

## Accepted Manuscript

Title: Gait bradykinesia and hypometria decrease as arm swing frequency and amplitude increase

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## Highlights

- People with PD can modulate gait parameters according to changes in arm swing.
- Bradykinesia and hypometria of gait are overcome by increased arm swing.
- Rehabilitation protocols for gait in people with PD should include arm movements.

## Abstract

People with Parkinson's disease (PD) have decreased arm swing movements during walking, which can be related to PD motor signs and symptoms. In this context, the aim of this study was to determine the effects of an increased arm swing frequency or amplitude on the gait parameters in people with PD and healthy older adults. Seventeen individuals with PD and 19 older people were invited to walk on a 10 m pathway under three experimental conditions: (i) usual walking (no arm swing instructions); (ii) an increased arm swing amplitude; and (iii) an increased arm swing frequency. Both groups had an increased stride speed, vertical center of mass and arm swing accelerations and decreased

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