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# Parkinson's Disease Current Awareness Bulletin

June 2018

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**Title: A study investigating the experience of working for people with Parkinson's and the factors that influence workplace success.**

**Citation:** Disability & Rehabilitation; Aug 2018; vol. 40 (no. 17); p. 2032-2039

**Author(s):** Mullin, Rebecca L.; Chaudhuri, K. Ray; Andrews, Thomasin C.; Martin, Anne; Gay, Stella; White, Claire M.

**Purpose:** The experience of working for people with Parkinson's disease (PD) is known to vary substantially and affects the length of time in employment after diagnosis. This study aims at exploring the experience of working for people with PD and to create a model detailing the factors that influence their workplace success.

**Method:** A qualitative grounded theoretical approach was used. Seventeen working people with PD were selected for individual interviews which were conducted sequentially. Data were analyzed in an iterative, inductive process of coding to identify common themes and to generate a model that explains the data.

**Results:** Two core themes that influence workplace success for people with PD were identified. 'Feeling in control of Parkinson's' describes the actions that they make to remain in control. 'Being able to control Parkinson's in the workplace' describes external factors that they believe influence their ability to work successfully. Conclusions: The theoretical model demonstrates how a variety of factors interplay to influence workplace success for people with PD. PD is often poorly understood but the ability to explore and devise strategies for oneself and the flexibility to work around a fluctuating daily pattern were regularly identified as strategies that facilitated success.

**Implications for Rehabilitation:** The experience of working for people with Parkinson's is variable and is influenced by how in control the person with Parkinson's feels and the strategies they use to manage challenges. There is a need for greater workplace education to enhance employers' understanding of Parkinson's to ensure better support for strategies or reasonable adjustments by employers. People with Parkinson's are able to devise strategies to overcome some of their own specific workplace challenges including through technology but often, they prefer not to use disability aids. Daily fluctuations in Parkinson's symptoms are an important factor influencing workplace success.

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**Title: Functional Improvements in Parkinson's Disease Following a Randomized Trial of Yoga.**

**Citation:** Evidence-based Complementary & Alternative Medicine (eCAM); Jun 2018 ; p. 1-8

**Author(s):** Van Puymbroeck, Marieke; Walter, Alysha; Hawkins, Brent L.; Sharp, Julia L.; Woschkolup, Kathleen; Urrea-Mendoza, Enrique; Revilla, Fredy; Adams, Emilie V.; Schmid, Arlene A.

**Abstract:** Individuals with Parkinson's Disease (PD) experience significant limitations in motor function, functional gait, postural stability, and balance. These limitations often lead to higher incidences of falls, which have significant complications for individuals with PD. Yoga may improve these functional deficits in individuals with PD. The objective of this study was to determine changes in motor function, functional gait, postural stability, and balance control for community dwelling individuals with PD. This randomized, wait-list controlled pilot study examined the influence of an 8-week yoga intervention for people with PD who met the following inclusion criteria: endorsing a fear of falling, being able to speak English, scoring 4/6 on the minimental state exam, and being willing to attend the intervention twice weekly for 8-weeks. Participants in the yoga group (n=15) experienced improvements in motor

function, postural stability, functional gait, and freezing gait, as well as reductions in fall risk. Participants in the wait-list control (n=12) also significantly improved in postural stability, although their fall risk was not reduced. Individuals in the yoga group significantly reduced their fall risk. An 8-week yoga intervention may reduce fall risk and improve postural stability, and functional and freezing gait in individuals with PD. This clinical trial is registered as protocol record Pro00041068 in clinicaltrials.gov.

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**Title: App Measures Parkinson's Symptoms.**

**Citation:** ASHA Leader; Jun 2018; vol. 23 (no. 6); p. 15-15

**Abstract:** The article reports that Johns Hopkins University and University of Rochester researchers have developed a mobile application that can measure Parkinson's disease severity.

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**Title: Relationships between dysphagia and tongue pressure during swallowing in Parkinson's disease patients.**

**Citation:** Journal of Oral Rehabilitation; Jun 2018; vol. 45 (no. 6); p. 459-466

**Author(s):** Minagi, Y.; Ono, T.; Hori, K.; Fujiwara, S.; Tokuda, Y.; Murakami, K.; Maeda, Y.; Sakoda, S.; Yokoe, M.; Mihara, M.; Mochizuki, H.

**Summary:** Although dysphagia is a life-threatening problem in patients with Parkinson's disease (PD), the pathophysiology of oropharyngeal dysphagia is yet to be understood. This study investigated the tongue motor function during swallowing in relation to dysphagia and the severity of PD. Thirty patients with PD (14 males and 16 females; average age, 69.4 years), Hoehn and Yahr stage II-IV, in Osaka University Hospital are participated in this study. During swallowing 5 ml of water, tongue pressure on the hard palate was measured using a sensor sheet with 5 measuring points. The maximal tongue pressure at each measuring point during swallowing was compared between patients with PD and healthy controls. Subjective assessment of oropharyngeal dysphagia was performed using Swallowing Disturbance Questionnaire-Japanese. The maximal tongue pressure at each measuring point was significantly lower in patients with PD than in healthy controls (8 males and 12 females; average age, 71.6 years). Furthermore, the maximal tongue pressure was significantly lower in dysphagic PD patients than non-dysphagic PD patients. Loss of tongue pressure production at the anterior part of the hard palate was strongly related to dysphagia in the oral phase as well as in the pharyngeal phase. An abnormal pattern of tongue pressure production was more frequently observed in dysphagic PD patients than in non-dysphagic PD patients. The results suggest that tongue pressure measurement might be useful for early and quantitative detection of tongue motor disability during swallowing in patients with PD.

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**Title: Apathy following Bilateral Deep Brain Stimulation of Subthalamic Nucleus in Parkinson’s Disease: A Meta-Analysis.**

**Citation:** Parkinson's Disease (20420080); May 2018 ; p. 1-7

**Author(s):** Wang, Ying; Li, Yongsheng; Zhang, Xiaona; Xie, Anmu

**Abstract** Bilateral deep brain stimulation of subthalamic nucleus (STN-DBS) has proven effective in improving motor symptoms in Parkinson's disease (PD) patients. However, psychiatric changes after surgery are controversial. In this study, we specifically analyzed apathy following bilateral STN-DBS in PD patients using a meta-analysis. Relevant articles utilized for this study were obtained through literature search on PubMed, ScienceDirect, and Embase databases. The articles included were those contained both pre- and postsurgery apathy data acquired using the Starkstein Apathy Scale or Apathy Evaluation Scale with patient follow-up of at least three months. A total of 9 out of 86 articles were included in our study through this strict screening process. Standardized mean difference (SMD), that is, Cohen's d, with a 95% confidence interval (CI) was calculated to show the change. We found a significant difference between the presurgery stage and the postsurgery stage scores (SMD = 0.35, 95% CI: 0.17∼0.52, P<0.001). STN-DBS seems to relatively worsen the condition of apathy, which may result from both the surgery target (subthalamic nucleus) and the reduction of dopaminergic medication. Further studies should focus on the exact mechanisms of possible postoperative apathy in the future.

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**Title: Polyphenols in Parkinson's Disease: A Systematic Review of In Vivo Studies.**

**Citation:** Nutrients; May 2018; vol. 10 (no. 5)

**Author(s):** Kujawska, Małgorzata; Jodynis-Liebert, Jadwiga

**Abstract:** Parkinson's disease (PD) is the second most common neurodegenerative disorder. However, therapeutic options treating only its symptoms are very disappointing. Therefore there is an ongoing search for compounds capable of tackling the multi-dimensional features of PD. Recently natural polyphenols have gained great interest as potential therapeutic agents. Herein, we have attempted to summarize results obtained in different animal models demonstrating their neuroprotective effects. The in vivo findings presented below are supported by human subject data and reports regarding the ability of polyphenols to cross the blood-brain barrier. The beneficial effects of polyphenols are demonstrated by the results of behavioral examinations, mainly related to motor and cognitive capabilities, histopathological and immunohistochemical examination concerning the protection of dopaminergic neurons, analyses of dopamine and the concentration of its metabolites, as well as mechanistic studies regarding the modulation of oxidative stress, neuroinflammation, cellular iron management, proteinopathy, and additionally the regulation of signaling pathways. Importantly, data about brain distribution of the metabolic derivatives of the reviewed polyphenols are crucial for the justification of their nutritional intake in neuroprotective intervention, as well as for the identification of potential targets for a novel therapeutic approach to Parkinson's disease.

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**Title: Feasibility of Using PROMIS® in Individuals With Advanced Parkinson's Disease and Their Caregivers.**

**Citation:** Research in Gerontological Nursing; May 2018; vol. 11 (no. 3); p. 129-136

**Author(s):** Ju Young Shin; Pohlig, Ryan T.; Habermann, Barbara

**Abstract:** The purpose of the current study was to test the feasibility of using the Patient-Reported Outcomes Measurement Information System (PROMIS®) measures to assess change in self-reported health status for dyads of individuals with advanced Parkinson's disease (PD) and their caregivers. Fifteen dyads (N = 30) participated and took 11 PROMIS measures. The measures showed good reliability (all Cronbach's alphas > 0.82). Dyads

reported worse health status than the PROMIS reference groups at baseline and 6-month follow up. Paradoxically, individuals with PD scored higher in Applied Cognition-General Concerns, Companionship, and Emotional Support than the reference groups at both times. The only domain that changed significantly for individuals with PD over 6 months was Applied Cognition-General Concerns. The results of this study suggest that future research (a) could use the PROMIS measures with dyads, and (b) would be warranted for tracking changes over time using the PROMIS measures with larger samples, garnering more power. In addition, future research could examine if the computer adaptive versions work for individuals with advanced PD.

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**Title: Quality of Life of Caregivers of Individuals With Parkinson's Disease.**

**Citation:** Rehabilitation nursing : the official journal of the Association of Rehabilitation

**Author(s):** Lee, JuHee; Kim, Sung Hae; Kim, Yonji; Kim, Yie Lin; Sohn, Youngho

**Purpose:** This study aimed to construct a structural equation model to predict the quality of life of caregivers of individuals with Parkinson's disease.

**Design:** A cross-sectional survey using a structured questionnaire in South Korea.

**Methods:** A total of 208 subjects participated in this study from August 31 to November 26, 2015. The questionnaire included caregiving appraisal, social support, educational program needs, and the Parkinson's Disease Questionnaire-Carer.

**Findings:** Participants were either spouses (46.2%) or adult children (45.2%) of individuals with Parkinson's disease. The mean score obtained on the caregiver's quality of life was 40.94 ± 25.30. Social support, caregiving appraisal, and educational program needs were the predictors, explaining 67.0% of the variance in caregivers' quality of life.

**Conclusions:** Predicting the quality of life is useful for the development of support resources for caregivers of individuals with Parkinson's disease. Further studies exploring the multidimensional aspects of caregivers' quality of life are needed.

**Clinical Relevance:** Rehabilitation nurses should identify caregivers at high risk in order to improve their quality of life. Nurses should assess education program needs and caregiving appraisal of caregivers of individuals with Parkinson's disease and develop a customized intervention program.This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

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**Title: Botulinum toxin in parkinsonism: The when, how, and which for botulinum toxin injections.**

**Citation:** Toxicon : official journal of the International Society on Toxinology; Jun 2018; vol. 147 ; p. 107-110

**Author(s):** Cardoso, Francisco

**Abstract:** The aim of this article is to provide a review of the use of injections of botulinum toxin in the management of selected symptoms and signs of Parkinson's disease and other forms of parkinsonism. Sialorrhea is defined as inability to control oral secretions, resulting in excessive saliva in the oropharynx. There is a high level of evidence for the treatment of sialorrhea in parkinsonism with injections of different forms of botulinum toxin type A as well

as botulinum toxin type B. Tremor can be improved by the use of botulinum toxin injections but improved tremor control often leads to concomitant motor weakness, limiting its use. Levodopa induced dyskinesias are difficult to treat with botulinum toxin injections because of their variable frequency and direction. Apraxia of eyelid opening, a sign more commonly seen in progressive supranuclear palsy and other tauopathies, often improves after botulinum toxin injections. Recent data suggest that regardless of the underlying mechanism, pain in parkinsonism can be alleviated by botulinum toxin injections. Finally, freezing of gait, camptocormia and Pisa syndrome in parkinsonism almost invariably fail to respond to botulinum toxin injections.

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**Title: Individualization of music-based rhythmic auditory cueing in Parkinson's disease.**

**Citation:** Annals of the New York Academy of Sciences; Jun 2018

**Author(s):** Bella, Simone Dalla; Dotov, Dobromir; Bardy, Benoît; de Cock, Valérie Cochen

**Abstract:** Gait dysfunctions in Parkinson's disease can be partly relieved by rhythmic auditory cueing. This consists in asking patients to walk with a rhythmic auditory stimulus such as a metronome or music. The effect on gait is visible immediately in terms of increased speed and stride length. Moreover, training programs based on rhythmic cueing can have long-term benefits. The effect of rhythmic cueing, however, varies from one patient to the other. Patients' response to the stimulation may depend on rhythmic abilities, often deteriorating with the disease. Relatively spared abilities to track the beat favor a positive response to rhythmic cueing. On the other hand, most patients with poor rhythmic abilities either do not respond to the cues or experience gait worsening when walking with cues. An individualized approach to rhythmic auditory cueing with music is proposed to cope with this variability in patients' response. This approach calls for using assistive mobile technologies capable of delivering cues that adapt in real time to patients' gait kinematics, thus affording step synchronization to the beat. Individualized rhythmic cueing can provide a safe and cost-effective alternative to standard cueing that patients may want to use in their everyday lives.

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**Title: Exploring the relationship between motor impairment, vascular burden and cognition in Parkinson's disease.**

**Citation:** Journal of neurology; Jun 2018; vol. 265 (no. 6); p. 1320-1327

**Author(s):** Stojkovic, Tanja; Stefanova, Elka; Soldatovic, Ivan; Markovic, Vladana; Stankovic, Iva; Petrovic, Igor; Agosta, Federica; Galantucci, Sebastiano; Filippi, Massimo; Kostic, Vladimir

**Objective:** To determine frequency and type of cognitive disorders in cross-sectional analysis of a Parkinson's disease (PD) cohort, and explore its relations to motor symptoms, modifiable vascular risk factors and white matter lesions (WML) volume.

**Methods:** In a group of 133 PD patients, mild cognitive impairment (PD-MCI) and dementia (PDD) were diagnosed according to Movement Disorders Society Task Force criteria (level 2 for PD-MCI). Detailed motor measurements were applied, including rigidity, axial, bradykinesia, tremor and postural instability gait disorders (PIGD) scores. Vascular risk was estimated by the Framingham General Cardiovascular Disease risk scoring algorithm and WML volume was measured for whole brain and frontal lobe.

**Results:** Sixty-one (46.9%) patients fulfilled criteria for PD-MCI, and 23 (17.7%) for PDD. Non-amnestic multiple domain MCI was most frequent (52% of PD-MCI patients). Motor scores were significantly higher in cognitively impaired patients, but only axial score discriminated between MCI and dementia. High vascular risk was related to impaired cognition, bradykinesia, axial, PIGD and freezing of gait (FOG) score, while whole brain WML volume was associated with PDD, FOG and attention deficits. Furthermore, high vascular risk was identified as a potential predictor of both MCI and dementia in PD. Additionally, age and bradykinesia score were independently associated with PD-MCI and age, axial score and whole brain WML volume with PDD.

**Conclusion:** Cognitive disorders in PD are associated with more severe, predominantly axial motor deficits and increased, but partly modifiable vascular burden, thus opening a possibility for development of preventive strategies in PD.

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**Title: Quantitative assessment of finger tapping characteristics in mild cognitive impairment, Alzheimer's disease, and Parkinson's disease.**

**Citation:** Journal of neurology; Jun 2018; vol. 265 (no. 6); p. 1365-1375

**Author(s):** Roalf, David R; Rupert, Petra; Mechanic-Hamilton, Dawn; Brennan, Laura; Duda, John E; Weintraub, Daniel; Trojanowski, John Q; Wolk, David; Moberg, Paul J

**Background:** Fine motor impairments are common in neurodegenerative disorders, yet standardized, quantitative measurements of motor abilities are uncommonly used in neurological practice. Thus, understanding and comparing fine motor abilities across disorders have been limited.

**Objectives:** The current study compared differences in finger tapping, inter-tap interval, and variability in Alzheimer's disease (AD), Parkinson's disease (PD), mild cognitive impairment (MCI), and healthy older adults (HOA).

**Methods:** Finger tapping was measured using a highly sensitive light-diode finger tapper. Total number of finger taps, inter-tap interval, and intra-individual variability (IIV) of finger tapping was measured and compared in AD (n = 131), PD (n = 63), MCI (n = 46), and HOA (n = 62), controlling for age and sex.

**Results:** All patient groups had fine motor impairments relative to HOA. AD and MCI groups produced fewer taps with longer inter-tap interval and higher IIV compared to HOA. The PD group, however, produced more taps with shorter inter-tap interval and higher IIV compared to HOA.

**Conclusions:** Disease-specific changes in fine motor function occur in the most common neurodegenerative diseases. The findings suggest that alterations in finger tapping patterns are common in AD, MCI, and PD. In addition, the present results underscore the importance of motor dysfunction even in neurodegenerative disorders without primary motor symptoms.

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**Title: Nintendo Wii™ Versus Xbox Kinect™ for Assisting People With Parkinson's Disease.**

**Citation:** Perceptual and motor skills; Jun 2018; vol. 125 (no. 3); p. 546-565

**Author(s):** Alves, Melissa L M; Mesquita, Beatriz S; Morais, Wenderson S; Leal, Josevan C; Satler, Corina E; Dos Santos Mendes, Felipe A

**Abstract:** This study investigated changes in motor and cognitive skills, anxiety levels, and quality of life perception among patients with Parkinson's Disease (PD) following training with different commercial gaming devices-Nintendo Wii™ and Xbox Kinect™. We used a quasi-experimental, simple blinded clinical trial, dividing 27 patients with PD into three equal groups of nine members: (a) Nintendo Wii™, (b) Xbox Kinect™, and (c) control group. After pretests, experimental group participants spent 10 sessions playing four games of the selected gaming device, while control group participants received no intervention. Only those engaged with the Nintendo Wii™ significantly improved their performance on single and dual task gait tests, decreased anxiety levels, and improved memory, attention, and reversibility. The control group showed no changes on any measures.

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**Title: Fatigue in Parkinson's disease: Metric properties of the fatigue impact scale for daily use (D-FIS), and its impact on quality of life.**

**Citation:** Clinical neurology and neurosurgery; Jun 2018; vol. 169 ; p. 12-15

**Author(s):** Serrano-Dueñas, Marcos; Bravo, Rosaura; Merchán, Tamara; Serrano, Maite

**Objective:** In Parkinson's disease patients, fatigue is a disabling non-motor symptom whose prevalence ranges from 28% to 58%. The Fatigue Impact Scale for Daily Use (D-FIS), one of the various scales for quantifying fatigue. The aim of our study was to analyze the metric properties of the D-FIS in PD subjects and assess the impact of fatigue on their quality of life.

**Patients and Methods:** The cohort in this study was comprised of 211 consecutive patients with a PD diagnosis regularly followed up at the Movement Disorders Unit of the Neurology Department at Carlos Andrade Marín Hospital (HCAM) in Quito, Ecuador, according to the United Kingdom PD Society Brain Bank criteria. Data Quality, Acceptability, Reliability, Stability (test-retest), Validity and Multiple linear regression analysis were determined.

**Results:** The final sample consisted of 138 men (65.4%) and 73 women. Forty-six percent of these (98 patients) were in stage II of H&Y. We obtained a Cronbach's α value of 0.912 and an ICC value of 0.79. D-FIS was strongly correlated with depression (Spearman rho [Srho] 0.60), anxiety (Srho 0.59), quality of life (Srho 0.67), and non-motor symptoms (Srho 0.66). The scale's discriminant validity, assessed among the different stages of H&Y by the Kruskal-Wallis test, showed major significance ($X2 = 23.183$, $p \leq 0.001$). In the Multiple linear regression study, the resulting model proves that fatigue has a determining effect on quality of life.

**Conclusions:** The D-FIS has good metric properties and demonstrates that fatigue significantly affects PD patients' quality of life and that its impact is independent from that of anxiety, depression, and sleep disorders.

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**Title: Barriers and Facilitators for Guidelines with Depression and Anxiety in Parkinson's Disease or Dementia.**

**Citation:** Canadian journal on aging = La revue canadienne du vieillissement; Jun 2018; vol. 37 (no. 2); p. 185-199

**Author(s):** Goodarzi, Zahra; Hanson, Heather M; Jette, Nathalie; Patten, Scott; Pringsheim, Tamara; Holroyd-Leduc, Jayna

**Abstract:** Our primary objective was to understand the barriers and facilitators associated with the implementation of high-quality clinical practice guidelines (CPGs) for depression and

anxiety in patients with dementia or Parkinson's disease (PD). We conducted focus groups or interviews with participants experiencing dementia or PD, their caregivers, and physicians in Calgary, Alberta, and applied the theoretical domains framework and behaviour change wheel to guide data collection and perform a framework analysis. Thirty-three physicians and seven PD patients/caregivers participated. We report barriers and facilitators to the implementation of guideline recommendations for diagnosis, management, and the use of the guidelines. An overarching theme was the lack of evidence for depression or anxiety disorders in dementia or PD, which was prominent for anxiety versus depression. Patients noted difficulties with communicating symptoms and accessing services. Although guidelines are available, physicians have difficulty implementing certain recommendations due primarily to a lack of evidence regarding efficacy.

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**Title: Association between depression and the subsequent risk of Parkinson's disease: A meta-analysis.**

**Citation:** Progress in neuro-psychopharmacology & biological psychiatry; May 2018

**Author(s):** Wang, Shun; Mao, Shanping; Xiang, Dan; Fang, Congcong

**Background:** Observational studies, including recent large cohort studies, have reported an association between depression and the risk of Parkinson's disease (PD); however, conclusions were inconsistent. Clarifying this relation might improve the understanding of risk factors for and the disease mechanisms in PD. Therefore, we performed a meta-analysis to examine whether depression is associated with an increased risk of PD.

**Methods:** A literature search in the PubMed, EMBASE, Scopus, PsycINFO and Web of Science databases was undertaken through March 2018, looking for observational studies evaluating the association between depression and the risk of PD. Pooled relative risk (RR) estimates and 95% confidence intervals (CIs) were calculated using a random-effects model. Subgroup analyses and sensitivity analyses were also performed.

**Results:** A random-effects meta-analysis of 5 cohort studies and 6 case-control studies demonstrated a significant positive association between depression and a subsequent risk of PD (RR, 2.20; 95% CI, 1.87-2.58), and it was consistent across subgroups. Furthermore, sensitivity analysis confirmed the stability of the results; visual examination of funnel plots and Begg's and Egger's tests showed no evidence of publication bias.

**Conclusions:** Our meta-analysis demonstrated that persons with depression exhibited an increased risk of a subsequent PD diagnosis. The pathophysiological and psychological mechanisms underlying this association are still unclear and warrant further research.

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**Title: Correlation among olfactory function, motors' symptoms, cognitive impairment, apathy, and fatigue in patients with Parkinson's disease.**

**Citation:** Journal of neurology; May 2018

**Author(s):** Masala, Carla; Solla, Paolo; Liscia, A; Defazio, G; Saba, L; Cannas, A; Cavazzana, A; Hummel, T; Haehner, A

**Abstract:** Although Parkinson's disease (PD) is usually considered as a movement disorder, it is strongly associated with non-motor symptoms (NMS), including smell and taste dysfunctions, cognitive impairment, apathy, fatigue, and autonomic dysregulation. Olfactory deficit is considered the most common NMS in PD preceding the motor symptoms for years. The aim of this study was to investigate olfactory function, cognitive impairment, apathy, and

fatigue in patients with PD in comparison with healthy controls, and subsequently to analyse the correlations between these NMS and motor symptoms severity in subjects with PD. One hundred and forty-seven participants were enrolled (96 PD patients, mean age in years 67.5, SD 7.2; 51 healthy controls; mean age 65.1, SD 11.8). Olfactory function was evaluated using the Sniffin' Sticks test (odor detection threshold, discrimination and identification). The Montreal Cognitive Assessment (MoCA) was used to assess cognitive impairment. Apathy was examined by the self-report version of Starkstein Apathy Scale and fatigue was evaluated with the Parkinson's Disease Fatigue Scale. PD patients showed severe impairment in odor detection threshold, discrimination, and identification compared to healthy controls. Moreover, in PD patients, apathy and fatigue scores were significantly increased, while MoCA scores were decreased in comparison with controls. Multivariate linear regression analyses showed that both apathy and Unified PD Rating Scale (UPDRS) were associated with odor identification, discrimination and Threshold-Discrimination-Identification (TDI) score. In conclusion, our results reported changes in apathy and motor disability as significant predictors in alterations of odor identification, discrimination and TDI score. Furthermore, these data suggest that olfactory dysfunction might progress in tight relation with motor impairment UPDRS but also with non-motor symptoms such as apathy.

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**Title: Association study of essential tremor genetic loci in Parkinson's disease.**

**Citation:** Neurobiology of aging; Jun 2018; vol. 66; p. 178

**Author(s):** Ross, Jay P; Mohtashami, Sadaf; Leveille, Etienne; Johnson, Amelie M; Xiong, Lan; Dion, Patrick A; Fon, Edward; Dauvilliers, Yves; Dupré, Nicolas; Rouleau, Guy A; Gan-Or, Ziv

**Abstract:** A recent genome-wide association study identified variants associated with essential tremor (ET). The present study aimed to examine potential genetic overlap between ET and Parkinson's disease (PD). The top 22 variants identified by the ET genome-wide association study and 4 additional variants from previous studies were genotyped in a cohort of French and French-Canadian PD patients (n = 717) and controls (n = 595). Logistic regression analysis, adjusted for age and sex, was used to test for association between genotype and PD. None of the variants tested in the present study was significantly associated with PD. Our results do not support a role of ET-associated genetic variants in PD.

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**Title: Incidence of perioperative complications in total hip and knee arthroplasty in patients with Parkinson disease.**

**Citation:** Archives of orthopaedic and trauma surgery; Jun 2018; vol. 138 (no. 6); p. 765-770

**Author(s):** Sharma, Tankamani; Hönle, Wolfgang; Handschu, René; Adler, Werner; Goyal, Tarun; Schuh, Alexander

**Introduction:** The aim of this study is to evaluate the difference in perioperative complication rate in total hip, bipolar hemiarthroplasties and total knee arthroplasty in patients with Parkinson disease in trauma and elective surgery in our Musculoskeletal Center during a period of 10 years.

**Material and Method:** Between 2006 and 2016, 45 bipolar hemiarthroplasties in trauma surgery, 15 total knee and 19 total hip arthroplasties in patients with Parkinson's disease were performed. We divided the patients in two groups. Group I included trauma cases (45) and group II elective surgery cases (34). Complications were documented and divided into

local minor and major complications and general minor and major complications. Fisher's exact test was used for statistical evaluation.

**Results:** In both groups, there was one local major complication ($p > 0.05$): In group I, there was one case of loosening of a K-wire which was removed operatively. In group II, there was one severe intraarticular bleeding requiring puncture of the hematoma. In group I, there were 38 general complications; in group II, there were 17 general complications. There was no statistical difference in complication rate ($p > 0.05$).

**Conclusion:** Total hip arthroplasty, bipolar hemiarthroplasties and knee arthroplasty in patients with Parkinson disease is possible in elective and trauma surgery. Complication rate is higher in comparison with patients not suffering from Parkinson disease, but there is no difference in complication rate in elective and trauma surgery. Nevertheless, early perioperative neurological consultation in patients with Parkinson disease is recommended to minimize complications and improve early outcomes after arthroplasty.

**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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