

# Physical activity after cardiac events (PACES)

<b>Submission date</b> 27/02/2017	<b>Recruitment status</b> No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 27/02/2017	<b>Overall study status</b> Completed	<input checked="" type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 05/01/2022	<b>Condition category</b> Circulatory System	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

Current plain English summary as of 13/02/2019:

### Background and study aims

Coronary heart disease (CHD), also known as ischemic heart disease, is one of the leading causes of death worldwide. CHD develops because of the build-up of fatty deposits (plaque) on the walls of the coronary arteries (the arteries that supply the heart with oxygen-rich blood). When arteries are blocked or narrowed, the heart does not receive enough blood to function properly, which can lead to a cardiac event such as a heart attack. After experiencing one cardiac event, the risk of experiencing one again is increased unless there is intensive management of risk factors such as physical activity, smoking, diabetes, hypertension (elevated blood pressure levels), hyperlipidaemia (elevated fat levels in the blood) and obesity. This usually involves being offered a structured education and exercise programme of cardiac rehabilitation, after which risk factor management is done by a GP. The aim of this study is to look at the effectiveness of an education programme with text messaging support for increasing physical activity, specifically walking, in individuals who have had a cardiac event in the past 12 to 48 months.

### Who can participate?

Adults who have had a cardiac event 12-48 months ago.

### What does the study involve?

Participants are randomly allocated to one of two groups. Those in the first group receive usual care, which involves being given general health advices in the form of a standard information leaflet and will be returned to standard care delivered by their GP. Those in the second group also receive the standard information leaflet as well as being invited to take part in two group-based structured education sessions. These education sessions are delivered by trained facilitators approximately two weeks apart. Following this, participants receive regular text messages providing support for a year. Participants in both groups have their physical activity levels assessed at the start of the study and then again after six and 12 months.

### What are the possible benefits and risks of participating?

By taking part, both groups will benefit from a health assessment and physical activity advice. Individuals will also receive information on their general fitness levels. Most importantly participants will add to evidence-based lifestyle information that may improve the treatment and support for people 12 months after a cardiac event in the future. During any physical activity there is always an increased risk of a heart event or injury. The walking test is being performed

before participants start the study to ensure the risks to an individual's health is very low. These risks are also lowered because the education sessions target the increase of daily physical activity levels rather than vigorous physical activity. There will also be a trained researcher undertaking all aspects of the study. If there are any contraindications individuals will not participate and their GP will be informed. All clinic measurements are carried out by qualified members of the research team. Some people experience minor discomfort and slight bruising during blood tests. A fully qualified research team member will carry out the blood test to ensure any pain is kept to a minimum. If 'abnormal' blood results are found, participant's GPs will be contacted so that they can investigate further.

Where is the study run from?

Leicester Diabetes Research Centre (UK)

When is the study starting and how long is it expected to run for?

February 2017 to January 2020

Who is funding the study?

1. East Midlands Academic Health Science Network (UK)
2. National Institute for Health Research (UK)
3. National Institutes of Health (USA)

Who is the main contact?

Dr Louisa Herring

PACES@uhl-tr.nhs.uk

Previous plain English summary:

Background and study aims

Coronary heart disease (CHD), also known as ischemic heart disease, is one of the leading causes of death worldwide. CHD develops because of the build-up of fatty deposits (plaque) on the walls of the coronary arteries (the arteries that supply the heart with oxygen-rich blood). When arteries are blocked or narrowed, the heart does not receive enough blood to function properly, which can lead to a cardiac event such as a heart attack. After experiencing one cardiac event, the risk of experiencing one again is increased unless there is intensive management of risk factors such as physical activity, smoking, diabetes, hypertension (elevated blood pressure levels), hyperlipidaemia (elevated fat levels in the blood) and obesity. This usually involves being offered a structured education and exercise programme of cardiac rehabilitation, after which risk factor management is done by a GP. The aim of this study is to look at the effectiveness of an education programme with text messaging support for increasing physical activity, specifically walking, in individuals who have had a cardiac event in the past 12 to 36 months.

Who can participate?

Adults who have had a cardiac event 12-36 months ago.

What does the study involve?

Participants are randomly allocated to one of two groups. Those in the first group receive usual care, which involves being given general health advice in the form of a standard information leaflet and will be returned to standard care delivered by their GP. Those in the second group also receive the standard information leaflet as well as being invited to take part in two group-based structured education sessions. These education sessions are delivered by trained facilitators approximately two weeks apart. Following this, participants receive regular text messages providing support for a year. Participants in both groups have their physical activity levels assessed at the start of the study and then again after six and 12 months.

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Dr Louisa Herring  
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## Contact information

**Type(s)**

Scientific

**Contact name**

Dr Louisa Herring

**Contact details**

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## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**

32603

## **Study information**

### **Scientific Title**

Developing and evaluating an education programme aimed at increasing physical activity in individuals with diagnosed coronary heart disease: a randomised controlled trial

### **Study objectives**

Current study hypothesis as of 13/02/2019:

The aim of the study is to implement an acceptable and cost-effective education programme with text message support and to test the effectiveness of this programme for increasing total daily physical activity, specifically walking activity measured using accelerometry, in individuals 12 to 48 months after diagnosis of a cardiac event.

Previous study hypothesis:

The aim of the study is to implement an acceptable and cost-effective education programme with text message support and to test the effectiveness of this programme for increasing total daily physical activity, specifically walking activity measured using accelerometry, in individuals 12 to 36 months after diagnosis of a cardiac event.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

West Midlands - Solihull Research Ethics Committee

### **Study design**

Randomised; Interventional; Design type: Treatment, Prevention, Education or Self-Management, Psychological & Behavioural, Complex Intervention

### **Primary study design**

Interventional

### **Secondary study design**

Randomised controlled trial

### **Study setting(s)**

Hospital

### **Study type(s)**

Treatment

## **Participant information sheet**

Not available in web format, please use the contact details below to request a patient information sheet

## **Health condition(s) or problem(s) studied**

Specialty: Diabetes, Primary sub-specialty: Both; UKCRC code/ Disease: Cardiovascular/ Other forms of heart disease

## **Interventions**

Eligible participants will be randomised, apart from those in the same household, using a block design and stratified by gender (men; women), and ethnicity (White European; other) to one of two groups.

Control group: Participants will be provided with general health advice in the form of a British Heart Foundation standard information leaflet and will be returned to standard care delivered by their general practitioner.

Intervention group: Participants will receive the British Heart Foundation standard information leaflet and will be invited to attend two group-based structured education sessions. These education sessions will be delivered by trained facilitators approximately two weeks apart and will receive subsequent reinforcement via text message support thereafter (section 3.2). These structured education sessions have been developed and refined in conjunction with PPI work and through the use of existing infrastructure consisting of Diabetes Education and Self-Management in on-going and Newly Diagnosed (DESMOND) groups and a network of trained facilitators. The participants will receive 82 physical activity related text messages at different weekly frequencies following the second education session to the 12 month follow-up assessment.

Participants in both groups will be followed up after 6 and 12 months.

## **Intervention Type**

Other

## **Primary outcome measure**

Average daily physical activity is assessed using an accelerometer (Average daily physical activity - Milligravities [mg]) worn for eight days at baseline, 6 and 12 months.

## **Secondary outcome measures**

1. Aerobic fitness is assessed using an Incremental Shuttle walk test (metres) at baseline and 12 months
2. Anthropometric measures of height, body mass, BMI, waist circumference, hip circumference and waist to hip ratio are measured using standard techniques at baseline and 12 months
3. Blood pressure (mmHg) & resting heart rate (bpm) are measured using standard techniques at baseline and 12 months
4. Lipid profile (Cholesterol, HDL, LDL, Triglycerides) is measured via venepuncture at baseline and 12 months
5. HbA1c (mmol/mol, %) is measured via venepuncture at baseline and 12 months
6. Self-efficacy for exercise expectations is measured using the Jenkins self-efficacy for exercise expectations scale at baseline, 6 and 12 months
7. Anxiety and depression is measured using the Hospital Anxiety and Depression scale (HADS) at baseline, 6 and 12 months

8. Self-reported physical activity is measured using the Recent Physical Activity Questionnaire (RPAQ) at baseline, 6 and 12 months
  9. Quality of life is measured using the EuroQoL EQ-5D-5L at baseline, 6 and 12 months
  10. Chronotype is measured using the Morningness- Eveningness Questionnaire at baseline, 6 and 12 months
  11. Biomarkers of inflammation, proteomics, metabolomics and novel markers of cardiovascular health are measured via venepuncture at baseline and 12 months
- The following secondary outcome measure was added on 13/02/2019:
12. Health service use data at 12 months using routinely used questions (approved by a health economist) is collected annually for 5 years using GP, hospital records and/ or NHS Digital.

**Overall study start date**

01/03/2016

**Completion date**

02/01/2020

## Eligibility

**Key inclusion criteria**

Current participant inclusion criteria as of 13/02/2019:

1. Aged 18 years or older
2. 12-48 months post confirmed diagnosis of a cardiac event (myocardial infarction, angina or acute coronary syndrome)
3. Able to speak and read English to participate effectively in a group education programme
4. Willing and able to attend the education sessions and clinic visits
5. Willing and able to give informed consent
6. Access to a mobile phone in order to receive text messages
7. Willingness to allow GP notification of their participation in study and access to patient records for purpose of study
8. Able to take part in moderate physical activity as assessed using Incremental Shuttle Walk Test (ISWT) (Level three or above)

Previous participant inclusion criteria:

1. Aged 18 years or older
2. 12-36 months post confirmed diagnosis of a cardiac event (myocardial infarction, angina or acute coronary syndrome)
3. Able to speak and read English to participate effectively in a group education programme
4. Willing and able to attend the education sessions and clinic visits
5. Willing and able to give informed consent
6. Access to a mobile phone in order to receive text messages
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**Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

18 Years

**Sex**

Both

**Target number of participants**

Planned Sample Size: 290; UK Sample Size: 290

**Total final enrolment**

291

**Key exclusion criteria**

1. Individuals with a diagnosis of heart failure where the underlying primary cause is not myocardial disease as a result of atherosclerosis will be excluded from this study
2. Musculoskeletal limitations that would limit physical activity (e.g. musculoskeletal injury)
3. Participation in another clinical intervention study in the past 12 weeks
4. Lacks capacity to give informed consent
5. Severe life-threatening co-morbidity (e.g. malignancy)
6. Poor exercise capacity, (< level three on the ISWT [120 metres]), these individuals will be directed back into cardiac rehabilitation (good practice)
7. Housebound or immobile
8. Unstable symptoms (chest pain or breathlessness at rest; unstable stage II hypertension [160 /100mmHg], not on necessary medications)
9. Individuals with no or limited understanding of written or verbal English

**Date of first enrolment**

14/03/2017

**Date of final enrolment**

30/09/2018

**Locations****Countries of recruitment**

England

United Kingdom

**Study participating centre****Leicester Diabetes Research Centre**

Leicester General Hospital

Gwendolen Road

Leicester

United Kingdom

LE5 4PW

# Sponsor information

## Organisation

University of Leicester

## Sponsor details

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## Sponsor type

University/education

## ROR

<https://ror.org/04h699437>

# Funder(s)

## Funder type

Government

## Funder Name

East Midlands Academic Health Science Network

## Funder Name

National Institute for Health Research

## Alternative Name(s)

National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

## Funding Body Type

Government organisation

## Funding Body Subtype

National government

## Location



United Kingdom

**Funder Name**

National Institutes of Health

**Alternative Name(s)**

Institutos Nacionales de la Salud, US National Institutes of Health, NIH

**Funding Body Type**

Government organisation

**Funding Body Subtype**

National government

**Location**

United States of America

## Results and Publications

**Publication and dissemination plan**

Planned publication in peer-reviewed academic journals.

**Intention to publish date**

02/01/2021

**Individual participant data (IPD) sharing plan**

The current data sharing plans for the current study are unknown and will be made available at a later date.

**IPD sharing plan summary**

Data sharing statement to be made available at a later date

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Protocol article</a>	results	04/10/2018		Yes	No
<a href="#">Statistical Analysis Plan</a>	version V1.0	20/03/2019	24/04/2020	No	No
<a href="#">Results article</a>	results	01/02/2021	01/03/2021	Yes	No