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Levels of lower limb loading symmetry while performing stepping and sit-to-stand in ambulatory patients with stroke

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Unilateral sensorimotor impairments usually result in patients with stroke walk with asymmetrical manners. However, levels of symmetrical lower limb loading are commonly assessed and trained while stepping. The researchers hypothesized that levels of asymmetrical lower limb loading would be obvious while the patients executed a challenging task. Therefore, this study assessed levels of lower limb loading symmetry while performing stepping and Sit-To-Stand (STS) in 10 patients with stroke as compared with data from 10 healthy individuals. Subjects were assessed for the amount of lower limb loading of the affected and non-affected limbs during stepping and STS using digital load cells for three trials/activities. The findings indicated healthy individuals had lower limb loading symmetry nearly 100% both during stepping (99.67%) and STS (100.78%). On the contrary, participants with stroke exhibited asymmetrical lower limb loading both while stepping (94.33%) and in particular while performed STS (71.26%). The findings suggested the more pronounced of asymmetrical lower limb loading, particularly while performing a challenging task. Thus the application of STS with the emphasizing on lower limb loading symmetry may enhance rehabilitation outcomes and steady walking for the patients.

Biography

Panita Thamnithis is a Neurological Physiotherapist and currently a Masters student in a Physical Therapy program at Khon Kaen University, Thailand.

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