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Original Article

The effect of walking speed on quality of gait in older adults

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Highlights:

- Measured 3D trunk accelerations while older adults walked at four treadmill speeds
- Estimated gait quality characteristics to elucidate the effect of speed
- All gait characteristics were affected by speed, except AP sample entropy
- Higher speed led to qualitatively better gait for most characteristics
- Speed may underlie differences in gait quality among older fallers and non-fallers

Abstract

Background: Gait quality characteristics can contribute to the identification of individuals at risk of falls. Since older adults with high fall risk tend to walk slower than older adults with a lower fall risk, walking speed may underlie differences in gait quality characteristics.

Research question: How does walking speed affect gait quality characteristics in older people?

Methods: We investigated the effect of walking speed on gait characteristics in 11 older adults (aged 69.6±4.1 years). Trunk accelerations (Dynaport MoveMonitor) were recorded during 5 minutes of treadmill walking at four different speeds. From these trunk accelerations we

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