



Applicability of global positioning system for the assessment of walking ability in patients with arterial claudication

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Titre Applicability of global positioning system for the assessment of walking ability in patients with arterial claudication

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OBJECTIVE: This study determined for the first time the clinical applicability of a global positioning system (GPS)-monitored community-based walking ability assessment in a large cohort of patients with peripheral artery disease (PAD). **METHODS:** A multicenter study was conducted among PAD patients who complained of intermittent claudication. Patients equipped with a GPS device performed a community-based outdoor walk. We determined the number of technically satisfactory GPS recordings (attempt No. 1). Patients with unsatisfactory GPS recordings were asked to perform a second attempt (attempt No. 2). From the satisfactory recordings obtained after attempts No. 1 and No. 2, we analyzed several GPS parameters to provide clinical information on the patients' walking ability. Results are reported as median (interquartile range). **RESULTS:** A total of 218 patients performed an outdoor walk. GPS recordings were technically satisfactory in 185 patients (85%) and in 203 (93%) after attempts No. 1 and No. 2, respectively. The highest measured distance between two stops during community walking was 678 m (IQR, 381-1333 m), whereas self-reported maximal walking distance was 250 m (IQR, 150-400 m; $P < .001$). Walking speed was 3.6 km/h (IQR, 3.1-3.9 km/h), with few variations during the walk. Among the patients who had to stop during the walk, the stop durations were <10 minutes in all but one individual. **CONCLUSIONS:** GPS is applicable for the nonsupervised multicenter recording of walking ability in the community. In the future, it may facilitate objective community-based assessment of walking ability, allow for the adequate monitoring of home-based walking programs, and for the study of new dimensions of walking in PAD patients with intermittent claudication.

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