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Lower limb support ability of the affected leg during stepping is importance for ability relating to well-controlled walking in ambulatory patients with stroke

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Patients with stroke likely suffer from the unilateral sensorimotor impairments that reduce their lower limb support ability (LLSA) of the affected limb. However, previous studies have assessed the LLSA in various double stance postures and have verified its association with some variables related to walking ability. This study investigated the amount and duration of the LLSA of the affected leg during stepping and their correlation to variables related to the ability of well-controlled walking in 37 ambulatory patients with stroke. Subjects were interviewed and randomly assessed for the ability related to well-controlled walking, including walking speed, dynamic balance ability, walking endurance, and symmetrical ratio during walking. An average LLSA on the affected limb during stepping of the subjects was approximately 82% of their body-weight. The LLSA, particularly the amount, was moderately correlated to the variables related to the ability of well-controlled walking in the subjects. The LLSA during stepping was obviously lower than that of healthy individuals (approximately 95% of their body-weight). The findings emphasized the importance of both the amount and duration of the LLSA during stepping for the ability related to well-controlled walking in ambulatory stroke patients.

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