# Technology-Assisted Forced Pace Cycling in Parkinson's Disease: Feasibility and Efficacy

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## Introduction

Forced pace cycling has been shown to improve global motor function among individuals with Parkinson's Disease (PD) compared to self-pace cycling.

Tandem cycling is an alternate means to achieve high cadences, but many individuals with PD do not have access to trained partners.

Preliminary studies support that technology-assisted cycling can replicate the benefits shown from human-paced tandem cycling.

## Methods

Participants: Twelve adults with PD enrolled, Hoehn and Yahr Stage II, 50% Female, mean age 65.2 years, recruited between 2015 – 2018.

Randomization: Participants were randomly assigned to forced pace or self-pace, as well as immediate or delayed start groups.

## Efficacy Results

KEY FINDINGS:

1. Technology-assisted forced pace cycling may be no more effective than self-pace in mitigating PD symptoms.
2. High dropout rate of forced pace participants suggests that technology-based forced exercise may have limited feasibility.

Figure Key: 8 Completers

forced pace

self pace

Walking Endurance (6MWT)

MDS-UPDRS: Motor Examination

Mini-BESTest

## Feasibility Results

4 of 6 forced paced participants withdrew due to reported inconvenience (n = 2), worsening symptoms (n = 1), lost to follow-up (n = 1).

Slow recruitment led to small sample size for both groups.

High drop-out rate of forced pace participants.

We thank the participants and our organization for facilitating this work.
We would like to thank additional physical therapists who assisted with this project (Joe Harris, Kate Drolet, and Edita Dragusin).

See QR code for references

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