

## Effects of Acupuncture Treatment in Gait Parameters in Parkinson's Disease

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**Abstract :** Introduction: Gait disorders are one of the symptoms that have severe implications on the quality of life in Parkinson's disease (PD). Presently, there is no treatment to cure this condition. None of the drugs used in conventional medical treatment is entirely efficient and all have a high incidence of side effects. Acupuncture therapy is supposed to enhance motor capacity, but there are still few scientific pieces of evidence in individuals with PD. Aim: Investigate the acute effect of acupuncture on gait parameters in Parkinson's disease. Methods: This is a randomized and controlled crossover study. The same individual patient was part of both, experimental (real acupuncture) and control group (false acupuncture/sham), and the sequence was randomized. We measured gait parameters using four force platforms as well as the collection of 3D markers positions taken by 11 cameras before and after the treatment. Images were quantitatively analyzed using Qualisys Track Manager software that let us extract data related to the quality of gait and balance. Seven patients with diagnose of Parkinson's disease were included in the study. Results: We found an improvement of 32% in gait speed, 25-32% in step length, 26% in mediolateral trunk oscillation, 22% in time of double support phase, 7,24% in gait cadence, 7% in support base width and 6% in support base width between the initial and final moments for the experimental group with statistically significant differences. Our results show that acupuncture could enhance gait in Parkinson's disease patients. Deep research involving a larger number of voluntaries should be accomplished to validate these encouraging findings.

**Keywords :** acupuncture, traditional Chinese medicine, Parkinson disease, gait

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