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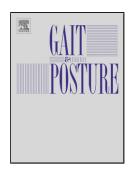
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Original Article

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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