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Parkinson's Disease

Current Awareness Bulletin

May 2016

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Jason Ovens
Head of Library & Knowledge Services

Title: Randomized Controlled Trial of a Home-Based Action Observation Intervention to Improve Walking in Parkinson Disease.

Citation: Archives of physical medicine and rehabilitation, May 2016, vol. 97, no. 5, p. 665-673, 1532-821X (May 2016)
Author(s): Jaywant, Abhishek, Ellis, Terry D, Roy, Serge, Lin, Cheng-Chieh, Neargarder, Sandy, Cronin-Golomb, Alice

Abstract: To examine the feasibility and efficacy of a home-based gait observation intervention for improving walking in Parkinson disease (PD). Participants were randomly assigned to an intervention or control condition. A baseline walking assessment, a training period at home, and a posttraining assessment were conducted. The laboratory and participants' home and community environments. Nondemented individuals with PD (N=23) experiencing walking difficulty. In the gait observation (intervention) condition, participants viewed videos of healthy and parkinsonian gait. In the landscape observation (control) condition, participants viewed videos of moving water. These tasks were completed daily for 8 days. Spatiotemporal walking variables were assessed using accelerometers in the laboratory (baseline and posttraining assessments) and continuously at home during the training period. Variables included daily activity, walking speed, stride length, stride frequency, leg swing time, and gait asymmetry. Questionnaires including the 39-item Parkinson Disease Questionnaire (PDQ-39) were administered to determine self-reported change in walking, as well as feasibility. At posttraining assessment, only the gait observation group reported significantly improved mobility (PDQ-39). No improvements were seen in accelerometer-derived walking data. Participants found the at-home training tasks and accelerometer feasible to use. Participants found procedures feasible and reported improved mobility, suggesting that observational training holds promise in the rehabilitation of walking in PD. Observational training alone, however, may not be sufficient to enhance walking in PD. A more challenging and adaptive task, and the use of explicit perceptual learning and practice of actions, may be required to effect change.

Title: Prevalence of upper extremity freezing in parkinson disease patients

Citation: Neurology, April 2016, vol./is. 86/16 SUPPL. 1(no pagination), 0028-3878 (05 Apr 2016)
Author(s): De Jesus S., Ahmed B., Almeida L., Ghahfarokhi L.S., Patterson A., Warren L., Simpson H., Okun M., Hess C.

Abstract: Objective: The purpose of the current study was to ascertain the prevalence of upper extremity freezing in PD. Background: Motor blocks are defined as an inability or delay in initiating/continuing a voluntary movement. Freezing of gait (FOG), a type of motor block, has been established as one of the most debilitating symptoms in Parkinson Disease (PD). The prevalence of FOG in advanced PD has been estimated at 50[percnt]. Methods: This retrospective study assesses the rate of upper extremity freezing (UEF) in patients with PD who were evaluated by occupational therapy (OT) at the UF Center for Movement Disorders (August 2014-November 2014). The inclusion criteria required a diagnosis of idiopathic PD without dementia. UEF was assessed via patient self-report spontaneously and an OT functional ADL questionnaire. We described continuous variables by means and nominal variables by counts and percentages. We utilized t-test and ANOVA to compare means, Chi-square for proportions, assuming $p < 0.05$ for statistical significance. Results: There were 77 men and 46 women in the study. The mean age of the cohort was 68.8+/-8.9 years. In a 3 month period, 4[percnt] of 125 PD patients (n=5) self-reported UEF without prompting. Of these, 2 patients had UEF (1.2[percnt] of 125) in isolation and 3patients (2.8[percnt] of 125) reported UEF in addition to freezing in other body areas. No additional patients were identified with OT indirect questioning via a functional ADL questionnaire. After a one month period (n=45) of direct questioning about UEF, 9[percnt] of 45 PD patients

reported UEF. Conclusions: Motor blocks are a major disabling feature in advanced PD. This preliminary data suggests that UEF may be an under-recognized entity. Further prospective studies should be pursued to assess prevalence of UEF as interventions targeting this symptom may improve independence and quality of life in PD patients.

Title: Physiotherapy and occupational Therapy vs No Therapy in mild to moderate Parkinson disease

Citation: JAMA Neurology, March 2016, vol./is. 73/3(291-299), 2168-6149 (March 2016)
Author(s): Clarke C.E., Patel S., Ives N., Rick C.E., Dowling F., Woolley R., Wheatley K., Walker M.F., Sackley C.M.

Abstract: IMPORTANCE It is unclear whether physiotherapy and occupational therapy are clinically effective and cost-effective in Parkinson disease (PD). OBJECTIVE To perform a large pragmatic randomized clinical trial to evaluate the clinical effectiveness of individualized physiotherapy and occupational therapy in PD. DESIGN, SETTING, AND PARTICIPANTS The PD REHAB Trialwas a multicenter, open-label, parallel group, controlled efficacy trial. A total of 762 patients with mild to moderate PD were recruited from 38 sites across the United Kingdom. Recruitment took place between October 2009 and June 2012, with 15 months of follow-up. INTERVENTIONS Participants with limitations in activities of daily living (ADL) were randomized to physiotherapy and occupational therapy or no therapy. MAIN OUTCOMES AND MEASURES The primary outcomewas the Nottingham Extended Activities of Daily Living (NEADL) Scale score at 3 months after randomization. Secondary outcomes were health-related quality of life (assessed by Parkinson Disease Questionnaire-39 and EuroQol-5D); adverse events; and caregiver quality of life. Outcomes were assessed before trial entry and then 3, 9, and 15 months after randomization. RESULTS Of the 762 patients included in the study (mean [SD] age, 70 [9.1] years), 381 received physiotherapy and occupational therapy and 381 received no therapy. At 3 months, there was no difference between groups in NEADL total score (difference, 0.5 points; 95%CI, -0.7 to 1.7; P = .41) or Parkinson Disease Questionnaire-39 summary index (0.007 points; 95%CI, -1.5 to 1.5; P = .99). The EuroQol-5D quotient was of borderline significance in favor of therapy (-0.03; 95%CI, -0.07 to -0.002; P = .04). The median therapist contact time was 4 visits of 58 minutes over 8 weeks. Repeated-measures analysis showed no difference in NEADL total score, but Parkinson Disease Questionnaire-39 summary index (diverging 1.6 points per annum; 95%CI, 0.47 to 2.62; P = .005) and EuroQol-5D score (0.02; 95%CI, 0.00007 to 0.03; P = .04) showed small differences in favor of therapy. There was no difference in adverse events. CONCLUSIONS AND RELEVANCE Physiotherapy and occupational therapywere not associated with immediate or medium-Term clinically meaningful improvements in ADL or quality of life in mild to moderate PD. This evidence does not support the use of low-dose, patient-centered, goal-directed physiotherapy and occupational therapy in patients in the early stages of PD. Future research should explore the development and testing of more structured and intensive physical and occupational therapy programs in patients with all stages of PD.

Title: New and appropriate goals for Parkinson disease physical therapy

Citation: JAMA Neurology, March 2016, vol./is. 73/3(269-270), 2168-6149 (March 2016)
Author(s): Eric Ahlskog J.

Title: Cognitive impairment can be a problem for people with Parkinson's.

Citation: Nursing standard (Royal College of Nursing (Great Britain) : 1987), May 2016, vol. 30, no. 36, p. 14., 2047-9018 (May 4, 2016)

Abstract: Physical speech problems are often less of a problem for people with Parkinson's disease than the cognitive ability to keep up with conversations.

Title: Pesticides and Parkinson's disease.

Citation: Clinical Advisor, 2016, vol./is. 19/5(40-45), 15247317
Author(s): MASSING, THOMAS

Full Text:
Available from *ProQuest* in Clinical Advisor : For Nurse Practitioners, The

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Title: Cognitive Contributions to Freezing of Gait in Parkinson Disease: Implications for Physical Rehabilitation.

Citation: Physical therapy, May 2016, vol. 96, no. 5, p. 659-670, 1538-6724 (May 2016)
Author(s): Peterson, Daniel S, King, Laurie A, Cohen, Rajal G, Horak, Fay B

Abstract: People with Parkinson disease (PD) who show freezing of gait also have dysfunction in cognitive domains that interact with mobility. Specifically, freezing of gait is associated with executive dysfunction involving response inhibition, divided attention or switching attention, and visuospatial function. The neural control impairments leading to freezing of gait have recently been attributed to higher-level, executive and attentional cortical processes involved in coordinating posture and gait rather than to lower-level, sensorimotor impairments. To date, rehabilitation for freezing of gait primarily has focused on compensatory mobility training to overcome freezing events, such as sensory cueing and voluntary step planning. Recently, a few interventions have focused on restitutive, rather than compensatory, therapy. Given the documented impairments in executive function specific to patients with PD who freeze and increasing evidence of overlap between cognitive and motor function, incorporating cognitive challenges with mobility training may have important benefits for patients with freezing of gait. Thus, a novel theoretical framework is proposed for exercise interventions that jointly address both the specific cognitive and mobility challenges of people with PD who freeze.

Full Text:
Available from *EBSCOhost* in Physical Therapy
Available from *Highwire Press* in Physical Therapy
Available from *ProQuest* in Physical Therapy

Title: The Association Between Parkinson's Disease Motor Impairments and Pain.

Citation: Pain Medicine, 2016, vol./is. 17/3(456-462), 15262375
Author(s): Allen, Natalie E., Wong, Cassandra M., Canning, Colleen G., Moloney, Niamh

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Title: Skin biopsies in the differential diagnosis of parkinsonism: are we ready for simplified protocols?

Citation: Brain : a journal of neurology, Jan 2016, vol. 139, p. e5., 1460-2156 (January 2016)
Author(s): Doppler, Kathrin, Volkmann, Jens, Sommer, Claudia

Full Text:
Available from *Highwire Press* in Brain
Available from *Oxford University Press* in Brain

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Title: Blunted Maximal and Submaximal Responses to Cardiopulmonary Exercise Tests in Patients With Parkinson Disease.

Citation: Archives of physical medicine and rehabilitation, May 2016, vol. 97, no. 5, p. 720-725, 1532-821X (May 2016)
Author(s): Kanegusuku, Hélcio, Silva-Batista, Carla, Peçanha, Tiago, Nieuwboer, Alice, Silva, Natan D, Costa, Luiz A, de Mello, Marco T, Piemonte, Maria E, Ugrinowitsch, Carlos, Forjaz, Cláudia L

Abstract: To investigate submaximal and maximal responses during maximal cardiopulmonary exercise tests in subjects with Parkinson disease (PD). Cross-sectional. A PD association. A sample (N=68) of subjects with PD (n=48; mean age, 66±8y; modified Hoehn and Yahr stage between 2 and 3; "on" state of medication) and age-matched controls without PD (n=20; mean age, 64±9y). Maximal cardiopulmonary exercise test on a cycle ergometer. Oxygen uptake ($\dot{V}o2$), systolic blood pressure (SBP), and heart rate assessed at rest, submaximal intensities (ie, anaerobic threshold [AT] and respiratory compensation point), and maximal intensity (peak exercise). Compared with control subjects, subjects with PD had lower $\dot{V}o2$, heart rate, and SBP at respiratory compensation point and peak exercise ($\dot{V}o2$: 14.6±3.6mL·kg·min vs 17.9±5.5mL·kg·min and 17.7±4.8mL·kg·min vs 21.5±6.6mL·kg·min; heart rate: 119±17beats/min vs 139±12beats/min and 132±20beats/min vs 158±13beats/min; SBP: 151±17mmHg vs 172±20mmHg and 166±21mmHg vs 187±24mmHg; P≤.05). They also had lower heart rate at AT (102±14beats/min vs 110±13beats/min; P≤.05), whereas $\dot{V}o2$ and SBP at this intensity were similar to those of control subjects. Subjects with PD demonstrated blunted metabolic and

cardiovascular responses to submaximal and maximal exercise tests, especially at intensities above AT, which are in line with autonomic disturbances present in patients with PD. Future studies need to determine how this affects performance, participation, and responses of these patients to exercise training at different intensities.

Title: Factors contributing to malnutrition in patients with Parkinson's disease.

Citation: International journal of nursing practice, Apr 2016, vol. 22, no. 2, p. 129-137, 1440-172X (April 2016)
Author(s): Kim, Sung R, Chung, Sun J, Yoo, Sung-Hee

Abstract: Our objective in this study was to evaluate the nutritional status and to identify clinical, psychosocial, and nutritional factors contributing to malnutrition in Korean patients with Parkinson's disease. We used a descriptive, cross-sectional study design. Of 102 enrolled patients, 26 (25.5%) were malnourished and 27 (26.5%) were at risk of malnutrition based on Mini-Nutritional Assessment scores. Malnutrition was related to activity of daily living score, Hoehn and Yahr stage, duration of levodopa therapy, Beck Depression Inventory and Spielberger's Anxiety Inventory scores, body weight, body weight at onset of Parkinson's disease, and body mass index. On multiple logistic regression analysis, anxiety score, duration of levodopa therapy, body weight at onset of Parkinson's disease, and loss of body weight were significant factors predicting malnutrition in Parkinson's disease patients. Therefore, nutritional assessment, including psychological evaluation, is required for Parkinson's disease patients to facilitate interdisciplinary nutritional intervention for malnourished patients.

Title: Comfort Always: Learnings from a Breakdown in Coordinated Care for a Patient with Parkinson's Disease on Hospice.

Citation: Journal of the American Medical Directors Association, 2016, vol./is. 17/3(0-0), 15258610
Author(s): Varilla, Vincent, Coll, Patrick

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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