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## Clinical indicators of gait freezing in Parkinson's disease

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### Abstract

**Background:** Freezing of gait is a common (FOG) episodic gait disorder in advanced Parkinson's disease (PD). FOG is one of the main risk factors for falls; therefore FOG's consequences can be devastating. This symptom is difficult to study in a research laboratory because of its unpredictability which makes it difficult to select patients for clinical testing and make the right treatment decisions. Thus, clinical indicators may be useful to distinguish between patients with and without FOG. The aim of this study was to compare the number of steps and the time to perform a 180-degree turn in patients with Parkinson's disease with and without FOG.

**Material and methods:** The study was performed on 56 PD patients. Subjects were divided into 2 groups: a total of 28 patients with PD and FOG were compared with 28 patients with PD without FOG, according to item number 14, from the Unified Parkinson's Disease Rating Scale (UPDRS). The 2 subgroups were homogeneous in terms of age and disease severity.

**Results:** Significant differences were found between the two groups both in steps number ( $P < 0.0001$ ) and in the time required to perform a 180-degree turn ( $P < 0.0001$ ).

**Conclusions:** Performing more steps and more seconds to turn 180 degrees may be a useful indicator to distinguish the characteristics of PD patients with FOG. A PD patient which turns at 180-degree with more than 5 steps is most likely a patient with FOG.

**Key words:** Parkinson's disease, gait, freezing, turning, steps.

### Cite this article

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