

# Parkinson's Disease

# Current Awareness

# Bulletin

June 2014

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**Jason Ovens**  
**Head of Library & Knowledge Services**

**Title: Effectiveness of Electro-Acupuncture Therapy in Improving Gait and Balance in People with Parkinson's Disease.**

**Citation:** Journal of Alternative & Complementary Medicine, 01 May 2014, vol./is. 20/5(0-0), 10755535

**Author(s):** Toosizadeh, Nima, Lei, Hong, Schwenk, Michael, Sherman, Scott, Esternberg, Esther

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**Title: Early Versus Delayed Initiation of Pharmacotherapy in Parkinson's Disease.**

**Citation:** Drugs, 15 April 2014, vol./is. 74/6(645-657), 00126667

**Author(s):** Löhle, Matthias, Ramberg, Carl-Johan, Reichmann, Heinz, Schapira, Anthony

**Abstract:** Parkinson's disease (PD) is the second most common neurodegenerative disorder after Alzheimer's disease and pathologically is characterised by a progressive loss of dopaminergic cells of the nigrostriatal pathway. Clinically, PD is mainly defined by the presence of the motor symptoms of bradykinesia, rigidity, rest tremor and postural instability, but non-motor symptoms such as depression, dementia and autonomic disturbances are recognised as integral parts of the disease. Although pharmacotherapy for PD was introduced almost 50 years ago, and has improved significantly over the intervening period, the timing of initiation of treatment in newly diagnosed PD remains controversial. While some physicians favour an early start of pharmacotherapy at or soon after diagnosis, others prefer to delay pharmacological treatment until a certain degree of disability has developed. This article aims to discuss the advantages and disadvantages of both strategies by exploring their effects on symptoms, disease progression and quality of life. Although the data on putative disease-modifying effects of early pharmacological intervention in PD are still inconclusive, we believe that the most important indication for an early initiation of anti-parkinsonian treatment should be to maintain the quality of life of PD patients and to secure their socioeconomic status as long as possible.

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**Title: Current trends in the medical management of Parkinson's disease: implications for nursing practice.**

**Citation:** British Journal of Neuroscience Nursing, 01 April 2014, vol./is. 10/2(67-74), 17470307

**Author(s):** Magennis, Brian, Lynch, Tim, Corry, Margarita

**Abstract:** To successfully educate and advocate on behalf of people with Parkinson's disease and their family members and caregivers, nurses and other health professionals need a working knowledge of current trends in the medical management of Parkinson's. The goal of treatment is to gain control over the symptoms of the disease and promote the best possible quality of life for patients and their families. This paper provides an overview of current approaches to the medical management of Parkinson's. It explores the challenges encountered when treating people with young-onset Parkinson's and those who experience medication side effects, in particular the increasingly recognised impulsive/compulsive behavioural disorders associated with some classes of medication. The key role of the nurse in symptom monitoring and promoting compliance with medication regimens is emphasised.

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**Title: Screening and Assessment Tools for Determining Fitness to Drive: A Review of the Literature for the Pathways Project.**

**Citation:** Occupational Therapy in Health Care, 01 April 2014, vol./is. 28/2(82-121), 07380577

**Author(s):** Dickerson, Anne E.

**Abstract:** With a brief introduction, 10 tables summarize the findings from the literature describing screening and assessment tools used with older adults to identify risk or determine fitness to drive. With a focus on occupational therapy's duty to address driving as a valued activity, this paper offers information about tools used by occupational therapy practitioners across practice settings and specialists in driver rehabilitation. The tables are organized into groups of key research studies of assessment tools, screening batteries, tools used in combination (i.e., as a battery), driving simulation as an assessment tool, and screening/assessment for individuals with stroke, vision impairment, Parkinson's disease, dementia, and aging. Each table has a summary of important concepts to consider as occupational therapists choose the methods and tools to evaluate fitness to drive.

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**Title: Effect of a multimodal exercise program on sleep disturbances and instrumental activities of daily living performance on Parkinson's and Alzheimer's disease patients.**

**Citation:** Geriatrics & Gerontology International, 01 April 2014, vol./is. 14/2(259-266), 14441586  
**Author(s):** Nascimento, Carla Manuela Crispim, Ayan, Carlos, Cancela, Jose Maria, Gobbi, Lilian Teresa Bucken, Gobbi, Sebastião, Stella, Florindo

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**Title: Atypical Parkinsonism: Making the case for a neuropalliative rehabilitation approach.**

**Citation:** International Journal of Therapy & Rehabilitation, 01 April 2014, vol./is. 21/4(176-182), 17411645  
**Author(s):** Lindop, Fiona, Brown, Lisa, Graziano, Mariella, Jones, Diana

**Abstract:** Background: Although atypical Parkinsonism syndromes share some clinical features with the more common idiopathic Parkinson's disease, they also exhibit condition-specific symptoms, and have a shorter trajectory with a more consistent decline. There is an increasing awareness of the need for palliative care in non-cancer-related diagnoses, such as Parkinsonism. A neuropalliative rehabilitation approach linking neurology, rehabilitation and palliative care expertise to proactively, collaboratively manage long-term neurological conditions, particularly those with shorter durations, is advocated. However, such an approach appears difficult to achieve. Content: This article presents the main clinical features of the key atypical Parkinsonism syndromes -- multiple system atrophy, progressive supranuclear palsy, corticobasal degeneration and dementia with Lewy bodies. The article also identifies the red flags that alert professionals to differentiate these conditions from idiopathic Parkinson's disease, and discusses the multidisciplinary management of atypical Parkinsonism within the context of neuropalliative rehabilitation. Conclusion: Despite the publication of best practice guidelines, research highlights a marked lack of referral of people with atypical Parkinsonism for palliative care. Earlier diagnosis and the timely employment of a neuropalliative rehabilitation approach is believed key to the successful management of the shorter and more steeply deteriorating trajectory of atypical Parkinsonism syndromes.

**Full Text:**

Available from *EBSCOhost* in [International Journal of Therapy & Rehabilitation](#)

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**Title: Timed Up and Go, Cognitive, and Quality-of-Life Correlates in Parkinson's Disease.**

**Citation:** Archives of Physical Medicine & Rehabilitation, 01 April 2014, vol./is. 95/4(649-655), 00039993

**Author(s):** Stegemüller, Elizabeth L., Nocera, Joe, Malaty, Irene, Shelley, Mack, Okun, Michael S., Hass, Chris J.

**Abstract:** Abstract: Objective: To examine the relationship between Timed Up and Go (TUG) performance, verbal executive function (EF) performance, and quality-of-life (QOL) measures in Parkinson's disease (PD). Design: Cross-sectional. Setting: Sixteen movement disorder centers from across the United States. Participants: Patients with PD (N=1964). Interventions: Not applicable. Main Outcome Measures: TUG test, immediate and delayed 5-word recall, verbal fluency, PD QOL Questionnaire. Results: TUG performance and verbal EF performance were significantly associated with, and predictors of, QOL measures, having the greatest association and predictability with the mobility domain of the QOL measures. Conclusions: The TUG test and verbal EF tests have QOL correlates, making the combined evaluation of mobility, cognitive, and QOL decline a potential examination tool to evaluate the sequelae of PD.

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**Title: Evaluation and delivery of ambulatory rehabilitation for people with Parkinson's disease.**

**Citation:** Reviews in Clinical Gerontology, 01 May 2014, vol./is. 24/2(122-138), 09592598

**Author(s):** Goodwin, Leah S, Lan, Ling

**Abstract:** Parkinson's disease (PD) is a common and costly condition affecting a predominantly older population. Physical rehabilitation has been shown to enhance motor performance and functional mobility in the short-term. However, there is limited information available about how best to design and deliver an ambulatory rehabilitation (AR) programme for this patient group. This article reviews the current evidence, aiming to provide guidance about best-practice service provision. We highlight the benefits of group therapy and techniques aimed at reducing falls. Further research is required to determine the optimal dose and intensity of AR necessary to provide sustained benefits in people with different stages of PD.

**Full Text:**

Available from *ProQuest* in [Reviews in Clinical Gerontology](#)

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**Title: Effects of 24 wk of Treadmill Training on Gait Performance in Parkinson's Disease.**

**Citation:** Medicine & Science in Sports & Exercise, 01 April 2014, vol./is. 46/4(645-655), 01959131

**Author(s):** Nadeau, Alexandra, Pourcher, Emmanuelle, Corbeil, Philippe

**Abstract:** Purpose: Recent studies suggest that walking on a treadmill improves gait, mobility, and quality of life of patients with Parkinson's disease (PD). Still, there is a need for larger-scale randomized controlled studies that demonstrate the advantages of treadmill training (TT) with control groups that receive similar amounts of attention. Moreover, to date, no study has combined speed and incline as parameters of progression. The aim of the study was to evaluate the effects of 24 wk of TT, with and without the use of incline, on gait, mobility and quality of life in patients with PD. Methods: The sample comprised 34 patients with PD, at the Hoehn and Yahr stage 1.5 or 2. Participants were randomized to speed TT, mixed TT, and control groups. The intervention consisted of 72 one-hour exercise sessions for 24 wk. The main outcome measures are the Movement Disorder Society-Unified Parkinson's Disease Rating Scale, the 39-item Parkinson's Disease Questionnaire, spatiotemporal parameters of gait and 6-min walking distance. The measures were taken at baseline, mid-term and after 6 months. Results: Both TT groups improved in terms of speed, cadence, and stride length during self-selected walking conditions at the study end point. Both groups also showed improvements in distance traveled. Only the Mixed TT group improved their quality of life. The Control group showed no progress. Conclusions: Participants in

this study showed significant improvements in walking speed and walking endurance after 6 months of TT. Improvements were observed after 3 months of intensive TT and persisted at 6 months. It appears that individuals with poorer baseline performance may benefit most from TT.

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**Title: Improving Mouse Controlling and Movement for People with Parkinson's Disease and Involuntary Tremor Using Adaptive Path Smoothing Technique via B-Spline.**

**Citation:** Assistive Technology, 01 June 2014, vol./is. 26/2(96-104), 10400435

**Author(s):** Bani hashem, Seyed Yashar, Mat Zin, Nor Azan, Mohd Yatim, Noor Faezah, Mohamed Ibrahim, Norlinah

**Abstract:** Many input devices are available for interacting with computers, but the computer mouse is still the most popular device for interaction. People who suffer from involuntary tremor have difficulty using the mouse in the normal way. The target participants of this research were individuals who suffer from Parkinson's disease. Tremor in limbs makes accurate mouse movements impossible or difficult without any assistive technologies to help. This study explores a new assistive technique—adaptive path smoothing via B-spline (APSS)—to enhance mouse controlling based on user's tremor level and type. APSS uses Meanfiltering and B-spline to provide a smoothed mouse trajectory. Seven participants who have unwanted tremor evaluated APSS. Results show that APSS is very promising and greatly increases their control of the computer mouse. Result of user acceptance test also shows that user perceived APSS as easy to use. They also believe it to be a useful tool and intend to use it once it is available. Future studies could explore the possibility of integrating APSS with one assistive pointing technique, such as the Bubble cursor or the Sticky target technique, to provide an all in one solution for motor disabled users.

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**Title: Chronic Morbidities After Traumatic Brain Injury: An Update for the Advanced Practice Nurse.**

**Citation:** Journal of Neuroscience Nursing, 01 June 2014, vol./is. 46/3(142-152), 08880395

**Author(s):** Bay, Esther H., Chartier, Kattlynn S.

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**Title: Associations Between Cognitive and Gait Performance During Single- and Dual-Task Walking in People With Parkinson Disease.**

**Citation:** Physical Therapy, 01 June 2014, vol./is. 94/6(757-766), 00319023

**Author(s):** Stegemöller, Elizabeth L., Wilson, Jonathan P., Hazamy, Audrey, Shelley, Mack C., Okun, Michael S., Altmann, Lori J. P., Hass, Chris J.

**Full Text:**

Available from *EBSCOhost* in [Physical Therapy](#)

Available from *ProQuest* in [Physical Therapy](#)

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**Title: Mild cognitive impairment is linked with faster rate of cortical thinning in patients with Parkinson's disease longitudinally.**

**Citation:** Brain: A Journal of Neurology, 01 April 2014, vol./is. 137/Pt 4(1120-1129), 00068950

**Author(s):** Hanganu, Alexandru, Bedetti, Christophe, Degroot, Clotilde, Mejia-Constain, Béatriz, Lafontaine, Anne-Louise, Soland, Valérie, Chouinard, Sylvain, Bruneau, Marie-Andrée, Mellah, Samira, Belleville, Sylvie, Monchi, Oury

**Full Text:**

Available from *Medical Collection OUP* in [Brain](#); Note: ; Collection notes: Available on NHS networked machines only  
Available from *Oxford University Press* in [Brain](#)

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**Title: Reading Comprehension in Parkinson's Disease.**

**Citation:** American Journal of Speech-Language Pathology, 01 May 2014, vol./is. 23/2(0-12), 10580360

**Author(s):** Murray, Laura L., Rutledge, Stefanie

**Full Text:**

Available from *ProQuest* in [American Journal of Speech - Language Pathology](#)  
Available from *EBSCOhost* in [American Journal of Speech-Language Pathology](#)

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**Title: Assessment of Postural Balance Among Individuals with Parkinson Disease with and Without Effects from Dopaminergic Medications.**

**Citation:** American Journal of Physical Medicine & Rehabilitation, 01 May 2014, vol./is. 93/5(365-371), 08949115

**Author(s):** Maria D'Andr a Greve, J lia, Mariana Silva Luna, Nat lia, Plato de Siqueira, Juliana, Prota, Cristina, Castilho Alonso, Ang lica

**Abstract:** Objective: The objectives of the present study were to assess the effects of dopaminergic drugs on the postural balance of Parkinson disease (PD) patients and to ascertain whether their sway is greater along the mediolateral or the anteroposterior axis. Design: Twenty-two patients awaiting operations for implantation of a deep brain stimulator at the neurology service of Hospital das Cl nicas, University of S o Paulo School of Medicine (HC-FMUSP), were assessed. All of them were assessed on the AccuSway<sup>Plus</sup> portable force platform, through evaluation of the center of pressure. The patients stayed standing upright on both feet with the eyes open and closed for 60-sec periods. Center-of-pressure displacements along the mediolateral and anteroposterior axes and the displacement velocity and the elliptical area covered by 95% of the displacement were measured. Two assessments were made: without medication (at least 1 2 hrs after the last administration) and with the effects from levodopa. Results: The elliptical displacement area was greater when the patients were under the effects of the medication ( $P < 0.05$ ). The center-of-pressure displacements were greater along the anteroposterior axis than along the mediolateral axis. Conclusions: Levodopa increases the sway area of the Parkinson disease patients evaluated by static posturography.

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**Title: Impact of Physical Exercise on Reaction Time in Patients With Parkinson's Disease—Data From the Berlin BIG Study.**

**Citation:** Archives of Physical Medicine & Rehabilitation, 01 May 2014, vol./is. 95/5(996-999), 00039993

**Author(s):** Ebersbach, Georg, Ebersbach, Almut, Gandor, Florin, Wegner, Brigitte, Wissel, J rg, Kupsch, Andreas

**Abstract:** Abstract: Objective: To determine whether physical activity may affect cognitive performance in patients with Parkinson's disease by measuring reaction times in patients participating in the Berlin BIG study. Design: Randomized controlled trial, rater-blinded.

Setting: Ambulatory care. Participants: Patients with mild to moderate Parkinson's disease (N=60) were randomly allocated to 3 treatment arms. Outcome was measured at the termination of training and at follow-up 16 weeks after baseline in 58 patients (completers). Interventions: Patients received 16 hours of individual Lee Silverman Voice Treatment-BIG training (BIG; duration of treatment, 4wk), 16 hours of group training with Nordic Walking (WALK; duration of treatment, 8wk), or nonsupervised domestic exercise (HOME; duration of instruction, 1hr). Main Outcome Measures: Cued reaction time (cRT) and noncued reaction time (nRT). Results: Differences between treatment groups in improvement in reaction times from baseline to intermediate and baseline to follow-up assessments were observed for cRT but not for nRT. Pairwise t test comparisons revealed differences in change in cRT at both measurements between BIG and HOME groups (intermediate: -52ms; 95% confidence interval [CI], -84/-20; P=.002; follow-up: 55ms; CI, -105/-6; P=.030) and between WALK and HOME groups (intermediate: -61ms; CI, -120/-2; P=.042; follow-up: -78ms; CI, -136/-20; P=.010). There was no difference between BIG and WALK groups (intermediate: 9ms; CI, -49/67; P=.742; follow-up: 23ms; CI, -27/72; P=.361). Conclusion: Supervised physical exercise with Lee Silverman Voice Treatment-BIG or Nordic Walking is associated with improvement in cognitive aspects of movement preparation.

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**Title: Is Highly Challenging and Progressive Balance Training Feasible in Older Adults With Parkinson's Disease?**

**Citation:** Archives of Physical Medicine & Rehabilitation, 01 May 2014, vol./is. 95/5(1000-1003), 00039993

**Author(s):** Conradsson, David, LÃ¶fgren, Niklas, StÃ¥hle, Agneta, FranzÃ¶n, Erika

**Abstract:** Abstract: Objective: To develop a highly challenging and progressive group balance training regime specific to Parkinson's disease (PD) symptoms and to investigate its feasibility in older adults with mild to moderate PD. Design: Intervention study, before-after trial with a development and feasibility design. Setting: University hospital setting. Participants: Feasibility was evaluated in older adults (N=5; mean age, 72y; age range, 69-80y) with mild to moderate idiopathic PD. Intervention: A balance training regime emphasizing specific and highly challenging exercises, performed 3 times per week for 12 weeks, was developed through discussion and workshops by a group of researchers and physiotherapists. Main Outcome Measures: Indicators of feasibility included attendance rate, safety (adverse events, physical function, and pain), participants' perceptions of the intervention (level of difficulty of the exercises, motivation level, and appreciation), and efficacy of the intervention (balance performance assessed with the Mini-Balance Evaluation Systems Test [Mini-BESTest]). Results: The incidence rate was high (93%) for attendance and low (1.2%) for adverse events. Ratings by the participants indicated progression throughout the training period. All participants considered the training motivational and stated that they would recommend it to others. The efficacy of the intervention measured with the Mini-BESTest showed that 4 out of 5 participants improved their balance performance. Conclusions: These findings support the overall feasibility of this novel balance program in older adults with mild to moderate PD. However, to further evaluate the efficacy of the program, a larger randomized controlled trial is required.

**Title: Postural Rehabilitation and Kinesio Taping for Axial Postural Disorders in Parkinson's Disease.**

**Citation:** Archives of Physical Medicine & Rehabilitation, 01 June 2014, vol./is. 95/6(1067-1075), 00039993

**Author(s):** Capecci, Marianna, Serpicelli, Chiara, Fiorentini, Luca, Censi, Giovanna, Ferretti, Matteo, Orni, Chiara, Renzi, Rosita, Provinciali, Leandro, Ceravolo, Maria Gabriella

**Abstract:** Abstract: Objective: To assess the effects of postural rehabilitation (PR) on trunk asymmetry and balance, with and without Kinesio taping (KT) of the back muscles as additional treatment, in patients with Parkinson's disease (PD) who have postural disorders. Design: Single-blind, randomized controlled trial with 1-month follow-up. Setting: Ambulatory care in referral center. Participants: Patients (N=20) with PD showing postural abnormalities of the trunk, in the sagittal and/or coronal plane. Interventions: Four weeks of patient-tailored proprioceptive and tactile stimulation, combined with stretching and postural reeducation, was provided to 13 subjects (PR group), while 7 received no treatment (control group). Six of the 13 subjects receiving PR also had KT strips applied to their trunk muscles, according to the features of their postural abnormalities. Main Outcome Measures: Berg Balance Scale, Timed Up and Go, and degrees of trunk bending in the sagittal and coronal planes were assessed at the enrollment (t0), 1 month later (t1), and 2 months later (t2). Results: At t1, all treated patients showed a significant improvement in trunk posture in both the sagittal ( $P=.002$ ) and coronal planes ( $P=.01$ ), compared with baseline. Moreover, they showed an improvement in measures of gait and balance ( $P<.01$ ). Benefits persisted at t2 for all measures, except lateral trunk bend. No differences were found when comparing the PR and KT groups. Conclusions: The combination of active posture correction and trunk movements, muscle stretching, and proprioceptive stimulation may usefully impact PD axial symptoms. Repeated training is advocated to avoid waning of the effect.

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**Title: Developing a nurse-led clinic for patients with Parkinson's disease.**

**Citation:** Australian Nursing & Midwifery Journal, 01 May 2014, vol./is. 21/10(28-28), 22027114

**Author(s):** Gow, Jayne, Collins, Evelyn, Giles, Michelle, O'Brien, Tony

**Full Text:**

Available from *ProQuest* in [Australian Nursing and Midwifery Journal](#)  
Available from *EBSCOhost* in [Australian Nursing & Midwifery Journal](#)



**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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