

Parkinson's Disease

Current Awareness Bulletin

June 2015

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Jason Ovens Head of Library & Knowledge Services

Title: Recovery performance and factors that classify young fallers and non-fallers in Parkinson's disease

Citation: Human Movement Science, June 2015, vol./is. 41/(136-146), 0167-9457;1872-7646 (June 01, 2015) **Author(s):** Moreno Catala M., Woitalla D., Arampatzis A.

Abstract: Postural instability is a major problem for Parkinson's disease patients (PDs). Identifying the causes of postural instability at a young age would contribute to the development of adequate training interventions aiming to reduce falls. The purpose of this study was to investigate the effect of muscle strength and balance ability on dynamic stability control after simulated disturbances and to develop an applicable tool able to classify young PDs into fallers and non-fallers. Twenty-five young PDs (12 fallers, 13 non-fallers, 48. +/-. 5 yrs.) and 14 healthy controls participated in the study. Dynamic stability was examined during simulated forward falls. Muscle strength was assessed by isometric maximal plantarflexion and knee extension contractions. Balance ability was evaluated by measuring the anterior and posterior limits of stability (LoS). The fallers showed lower recovery performance in forward falls and lower muscle strength compared to controls. Muscle strength and anterior LoS were significantly associated to stability performance. These two factors could correctly classify 90% of PD fallers, establishing an accurate assessment tool to predict the falling risk in young PDs. Furthermore, muscle strength partly explained recovery performance; therefore, we can argue that young PDs with an increased falling risk may benefit from leg-extensors strengthening and stability training.

Title: Parkinsonian Gait Ameliorated With a Moving Handrail, Not With a Banister.

Citation: Archives of Physical Medicine & Rehabilitation, 01 April 2015, vol./is. 96/4(735-741), 00039993

Author(s): Rabin, Ely, Demin, Aleksandr, Pirrotta, Stefania, Chen, Jason, Patel, Hemal, Bhambri, Ankur, Noyola, Estella, Lackner, James R., DiZio, Paul, DiFrancisco-Donoghue, Joanne, Werner, William

Abstract: Objective To determine whether haptic (touch and proprioception) cues from touching a moving handrail while walking can ameliorate the gait symptoms of Parkinson disease (PD), such as slowness and small stride length. Design Nonrandomized, controlled before-after trial. Setting Physical therapy clinic. Participants People with PD (n=16) and healthy age-matched control subjects (n=16) with no neurologic disorders volunteered. No participants withdrew. Interventions We compared gait using a moving handrail as a novel assistive aid (speed self-selected) versus a banister and unassisted walking. Participants with PD were tested on and off dopaminergic medication. Main Outcome Measures Mean gait speed, stride length, stride duration, doublesupport duration, and medial-lateral excursion. Results With the moving handrail, participants with PD increased gait speed relative to unassisted gait by 16% (.166m/s, P =.009, d =.76; 95% confidence interval [CI]. .054-.278m/s) and increased stride length by 10% (.053m, P =.022, d =.37; 95% CI, .009–.097m) without significantly changing stride or double-support duration. The banister reduced speed versus unassisted gait by 11% (-.097m/s, P =.040, d =.40; 95% CI, .002-.193m/s) and reduced stride length by 8% (.32m, P = .004, d = .26; 95% CI, .010-.054m), whereas it increased stride duration by 3% (.023s, P =.022, d =.21; 95% CI, .004-.041s) and doublesupport duration by 35% (.044s, P =.031, d =.58; 95% CI, .005-.083s). All medication × condition interactions were P >.05. Conclusions Using haptic speed cues from the moving handrail, people with PD walked faster by spontaneously (ie, without specific instruction) increasing stride length without altering cadence; banisters slowed gait. Haptic cues from the moving handrail can be used by people with PD to engage biomechanical and neural mechanisms for interpreting tactile and proprioception changes related to gait speed to control gait better than static cues afforded by banisters.

Title: Emergency admissions, hospital stays and in-hospital mortality higher in patients with Parkinson's disease.

Citation: British Journal of Hospital Medicine (17508460), 01 April 2015, vol./is. 76/4(191-191), 17508460

Title: Macronutrients intake and risk of Parkinson's disease: A meta-analysis.

Citation: Geriatrics & Gerontology International, 01 May 2015, vol./is. 15/5(606-616), 14441586 **Author(s):** Wang, Aimin, Lin, Yan, Wu, Yili, Zhang, Dongfeng

Title: Parkinson's carries higher risk of dying after admission.

Citation: Emergency Nurse, 01 April 2015, vol./is. 23/1(7-7), 13545752

Sources Used

The following databases are searched on a regular basis in the development of this bulletin: Amed, British Nursing Index, Cinahl, Medline

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