Reviewer's report

Title: Test-retest reliability of temporal and spatial gait parameters measured with an instrumented walkway system

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Reviewer: Arthur J. Nelson

# 1. The question proposed is new and is well defined except for no reference to a study conducted by Gretz, H., et al. entitled Functional ambulation performance testing of adults with Down Syndrome, NeuroRehabilitation 11(1998) 211-225. It is unfortunate that age, sex matched normals (Non-Down persons) reported on in the study would be missed if just looking at the title. It would provide the current authors some added support for their findings.

#2. The methods are well described and are compatible with those recommended by the Gait and Clinical Movement Analysis Society. The study could be replicated with the methods described by the authors.

#3 The study had good control measures in force through the entire study. The data are similar to data recorded in the Gretz (1989) article in NeuroRehabilitation journal.

#4 The reporting of data and explanation is clearly written and follows accepted standards.

#5 I would suggest the authors offer an alternative to the reduced ICC values for base of support was the lack of resolution of the GAITrite mat. If this is so it would have been revealed in other spatial data. The Gretz article and an article by Nelson, A.J. et al. entitled; The validity of the GAITrite and the Functional AmbulationPerformance Scoring system in the analysis of Parkinson gait, NeuroRehabilitation, 17(2002) 255-262, have similar data for base of support in normals and expecially the people with Parkinsons Disease. The explanation may not be the instrumental loss of accuracy but may represent an age dependent performance inadequacy in a percentage of subjects who are considered normal.

#6 I would suggest to include the duration between pre and post testing was one week as that is the fundamental factor the authors have proposed. Additionally I would replace parameters for measurements, as the scope of the study sample is not sufficient to claim they were parameters identified.

#7 The writing is clear and concise.

My recommendations may be classified as improvements but not essential. The authors may choose to ignore the suggestions and would be at their discretion.

What next?: Accept after discretionary revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable
Statistical review: No

Declaration of competing interests:
none