

# Testing the feasibility of combined breathlessness exercise rehabilitation for Chronic Obstructive Pulmonary Disease (COPD) and chronic heart failure (the COHERE study)

<b>Submission date</b> 06/09/2018	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 07/11/2018	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 24/07/2019	<b>Condition category</b> Respiratory	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

This study is collecting data from a combined breathlessness rehabilitation programme for adults with Chronic Obstructive Pulmonary Disease (COPD) and/or Heart Failure. It is a relatively new idea to combine adults with COPD and/or heart failure into one rehabilitation programme. Traditionally, patients were sent to pulmonary or cardiac rehabilitation. However, many patients present with both COPD and heart failure. Furthermore, both diseases are characterised by breathlessness and it has been suggested a rehabilitation centred around symptoms, in this case, breathlessness, would be a suitable advancement. The aim of this study is to assess how feasible or how practical it is to combine patients with one or both diseases into an exercise programme and assess how feasible it is to recruit patients and collect a range of new health measures for a full trial.

### Who can participate?

Patients aged between 40 and 85 with a confirmed diagnosis of COPD and/or heart failure who are enrolled into the combined exercise rehabilitation programme at University Hospitals of Leicester (UHL)

### What does the study involve?

All participants are referred to the combined exercise rehabilitation programme as part of their usual care. The exercise rehabilitation programme is a standard clinical programme comprising of strength and aerobic exercises. The rehabilitation programme consists of 12 classes that are typically run twice a week for 6 weeks. This study is not impacting or altering the clinical care rehabilitation programme. Frailty, physical activity, cardio-metabolic risk and symptom burden are assessed before and after the rehabilitation programme, to see how feasible it is to collect these measures. Participants are invited to a focus group discussion upon completion of rehabilitation, to further understand participant's experiences of the combined rehabilitation programme and the study.

What are the possible benefits and risks of participating?

Participants are contributing to valuable research that may impact the future clinical rehabilitation programme. The information from this current study will guide a large trial in the future. Participants are also provided with a feedback report about their health. The risks of participating in this study are low. There is a risk of some discomfort or bruising as a result of the blood sample but all measures will be taken to reduce this risk.

Where is the study run from?

University Hospital Leicester NHS Trust (UK)

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

December 2017 to March 2019

Who is funding the study?

1. Loughborough University (UK)
2. University Hospital Leicester NHS Trust (UK)

Who is the main contact?

Prof. Sally Singh  
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## Contact information

### Type(s)

Public

### Contact name

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Scientific

### Contact name

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## **Additional identifiers**

**EudraCT/CTIS number**

**IRAS number**  
227456

**ClinicalTrials.gov number**

**Secondary identifying numbers**  
IRAS project ID 227456

## **Study information**

### **Scientific Title**

A feasibility trial of combined breathlessness exercise rehabilitation for Chronic Obstructive Pulmonary Disease (COPD) and chronic heart failure (COPd and HEart failure REhabilitation - COHERE)

### **Acronym**

COHERE

### **Study objectives**

This study will examine the feasibility of a combined breathlessness exercise rehabilitation programme for patients with Chronic Obstructive Pulmonary Disease (COPD) and/or heart failure. Feasibility will be assessed by various factors including ease of recruitment, uptake into a combined rehabilitation programme and the feasibility of assessing a suite of outcome measures.

### **Ethics approval required**

Old ethics approval format

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

East Midlands - Leicester South, 09/05/2018, ref: 18/EM/0051

### **Study design**

Single-centre observational cohort feasibility study

### **Primary study design**

Observational

### **Secondary study design**

Cohort study

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

Hospital

## **Study type(s)**

Other

## **Participant information sheet**

Not available in web format, please use contact details to request a participant information sheet

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

Chronic Obstructive Pulmonary Disease (COPD) and/or chronic heart failure

## **Interventions**

This study will be assessing the feasibility of a combined breathlessness exercise rehabilitation programme for patients with COPD and/or heart failure and how feasible it is to recruit patients and collect novel outcome measures for a full trial. All participants will be referred to this programme as part of their usual care. The exercise rehabilitation programme is a standard clinical programme comprising of strength and aerobic exercises. The rehabilitation programme consists of 12 classes that are typically run twice a week for six weeks.

The outcome measures that will be assessed both before and upon completion of rehabilitation are health-related quality of life (questionnaire based) symptom evaluation (questionnaire based), cardiometabolic risk (venous blood sample, body composition, arterial stiffness), frailty (assessed through a series of small physical tests) and physical activity (assessed with an accelerometer and questionnaire). Lung function and B-Type Natriuretic Peptide (BNP) will be assessed at baseline. Routine measures collected in the clinical programme will also be recorded for research purposes. These include measures of anxiety and depression, exercise capacity and muscular strength.

## **Intervention Type**

Other

## **Primary outcome measure**

Feasibility will be determined using, but not restricted to, the following criteria:

1. The number of participants eligible for inclusion (i.e. meet the inclusion criteria)
2. Suitability of the inclusion criteria
3. Recruitment/response rate (i.e. number and proportion of those eligible who consent to take part)
4. Refusal rate
5. Uptake and completion of the study
6. Willingness of patients to be recruited and the willingness of healthcare professionals to refer to this study and future trials
7. Service provider and multi-disciplinary teams' willingness and ability to deliver the new combined exercise rehabilitation programme
8. The practicality of delivering the intervention in the proposed setting
9. The time needed to collect and analyse the data
10. Test methods for the collection of data as well as data completeness and accuracy (including changes in clinical health outcome measures)
11. The acceptability of the combined exercise rehabilitation programme and the COHERE trial will be assessed through focus groups
12. Compliance to the combined exercise rehabilitation programme and COHERE study. Poor programme compliance will be defined as absence from rehabilitation sessions and poor trial

compliance will be assessed by absence from outcome measure assessments

13. Adherence to the combined exercise rehabilitation programme assessed via a self-report exercise diary, which is usual care

14. The training and resource needs to deliver the intervention and ensure fidelity (ensuring readiness for a future much larger multi-centre trial)

### **Secondary outcome measures**

1. Cardiometabolic risk assessed by fasted venous blood sample and arterial stiffness, assessed before and upon completion of the rehabilitation programme

2. Body composition, waist circumference and blood pressure measured before and after rehabilitation

3. Physical activity and sedentary behaviour assessed using an ActiGraph accelerometer. The device will be given to participants to wear for 7 consecutive days before and after the rehabilitation programme. Participants will also complete the Pro-ACTIVE physical activity questionnaire

4. Symptoms assessed using the Multidimensional Dyspnea Profile, Dyspnea 12 Questionnaire and PROMIS fatigue questionnaire before and after the rehabilitation programme

5. Health-related quality of life assessed using the Chronic Heart Questionnaire- Self Report, and the EuroQol 5D-5L questionnaire before and after rehabilitation

6. Frailty levels assessed using the Short Physical Performance Battery before and after the rehabilitation programme

7. Lung function assessed using spirometry and B-Type Natriuretic Peptide levels before rehabilitation

Measures that are taken as part of patient's usual care will also be recorded for research purposes. These include:

1. Exercise capacity, measured using the Incremental and Endurance Shuttle Walk Test

2. Muscle strength, measured using the Quadriceps Maximal Voluntary Contraction

3. Breathlessness, measured using the Medical Research Council scale and COPD Assessment Test

4. Mood state, measured using the Hospital and Anxiety Depression Scale

5. Quality of life, measured using the Dartmouth COOPS Charts

These are completed in the clinical visits that occur before the rehabilitation programme and at discharge

### **Overall study start date**

01/12/2017

### **Completion date**

31/08/2020

## **Eligibility**

### **Key inclusion criteria**

1. Be aged between 40 and 85 years

2. Have a physician confirmed diagnosis of COPD and/or heart failure

3. Be referred or due to enrol on the University Hospitals of Leicester (UHL) NHS Trust combined rehabilitation programme

4. Be willing and able to comply with the trial protocol

5. Be able to provide informed consent
6. Meet the 'UHL Breathlessness Rehabilitation Class Standard Operating Procedure' criteria for eligible patients

**Participant type(s)**

Patient

**Age group**

Mixed

**Sex**

Both

**Target number of participants**

60

**Key exclusion criteria**

1. Be under 40 or over 85 years of age
2. Completed or began a rehabilitation programme less than 6 months ago
3. Have had clinical concerns about them raised by rehabilitation staff/not meet the 'UHL Breathlessness Rehabilitation Class Standard Operating Procedure'
4. Not have a confirmed diagnosis of COPD and/or heart failure
5. Have completed or began a rehabilitation programme in the last 6 months
6. Have insufficient proficiency in English to comply with the study protocol

**Date of first enrolment**

09/05/2018

**Date of final enrolment**

30/06/2020

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

England

United Kingdom

**Study participating centre**

Glenfield Hospital

Grobby Rd

Leicester

United Kingdom

LE3 9QP

**Study participating centre**

**National Centre for Sport and Exercise Medicine**  
Loughborough University  
Loughborough  
United Kingdom  
LE11 3TU

## **Sponsor information**

### **Organisation**

University Hospital Leicester

### **Sponsor details**

R & I Office, Leicester General Hospital  
Gwendolen Road  
Leicester  
England  
United Kingdom  
LE5 4PW

### **Sponsor type**

Hospital/treatment centre

### **ROR**

<https://ror.org/02fha3693>

## **Funder(s)**

### **Funder type**

University/education

### **Funder Name**

Loughborough University

### **Alternative Name(s)**

Lboro

### **Funding Body Type**

Private sector organisation

### **Funding Body Subtype**

Universities (academic only)

### **Location**

United Kingdom

**Funder Name**

University Hospital Leicester NHS Trust

## Results and Publications

**Publication and dissemination plan**

It is anticipated that the results from this study will be published in international journals and will be used in a PhD thesis. All data that will be collected is anticipated to be published.

**Intention to publish date**

31/08/2021

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

Participant level data will not be available. Data will be stored on secure password protected Loughborough University or University Hospitals of Leicester NHS Trust computers and within locked stored cabinets where appropriate.

**IPD sharing plan summary**

Not expected to be made available

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Protocol article</a>	protocol	16/07/2019	24/07/2019	Yes	No
<a href="#">HRA research summary</a>			28/06/2023	No	No