) To help patients regain good health through lifestyle changes

#### Who is cardiac rehabilitation intended for?

- a) Patients with lung problems
- b) Patients recovering from heart-related issues

#### How are the exercise sessions in cardiac rehabilitation tailored?

- a) According to each patient's personal needs
- b) According to a standard, one-size-fits-all plan

#### What are the two types of exercise training compared in the study?

- a) High intensity interval training (HIIT) and low intensity interval training
- b) High intensity interval training (HIIT) and moderate intensity interval training

#### What is the purpose of the study?

- a) To evaluate the effectiveness and safety of HIIT compared to moderate intensity training
- b) To determine the best diet for cardiac rehabilitation patients

**What are the expected benefits of both types of exercise?**

- a) Increased fitness levels and prevention of future heart disease
- b) Weight loss and improved digestion

**What additional outcomes does the study aim to assess?**

- a) Muscle mass increase and flexibility
- b) The ability to control blood pressure, heartbeat rate, and emotional well-being

**How long is the cardiac rehabilitation program?**

- a) Eight weeks
- b) Six months

**Why is there uncertainty regarding high intensity interval training?**

- a) It has not been shown to improve fitness levels
- b) Some important health outcomes, like blood pressure control, have not yet been determined

**What additional aspects will the study explore regarding the two types of exercise training?**

- a) Patients' opinions on pain levels and enjoyment
- b) The impact on patients' sleep patterns

**English in Use - Choose the correct option.**

1. Patients **must/can** follow their prescribed exercise routine to improve cardiovascular health.
2. Doctors **do/can** recommend dietary changes that could lower cholesterol levels.
3. The patient **should have/had** started rehabilitation earlier to prevent complications.
4. The research team **could/need have** gathered more data from diverse cardiovascular patients.
5. If patients exercise regularly, they **improve/maintain** better heart health.
6. If blood pressure increases suddenly, it **signals/signalled** a potential cardiovascular issue.
7. If the patient **follows** the doctor's advice, they **would/will** reduce their risk of a heart attack.
8. If the hospital **introduces/introduce** a new cardiac rehabilitation program, more patients **will** recover successfully.
9. If more people **understood** the importance of cardiovascular health, they **will/would** make healthier lifestyle choices.
10. If patients **were/are** more diligent with their medication, they **would** experience fewer complications.
11. If the patient **had received** treatment earlier, they **would have/had avoided** severe heart damage.
12. If the study **had included/includes** more participants, the results **would have been** more conclusive.
13. If the patient **had followed** the rehabilitation plan, they **would be/is** in better health now.
14. If the doctor **had recommended** a different treatment, the patient **might be / might not be** facing complications today.
15. The patient followed the diet plan; **however/ because**, they still experienced high blood pressure.
16. **However/Although** the rehabilitation program was challenging, it significantly improved the patient's cardiovascular health.
17. The nurse **whose/who** monitors cardiovascular patients ensures that they follow their treatment plans.
18. The study, **which/that** focused on heart disease prevention, revealed new insights into patient care.
19. **Because/So** cardiovascular disease is a leading cause of death, early intervention is crucial for patient survival.
20. The patient's condition improved **before/after** they consistently attended cardiac rehabilitation sessions.