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High-intensity functional training in Parkinson's disease

Submission date
17/12/2025

Recruitment status
Recruiting

Registration date
03/03/2026

Overall study status
Ongoing

Last Edited
10/03/2026

Condition category
Nervous System Diseases

[X] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[X] Record updated in last year

Plain English summary of protocol
Background and study aims
Parkinson’s disease (Parkinson’s) is a progressive condition that affects movement and other bodily systems. There is currently no cure. Symptoms such as fatigue, changes in mood, balance problems, and stiffness are common and debilitating. Exercise has been shown to slow the progression of the condition and help manage symptoms. There is uncertainty about the optimal type and quantity of exercise that people with Parkinson’s should do. High-Intensity Functional Training (HIFT) combines different types of exercise performed at high intensity to improve multiple aspects of health and fitness including muscle strength, heart health, and balance.
This study aims to assess whether HIFT, delivered through existing services (but non-NHS), is feasible, acceptable, and safe for people with Parkinson’s. We will determine:
1. Whether people with Parkinson’s are willing to take part in this study
2. Whether participants enjoy this type of exercise
3. Participants’ experiences with HIFT, and any challenges they faced
4. Whether differences in background (such as sex or ethnicity) affect how people feel about HIFT
The insights gained from this project will help us decide whether we can carry out a larger study to see whether HIFT improves Parkinson’s symptoms.

Who can participate?
People aged over 18 years with a diagnosis of idiopathic Parkinson's, with the ability to provide informed consent, able to walk independently at least 10 m (with or without a walking aid), stable Parkinson's medication for the previous 6 weeks (including infusion therapy), and have medical clearance to participate in exercise. People who have symptoms of Parkinson's severely affecting their balance or cognition (e.g., freezing of gait, motor fluctuations) will not be eligible.

What does the study involve?
Participants are randomly allocated to one of two groups. Participants in the active group will have the choice of taking part in HIFT classes at a local CrossFit gym, or through a programme called PD Warrior, which is a Parkinson’s-specific programme, either in-person or online. The control group will continue with their normal activities. We will assess participants before, during, and after the exercise programme. We will invite some of the participants for an interview to understand their experiences of taking part.

What are the possible benefits and risks of participating?
Taking part may not benefit you directly, but it may benefit people with Parkinson's in the future as it will provide the research team with invaluable information about this type of exercise and how to conduct a larger study.
If you are allocated to the active group you will be asked to attend classes which will be paid for by the research team. We can provide reimbursement for travel costs if necessary. These classes may be of benefit to you for your Parkinson's, or just for your overall health in general.
If you are allocated to the active group, you will be asked to attend exercise classes at least twice per week for 12 weeks.
If you are new to exercise, there may be a risk that you experience some muscle soreness or stiffness initially. The coaches involved in the exercise classes will ask you some questions about your health and exercise habits to help manage these risks.
There is also a chance that you may experience some side effects from taking part in this type of exercise, such as tiredness/fatigue, worsening of pre-existing pain, or fluctuations in Parkinson's symptoms, but these should resolve within 24-72 hours.
There is a risk that doing exercise may lead to a fall or cardiovascular strain, which may uncover, worsen, or cause heart problems such as arrhythmias, heart attack or increased blood pressure. The research team will work closely with your GP and Parkinson's specialist to understand your current health to minimise these risks.
If you choose to undertake exercise at home, we recommend that you have someone present with you during and immediately after the class. This is to ensure you can access medical attention or help if you experience an adverse reaction to the exercise.

Where is the study run from?
The study is being conducted by the University of Bristol in collaboration with the Bristol, North Somerset and South Gloucestershire (BNSSG) ICB.

When is the study starting and how long is it expected to run for?
March 2026 to November 2027

Who is funding the study?
The study is being funded by the National Institute for Health and Social Care Research (NIHR) and the Department for Health and Social Care (DHSC) (UK).

Who is the main contact?
Dani Pendry-Brazier, liftpd-study@bristol.ac.uk

Contact information

Type(s)
Principal investigator, Scientific, Public

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Additional identifiers

Integrated Research Application System (IRAS)
347393

Central Portfolio Management System (CPMS)
63944

National Institute for Health and Care Research (NIHR)
208230

Study information

Scientific Title
Acceptability of high intensity functional training in people with Parkinson's: a randomised feasibility trial

Acronym
LIFT-PD

Study objectives
This study will determine the feasibility of the study design, acceptability, and safety of high intensity functional training. It will provide foundational evidence to design and carry out a future RCT to establish the clinical and cost effectiveness of HIFT in people with Parkinson’s using existing infrastructure across the UK.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 03/03/2026, West of Scotland REC 5 (West of Scotland Research Ethics Service, Level 2, Administration Building, Gartnavel Royal Hospital, 1055 Great Western Road, Glasgow, G12 0XH, United Kingdom; +44 01413140213; ggc.wosrec5@nhs.scot), ref: 26/WS/0029

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Open (masking not used)

Control
Active

Assignment
Parallel

Purpose
Treatment

Study type(s)

Health condition(s) or problem(s) studied
Parkinson's disease

Interventions
Intervention:
Delivery of the intervention will be conducted through either a local CrossFit facility or via PD Warrior centres based in Bristol, which conduct in-person and online classes.

Participants will be required to attend at least 2 classes per week and maintain an exercise diary for the 12-week intervention period to establish adherence to the protocol. Concordance will be corroborated through class attendance records, collected directly from PD Warrior and CrossFit facilities.
Participants will have the following options for completion of the intervention:
1. Attendance of classes at a local CrossFit training facility
2. Attendance of local PD Warrior Classes
3. Attendance of online PD Warrior Classes
Classes are anticipated to last approximately 45-60 minutes.
Allocation to the intervention will be conducted using the intervention decision tool below (Intervention Decision Tool), and infographics explaining the options for intervention along with demonstration videos. The choice of intervention will be led by the participant in discussion with the Chief Investigator or delegate. Considerations for safety will be made when choosing the intervention at the discretion of the Chief Investigator or delegate.
The choice of intervention delivery is provided to account for the variation in preference of people with Parkinson’s regarding attendance of exercise classes. PPI contributors engaged with the study design to date have expressed variation in their preferences for exercise class delivery, whereby whilst some find it helpful to be around other people with Parkinson’s, some do not wish to participate in Parkinson’s-specific environments.
Previous studies have shown that ≥2 sessions per week over a minimum of 12 weeks are required to demonstrate clinical effectiveness in people with Parkinson’s; therefore has been selected as the minimum dosage required to demonstrate feasibility.
Participants will be able to continue in their exercise class after the 12-week intervention period, but there is no contingency for this to be funded from the trial. Participants will be made aware in the information booklet and consent form that the trial intervention is 12 weeks, and any involvement beyond this will need to be self-funded and in agreement with the relevant provider. Control arm participants who wish to attend classes will be provided with contact details on request as appropriate.

Control:
Control group participants will continue with their usual care and routines, with no additional

information provided by the research team. Participants in the control group will complete exercise diaries. Participants will be reminded to avoid changing their usual exercise routines. Adherence to this will be monitored across the 12-week period through participant questionnaires. Participants who are interested in trying the classes because of the information provided in the trial will be asked to defer this until after their 12-week follow-up appointment has been completed.

Randomisation:
Participants will be randomised using REDCap software via the trial database on a 2:1 basis (intervention: control), allowing for a higher number of participants to receive the intervention, and therefore provide more data on acceptability and safety. Participants will be informed during the consent process of the importance of adhering to their assigned group.

Intervention Type
Behavioural

Primary outcome(s)
1. Compliance with intervention measured using Exercise diary (% of participants concordant with allocated intervention) at 12 weeks

2. Safety measured using Number of adverse and serious adverse events at 12 weeks

3. Retention measured using % of participants who do not withdraw from trial follow-up procedures at 12 weeks

Key secondary outcome(s)

Completion date
30/11/2027

Eligibility

Key inclusion criteria
1. Diagnosis of idiopathic Parkinson’s disease
2. Aged ≥18 years
3. Has capacity to provide informed consent
4. Able to walk 10 m independently (with or without walking aid)
5. Stable Parkinson’s medication for previous 6 weeks
6. Able to participate in the intervention and study procedures in the opinion of the Chief Investigator or delegate (with support of clinical team)

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit

200 Years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Comorbidities or medical history which would preclude exercise participation – GP Screening
2. Falls history > 3 falls in previous 12 months – self-reported (telephone screening)
3. Orthostatic hypotension (as defined below) - self-reported (telephone screening) and in-person assessment by research team
4. Regular exercisers (as defined below) – self-reported questionnaire (telephone screening)
5. Cognitive impairment (as defined below) – in person assessment by research team
6. Postural Instability (as defined below) – in-person assessment by research team
7. Freezing of gait – self-reported (telephone screening) and in-person assessment by research team
8. Evidence of clinically moderate to severe motor fluctuations at initial assessment that affect significantly balance, gait or stability, or that are reported to affect a participant's ability to undertake activities when these occur (as defined below) – in-person assessment by research team
9. Being considered for device-based therapy (including initial referral prior to specialist review) – self-reported (telephone screening) or movement disorder specialist (diagnosis check)
10. Deep brain stimulation where this was inserted less than 6 months ago and has not led to significant improvement of symptoms (i.e., motor fluctuations that render them ineligible as above) – self-reported (telephone screening) or movement disorder specialist (diagnosis check)
11. Current use of an infusion therapy or use in the last 6 months – self-reported (telephone screening) or movement disorder specialist (diagnosis check)

Date of first enrolment
16/03/2026

Date of final enrolment
30/09/2026

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
NHS Bristol, North Somerset and South Gloucestershire Icb
100 Temple Street
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Sponsor information

Organisation
University of Bristol

ROR
https://ror.org/0524sp257

Funder(s)

Funder type

Funder Name
National Institute for Health and Care 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

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available