

# Parkinson's Disease Current Awareness Bulletin May 2020

A number of other bulletins are also available – please contact the Academy Library for further details

If you would like to receive these bulletins on a regular basis please contact the library.

If you would like any of the full references we will source them for you.

Contact us: Academy Library 824897/98 Email: ruh-tr.library@nhs.net

#### Title: PING-PONG Helps Parkinson's Patients.

Citation: Better Nutrition; May 2020; vol. 82 (no. 5); p. 10-10 Author(s): TWEED, VERA

**Abstract:** The article highlights a Japanese study of 12 people suffering from the disease for an average of 7 years which showed that ping-pong improves symptoms of Parkinson's; and where subjects experienced significant improvements in speech, handwriting, and a variety of daily activities.

#### Title: Challenging Case in Clinical Practice: Yoga Therapy for Parkinson's Disease.

**Citation:** Alternative & Complementary Therapies; Apr 2020; vol. 26 (no. 2); p. 57-60 **Author(s):** Jasti, Nishitha; Bhargav, Hemant; Babu, Harish; Nagarathna, R.

**Abstract:** The article describes the case of a 55-year-old housewife in India with Parkinson's Disease (PD) who participated in yoga therapy. Highlights include the patient's yoga performance ability on the yoga performance assessment scale, the effect of the yoga-based lifestyle program on the course of the disorder and the severity of symptoms, and the details of the validated 60-minute yoga module for PD.

# Title: Should respiratory muscle training be part of the treatment of Parkinson's disease? A systematic review of randomized controlled trials.

**Citation:** Clinical Rehabilitation; Apr 2020; vol. 34 (no. 4); p. 429-437 **Author(s):** Rodríguez, Miguel Ángel; Crespo, Irene; del Valle, Miguel; Olmedillas, Hugo

**Objective:** To determine the effectiveness of respiratory muscle training in persons with Parkinson's disease.

**Data sources:** PubMed/MEDLINE, EMBASE, Web of Science, Scopus and PEDro electronic databases were searched until 15 November 2019. Reference lists of included studies were hand-searched.

**Methods:** Randomized controlled trials assessing the effects of respiratory muscle training programmes (both inspiratory and expiratory) in patients with Parkinson's disease were included. Two reviewers independently identified eligible studies and extracted data. Method quality was appraised with the PEDro scale.

**Results:** Five papers including three randomized controlled trials with a total of 111 patients were identified. Method appraisal showed a mean score of 5 in the PEDro scale. One study analysed inspiratory muscle training, one expiratory muscle training and two established a comparison between both of them. Statistically positive results were found in maximal inspiratory pressure (P < 0.05 and d = 0.76), maximal expiratory pressure (P < 0.01 and d = 1.40), perception of dyspnoea (P < 0.01), swallowing function (d = 0.55) and phonatory measures, without significant differences in spirometric indices.

**Conclusions:** Respiratory muscle training may be an effective alternative for improving respiratory muscle strength, swallowing function and phonatory parameters in subjects with Parkinson's disease. Nevertheless, the lack of primary studies about this type of training prevents obtaining robust evidence.

#### Title: Group-based music intervention in Parkinson's disease – findings from a mixedmethods study.

**Citation:** Clinical Rehabilitation; Apr 2020; vol. 34 (no. 4); p. 533-544 **Author(s):** Pohl, Petra; Wressle, Ewa; Lundin, Fredrik; Enthoven, Paul; Dizdar, Nil

**Objective:** To evaluate a group-based music intervention in patients with Parkinson's disease. Design: Parallel group randomized controlled trial with qualitative triangulation. Setting: Neurorehabilitation in primary care.

**Subjects:** Forty-six patients with Parkinson's disease were randomized into intervention group (n = 26), which received training with the music-based intervention, and control group (n = 20) without training. Interventions: The intervention was delivered twice weekly for 12 weeks.

**Main measures:** Primary outcome was Timed-Up-and-Go subtracting serial 7's (dual-task ability). Secondary outcomes were cognition, balance, concerns about falling, freezing of gait, and quality of life. All outcomes were evaluated at baseline, post-intervention, and three months post-intervention. Focus groups and individual interviews were conducted with the intervention group and with the delivering physiotherapists.

**Results:** No between-group differences were observed for dual-task ability. Between-group differences were observed for Falls Efficacy Scale (mean difference (MD) = 6.5 points; 95% confidence interval (CI) = 3.0 to 10.0, P = 0.001) and for Parkinson Disease Questionnaire-39 items (MD = 8.3; 95% CI = 2.7 to 13.8, P = 0.005) when compared to the control group post-intervention, but these were not maintained at three months post-intervention. Three themes were derived from the interviews: Expectations versus Results, Perspectives on Treatment Contents, and Key Factors for Success.

**Conclusion:** Patient-reported outcomes and interviews suggest that the group-based music intervention adds value to mood, alertness, and quality of life in patients with Parkinson's disease. The study does not support the efficacy in producing immediate or lasting gains in dual-tasking, cognition, balance, or freezing of gait.

# Title: Identification of distinct blood-based biomarkers in early stage of Parkinson's disease.

**Citation:** Neurological Sciences; Apr 2020; vol. 41 (no. 4); p. 893-901 **Author(s):** Wu, Yingyan; Yao, Qian; Jiang, Guo-Xin; Wang, Gang; Cheng, Qi

**Abstract:** Parkinson's disease (PD) is a slowly progressive geriatric disease, which can be one of the leading causes of serious socioeconomic burden in the aging society. Clinical trials suggest that prompt treatment of early-stage Parkinson's disease (EPD) may slow down the disease progress and have a better response. Therefore, conducting proteomics study to identify biomarkers for the diagnosis and disease-modifying therapies of EPD is vital. We aimed at identifying distinct protein autoantibody biomarkers of EPD by using the database of GSE62283 based on the platform GPL13669 downloaded from Gene Expression Omnibus database. Differentially expressed proteins (DEPs) between the EPD group (n = 103) and the normal control (NC) group (n = 111) were identified by protein-specific t test. Cluster analysis of DEPs was conducted by protein-protein interaction network to detect hub proteins. The hub proteins were then evaluated to determine the distinct biomarkers by principal component analysis, as well as functional and pathway enrichment analysis. Their biological functions were confirmed by gene ontology functional (GO) and Kyoto encyclopedia of genes and genomes pathway enrichment (KEGG). Two

biomarkers, mitochondrial ribosome recycling factor (MRRF) and ribosomal protein S18 (RPS18), distinguished the EPD samples from the NC samples, and they were regarded as high-confidence distinct protein autoantibody biomarkers of EPD. The most significant GO function was protein serine/threonine kinase activity (GO: 0004674) and most of DEPs were enriched in ATP binding in molecular function category (GO: 0005524). These results may help in establishing the prompt and accurate diagnosis of EPD and may also contribute to develop mechanism-based treatments.

#### Title: Improving motor performance in Parkinson's disease: a preliminary study on the promising use of the computer assisted virtual reality environment (CAREN).

Citation: Neurological Sciences; Apr 2020; vol. 41 (no. 4); p. 933-941

**Author(s):** Calabrò, Rocco Salvatore; Naro, Antonino; Cimino, Vincenzo; Buda, Antonio; Paladina, Giuseppe; Di Lorenzo, Giuseppe; Manuli, Alfredo; Milardi, Demetrio; Bramanti, Placido; Bramanti, Alessia

**Background:** Parkinson's disease (PD) is a neurodegenerative disorder characterized by various motor symptoms including balance and gait impairment. Several studies have shown that physiotherapy, cueing techniques, treadmill training, and cognitive movement strategies are useful in improving balance and gait in patients with PD. Devices employing virtual reality (VR) have been shown to be promising in neurorehabilitation as they can provide the patients with multisensory stimulation creating a realistic environment and improve the motivation and the adhesion of patients to the rehabilitation program. This preliminary study is aimed at testing the efficacy and feasibility of gait training based on the computer-assisted virtual reality environment (CAREN) in a sample of PD.

**Methods:** In this preliminary study, 22 outpatients affected by PD who attended the Behavioral and Robotic Neurorehab Laboratory of the IRCCS Neurolesi between August 2017 and October 2018 were enrolled. All PD patients underwent 20 conventional physiotherapy sessions followed by 3-month of rest. Then, the patients were provided with 20 sessions of CAREN training. Gait and balance performances were rated before, after each training protocol, and 3 months later. Gait analysis was also performed before and after CAREN training.

**Results:** All patients completed both of the rehabilitation trainings without any adverse event. All considered scales improved significantly at the end of both rehabilitation treatments. However, patients presented with a greater clinical improvement after the CAREN training, compared with conventional physiotherapy. In particular, patients walked faster and with more stability, with wider, longer steps.

**Conclusions:** Even though further neurophysiological details are required to identify the patients who may benefit from CAREN training, our findings suggest that this innovative device is an effective and feasible tool to train balance and gait in patients with PD.

#### Title: Bright Light Therapy in Depression and Insomnia Associated With Parkinson's.

Citation: Neurology Alert; Apr 2020; vol. 39 (no. 8); p. 1-4 Author(s): AHC MEDIA

**Abstract:** Bright light therapy (10,000 lux intensity for 30 minutes twice daily) and a low intensity control light showed similar efficacy in treatment of depression associated with Parkinson's disease; the bright light therapy showed some advantages in improving subjective quality of sleep.

Title: The Development of Ballet Exercises With Proprioceptive Neuromuscular Facilitation Techniques for Patients With Parkinson's Disease: An Abbreviated Case Report.

**Citation:** Orthopaedic Physical Therapy Practice; Apr 2020; vol. 32 (no. 2); p. 109-112 **Author(s):** Del Carmen, Christina

# Title: Dyadic Decision-Making in Advanced Parkinson's Disease: A Mixed Methods Study

**Citation:** Western Journal of Nursing Research; May 2020; vol. 42 (no. 5); p. 348 **Author(s):** Habermann, Barbara; Ju Young Shin; Shearer, Gretchen

**Abstract:** People with advanced Parkinson's disease (PD) are living at home being cared for by a family member. Decisions about health care and living preferences are made in a family context. The aims of the study were to (a) examine the types and timing of the decisions being made by dyads (person with Parkinson's [PWP] and caregiver) in advanced PD; and (b) explore perceived decision quality relative to specific decisions made. A mixed methods design of semi-structured dyad interviews followed by individual completion of decision measures twice at six months apart was utilized. Decisions involved obtaining more services in the home, moving into assisted living communities, maintaining as is, and initiating hospice. There was high decision quality as reflected by low decisional conflict and regret without statistical differences within the dyad. The findings provide insight into the nature of decisions dyads face and suggest ways that health care providers can support decision-making.

#### Title: Parkinson's Disease and Headaches: A Cross-Sectional Study.

Citation: Headache: The Journal of Head & Face Pain; May 2020; vol. 60 (no. 5); p. 967-973

Author(s): Sampaio Rocha-Filho, Pedro Augusto; Leite Souza-Lima, Carlos Frederico

**Objectives:** This study evaluated headaches among Parkinson's disease (PD) patients and whether there was any correlation between the motor symptoms and the severity of the headaches presented.

**Background:** Forty to 83% of PD patients are affected by pain. Despite this high prevalence of pain, only a few studies have addressed the headaches of these patients.

**Methods:** This was a cross-sectional study. Consecutive patients with Parkinson disease were included. Semi-structured interview; the Epworth sleepiness scale; the Hospital Anxiety and Depression Scale; the Unified Parkinson's Disease Rating Scale (UPDRS), Part III (motor examination); and the Hoehn and Yahr scale were used.

**Results:** About 46 patients were included, 52% were men, mean age was  $66 \pm 11$  years. Forty-three patients had headaches, 12/46 (26%), migraines, 31/46 (67%) had tension-type headaches. We found no association between the headache frequency (median: 0.5; 0.5 to 7.5 vs 0.5; 0.5 to 8 days/3 months; P =.757) or intensity (median: 5; 4 to 8 vs 5.5, 4 to 9; P =.514) and the different stages of the PD (Hoehn and Yahr scale:  $\leq 2.5$  vs >2.5). There was no correlation between UPDRS score and the intensity (r = -0.099; P =.530) or frequency of headaches (r = -0.136; P =.373). No association was found between the grade of neck stiffness (0 vs 1 and 2 vs 3 and 4) and the headache frequency (Median: 0; 0 to 3 vs 3.5; 0

to 12.5 vs 0; 0 to 6 days/3 months; P = .074) or intensity (Median: 5; 3 to 9 vs 5; 4 to 6 vs 7; 4.5 to 9; P = .434). Twelve patients said that their headaches started after PD had been diagnosed. There was no difference regarding the frequency and characteristics of headaches and PD characteristics between these patients and the other patients with previous headaches.

**Conclusions:** In this sample of PD patients, there is no association between headache and PD.

### Title: Impact of Overweight and Obesity on Functional and Clinical Outcomes of Early Parkinson's Disease.

**Citation:** Journal of the American Medical Directors Association; May 2020; vol. 21 (no. 5); p. 697-700

Author(s): Kim, Ryul; Jun, Jin-Sun

**Abstract:** To determine whether being overweight or obese contributes to disease progression and functional status in Parkinson's disease (PD). Cohort study using data from the Parkinson Progression Markers Initiative (PPMI). A total of 399 drug-naive patients with early PD were classified into normal weight (body mass index of 18.5-24.9, n = 139). overweight (25.0–29.9, n = 167), and obese (30.0 or more, n = 93) groups. The primary outcome was the development of functional dependency. Functional dependency was defined as a Schwab and England score of less than 80% at any time point that remained throughout follow-up. The secondary outcomes were the changes in the Movement Disorders Society Unified Parkinson Disease Rating Scale motor score measured in the offmedication state and the Montreal Cognitive Assessment score across visits. Over a 5-year follow-up period, the incidence of functional dependency was higher in the obese group than in the normal weight group (P = .001). No difference was observed between the overweight and normal weight groups (P = .429). The multivariable Cox model confirmed that obesity, but not overweight, increased the risk of dependency (hazard ratio 2.63, 95% confidence interval 1.32–5.23, P =.006). The increase in the Movement Disorders Society Unified Parkinson Disease Rating Scale motor score was greater in the obesity (P < .001) and overweight (P =.004) groups than in the normal weight group. Changes in the Montreal Cognitive Assessment score did not differ among the groups (P = .978). We found that obesity is related to an increased risk of functional dependency and rapid motor progression in patients with early PD. Although being overweight did not increase the risk of dependency, this condition was associated with rapid motor progression.

### Title: Self-Management Education for Persons with Parkinson's Disease and Their Care Partners: A Quasi-Experimental Case-Control Study in Clinical Practice.

Citation: Parkinson's Disease (20420080); Apr 2020 ; p. 1-13

**Author(s):** Hellqvist, Carina; Berterö, Carina; Dizdar, Nil; Sund-Levander, Märta; Hagell, Peter

**Background:** Parkinson's disease is a neurodegenerative condition with both physical and mental consequences that affect many aspects of everyday life. Persons with Parkinson's disease and their care partners want guidance from healthcare services in order to develop skills to adjust to life with a long-term condition. The Swedish National Parkinson School is a dyadic self-management programme to support both persons with Parkinson's disease and care partners.

**Objective:** To assess the outcomes of the Swedish National Parkinson School as reported by participants.

**Design:** A quasi-experimental case-control study in clinical care using self-reported questionnaires.

**Participants:** Swedish National Parkinson School was offered by health care professionals working in clinical care. Participants in the programme were also asked to participate in the study. A matched control group was recruited for a comparison of findings. In total, 92 persons with Parkinson's disease and 55 care partners were included.

Settings: Five Swedish geriatric and neurologic outpatient clinics.

**Method:** Data were collected during 2015–2017, before and after participation in the National Parkinson School or before and after seven weeks of standard care. Outcomes were assessed using generic and Parkinson's specific questionnaires. Descriptive statistics were used to describe baseline characteristics. Mann–Whitney U and Chi2 tests were used to test for between-group differences and within-group differences were tested by the Wilcoxon signed-ranks test.

**Results:** Improvements regarding health status, constructive attitudes and approaches, and skill and technique acquisition were found after the intervention among persons with Parkinson's disease. No changes were found among care partners.

**Conclusion:** The findings indicate that the Swedish National Parkinson School may improve health status and self-management among persons with Parkinson's disease, but further studies are needed to better understand the effects of the programme.

#### Title: Palliative Care Benefits Patients With Parkinson Disease.

**Citation:** JAMA: Journal of the American Medical Association; Apr 2020; vol. 323 (no. 16); p. 1543-1543

Author(s): Slomski, Anita

### Title: The Challenge of Managing Parkinson's Disease Patients during the COVID-19 Pandemic.

**Citation:** Annals of Indian Academy of Neurology; Apr 2020; vol. 23 **Author(s):** Garg, Divyani; Dhamija, Rajinder K.

**Abstract:** The 2019 novel coronavirus (nCoV) pandemic is rapidly developing across the globe and new information is emerging expeditiously and constantly, particularly in relation to neurological illnesses. Both central and peripheral nervous system involvement has been reported including headache, dizziness, hyposmia/anosmia, taste disturbances, seizures, stroke, alteration of the sensorium, and even acute hemorrhagic necrotizing leukoencephalopathy. Varying degrees of olfactory disturbances may pre-empt the diagnosis of COVID-19. Although no direct effect of 2019 nCoV has been reported yet on Parkinson's disease, there are enormous possible indirect effects and implications. We examine the potential effects and challenges posed by this pandemic to individuals with Parkinson's disease, particularly in the Indian context where telecommunication access or support group access may be lacking for these patients. Additionally, lockdown and social distancing may pose hurdles in the provision of optimum medical therapy, particularly if patients experience motor and non-motor deteriorations due to diverse reasons.

### Title: Comparison of virtual reality rehabilitation and conventional rehabilitation in Parkinson's disease: a randomised controlled trial.

Citation: Physiotherapy; Mar 2020; vol. 106 (no. 1); p. 36-42

Author(s): Pazzagli, C.; Imbimbo, I.; Tranchita, E.; Minganti, C.; Ricciardi, D.; Lo Monaco, R.; Parisi, A.; Padua, L.

**Objective:** To compare a 6-week virtual reality (VR) rehabilitation programme with a conventional rehabilitation programme in patients with Parkinson's disease.

Design: Prospective, single-blinded, randomised controlled trial.

Setting: Outpatients.

**Participants:** Fifty-one patients with Parkinson's disease were assigned at random to a VR rehabilitation programme or a conventional rehabilitation programme.

**Interventions:** Both programmes ran for 6 consecutive weeks, with a 40-minute session three times per week.

**Main outcome measures:** The Balance Berg Scale (BBS) was used to measure balance. Secondary outcome measures were: Dynamic Gait Index (DGI) to evaluate ability to adapt gait to complex walking tasks: Disabilities of the Arm, Shoulder and Hand (DASH) scale to measure performance of the upper limb; and Short Form 36 (SF-36) to evaluate quality of life.

**Results:** The VR rehabilitation programme led to an increase in BBS score {45.6 [standard deviation (SD) 7.9] vs 49.2 (SD 8.1), mean difference 3.6, 95% confidence interval (Cl) 1.3 to 5.9; P = 0.003}, DGI score [18.7 (SD 4.7) vs 20.2 (SD 4.2), mean difference 1.6, 95% Cl 0.6 to 2.5; P = 0.003] and SF-36 mental composite score [37.7 (SD 11.4) v s43.5 (SD 9.2), mean difference 5.8,95% Cl 0.4 to 11.3; P = 0.037], and a decrease in DASH scale score [29.6 (SD 17.5) vs 21.6 (SD 15.1), mean difference -7.9, 95% Cl -13.7 to -2.2; P = 0.009], In contrast, the conventional rehabilitation programme only led to a decrease in DASH scale score [30.3 (SD 18.1) vs 25.1 (SD 15.8), mean difference -5 .2, 95% Cl -8 .8 to -1.5; P = 0.007].

**Conclusion:** These findings suggest that rehabilitation is useful in Parkinson's disease, and the VR rehabilitation programme was more effective in determining overall improvement than the conventional rehabilitation programme.

Title: Challenges in ICU Care: The Patient With Parkinson's Disease.

**Citation:** Critical Care Nursing Quarterly; Apr 2020; vol. 43 (no. 2); p. 205-215 **Author(s):** Mucksavage, Jeffrey; Kim, Keri S.

**Abstract:** Patients with Parkinson's disease (PD) face unique challenges when admitted to the hospital. The nature of the disease, complexity of the pharmacotherapeutic home regimens, and the medication-related policies of institutionalized care all contribute to the challenges patients and providers face. In addition, medication errors are common in this population. Incorrectly ordered or omitted home medications or delayed administration can have significant negative consequences including worsening of PD symptoms, dopamine agonist withdrawal syndrome, or malignant or hyperpyrexia syndrome. Also, this patient population may commonly encounter contraindicated medications ordered during their hospitalizations. These medication misadventures negatively affect patient care, which may lead to increased length of stay and significant adverse sequalae. Nurses, pharmacists, and other health care providers can help ease the anxiety of patients and their families by taking

detailed medication histories, restarting home medication regimens, customizing medication administration to fit patients' needs, and screening patient profiles for drug-drug and drug-disease interactions. Education of hospital staff regarding the unique needs of this patient population and seeking the advice of specialists in PD can also promote improved patient care.

### Title: REM Sleep Behavior Disorder in Parkinson's Disease: Effects on Cognitive, Psychiatric, and Functional outcomes.

**Citation:** Journal of the International Neuropsychological Society : JINS; May 2020 ; p. 1-12 **Author(s):** Mahmood, Zanjbeel; Van Patten, Ryan; Nakhla, Marina Z; Twamley, Elizabeth W; Filoteo, J Vincent; Schiehser, Dawn M

**Objective:** Rapid eye movement sleep behavior disorder (RBD) affects 33-46% of patients with Parkinson's disease (PD) and may be a risk factor for neuropsychological and functional deficits. However, the role of RBD on neuropsychological functioning in PD has yet to be fully determined. We, therefore, examined differences in neurocognitive performance, functional capacity, and psychiatric symptoms among nondemented PD patients with probable RBD (PD/pRBD+) and without (PD/pRBD-), and healthy comparison participants (HC).

**Methods:** Totally, 172 participants (58 PD/pRBD+; 65 PD/pRBD-; 49 HC) completed an RBD sleep questionnaire, psychiatric/clinical questionnaires, performance-based and self-reported functional capacity measures, and underwent a comprehensive neuropsychological battery assessing attention/working memory, language, visuospatial function, verbal and visual learning and memory, and executive function.

**Results:** Controlling for psychiatric symptom severity, the PD/pRBD+ group had poorer executive functioning and learning performance than the PD/pRBD- group and poorer neuropsychological functioning across all individual cognitive domains than the HCs. In contrast, PD/pRBD- patients had significantly lower scores than HCs only in the language domain. Moreover, PD/pRBD+ patients demonstrated significantly poorer medication management skills compared to HCs. Both PD groups reported greater depressive and anxiety severity compared to HCs; PD/pRBD+ group also endorsed greater severity of apathy compared to HCs.

**Conclusions:** The presence of pRBD is associated with poorer neuropsychological functioning in PD such that PD patients with pRBD have poorer cognitive, functional, and emotional outcomes compared to HC participants and/or PD patients without pRBD. Our findings underscore the importance of RBD assessment for improved detection and treatment of neuropsychological deficits (e.g., targeted cognitive interventions).

### Title: Speech and Language Therapy for Voice Problems in Parkinson's Disease: A Meta-Analysis.

**Citation:** The Journal of neuropsychiatry and clinical neurosciences; May 2020 ; p. appineuropsych19020044

**Author(s):** Xu, Hongyan; Bao, Zhuohua; Liang, Daye; Li, Mengxia; Wei, Minguang; Ge, Xueqing; Liu, Jingli; Li, Jinpin

**Abstract:** Patients with Parkinson's disease (PD) commonly have speech and voice problems that affect their functional communication and that are not sensitive to

pharmacological or neurosurgical treatments. The authors aimed to evaluate the effects of speech and language therapies (SLTs) on dysphonia in patients with PD by analyzing data from published randomized controlled trials (RCTs). Studies in English and Chinese that were related to speech and language treatment for patients with PD were retrieved from PubMed, Embase, Chinese National Knowledge Infrastructure, China Science and Technology Journal Database, Chinese Biomedical Literature Database, and Wanfang Database. On the basis of exclusion criteria, 391 records identified through the search were reduced to 10 studies that included 230 patients in the treatment groups and 205 patients in the control groups. A meta-analysis of data from the 10 studies was performed to examine the effects of SLTs on dysphonia in patients with PD. SLTs increased sound pressure level during sustained phonation, reading of the Rainbow Passage, and monologue 6 months after treatment, enhanced semitone standard deviation during reading of the Rainbow Passage more than 12 months after treatment, and reduced Voice Handicap Index scores among patients with PD with dysphonia problems at least 3 months after treatment. These findings demonstrate the efficacy of SLTs, especially Lee Silverman Voice Treatment, in increasing vocal loudness and functional communication among patients with PD. Further RCTs with large samples and multicenter participation are needed to validate the long-term effects and the efficacy of SLTs among patients with severe PD.

### Title: Staging of cognitive impairment in Parkinson's disease: validity of Quick Dementia Rating System.

Citation: Disability and rehabilitation; May 2020 ; p. 1-8

**Author(s):** Mahmoudi Asl, Aysan; Mehdizadeh, Maryam; Raeesi Roudbari, Parvin; Mehdizadeh, Hajar; Habibi, Seyed-Amirhasan; Niazi Khatoon, Javad; Taghizadeh, Ghorban

**Purpose:** This study aimed to investigate the ability of the Quick Dementia Rating System (QDRS) to discriminate patients with PD who have mild cognitive impairment from those without cognitive impairment and those with dementia.

**Method:** A total of 105 patients with PD were classified as without cognitive impairment (N = 32), with mild cognitive impairment (N = 23), and PDD (N = 50), according to their score on clinical dementia rating. Multivariate regression analysis was performed considering age, education, and disease severity as covariates and mild cognitive impairment or dementia as outcome variables. Receiver operating characteristic curve analysis was carried out to derive the optimal cut-off points.

**Results:** The cut-off point >2.5 (sensitivity = 86.96%, area under curve (AUC) = 0.88) was obtained for discriminating patients with mild cognitive impairment from those without cognitive impairment based on the total score of QDRS. The cut-off point >5 (sensitivity = 84%, AUC = 0.84) was derived for discriminating mild cognitive impairment from dementia based on the total score of QDRS.

**Conclusions:** The results of this study showed a good discriminative validity of the QDRS for discriminating mild cognitive impairment from no cognitive impairment and dementia in patients with PD.

**Implications For Rehabilitation:** The Quick Dementia Rating System has a good discriminative validity for diagnosing mild cognitive impairment from normal cognitive function in Parkinson's disease. The Quick Dementia Rating System has a good discriminative validity for diagnosing mild cognitive impairment from dementia in Parkinson's disease. The Quick Dementia Rating System could be suggested as a routine rapid cognitive screening tool for patients with Parkinson's disease.

Title: Utilizing patient advocates in Parkinson's disease: A proposed framework for patient engagement and the modern metrics that can determine its success.

**Citation:** Health expectations : an international journal of public participation in health care and health policy; May 2020

**Author(s):** Feeney, Megan; Evers, Christiana; Agpalo, Danielle; Cone, Lisa; Fleisher, Jori; Schroeder, Karlin

Abstract: The wide application of patient engagement and its associated benefits has increased across government, academic and pharmaceutical research. However, neither an identified standard practice for the process of engagement, nor utilization of common metrics to assess associated outcomes, exists. Parkinson's Foundation developed a patient engagement framework and metrics to assess engagement within the academic research and drug development sectors. This approach was developed over the course of several years through assessing the literature, acquiring feedback from researchers and people with Parkinson's disease and adapting practices to be relevant and generalizable across patient engagement projects. This framework includes the: 1) creation of a scope of work, 2) establishment of guiding principles, 3) selection and training of participants, 4) codetermination of project metrics, 5) execution of the project and 6) dissemination of project findings. Parkinson's Foundation has also worked with academic, government and pharmaceutical stakeholders to identify metrics that assess both the quality of patient engagement and outcomes associated with patient engagement on projects. By improving patient engagement project methodologies and metrics, global clinical trials can have access to evidence-based patient engagement practices to more efficiently capture the needs of. and potentially benefit, the patient community.

### Title: Self-reported needs of patients with Parkinson's disease during COVID-19 emergency in Italy.

**Citation:** Neurological sciences : official journal of the Italian Neurological Society and of the Italian Society of Clinical Neurophysiology; May 2020

**Author(s):** Schirinzi, Tommaso; Cerroni, Rocco; Di Lazzaro, Giulia; Liguori, Claudio; Scalise, Simona; Bovenzi, Roberta; Conti, Matteo; Garasto, Elena; Mercuri, Nicola Biagio; Pierantozzi, Mariangela; Pisani, Antonio; Stefani, Alessandro

**Abstract:** Because of COVID-19 outbreak, regular clinical services for Parkinson's disease (PD) patients have been suddenly suspended, causing worries, confusion and unexpected needs in such frail population. Here, we reviewed the messages spontaneously sent by patients to an Italian PD clinic during the first two weeks of COVID-19 lockdown (9-21 March 2020), in order to highlight their main needs and then outline appropriate strategies of care for this critical period. One hundred sixty-two messages were analysed. Forty-six percent queried about clinical services; 28% communicated an acute clinical worsening for which a therapeutic change was done in 52% of cases; 17% (those patients with younger age and milder disease) asked about the relationship between PD and COVID-19; 8% informed about an intercurrent event. Our analysis suggests that PD patients' needs during COVID-19 emergency include appropriate and complete information, a timely update on changes in clinical services, and the continuity of care, even in a remote mode. By addressing these issues, acute clinical worsening, complications and subsequent therapeutic changes could be prevented. In this perspective, telecommunication systems and virtual medicine should be implemented.

### Title: What Determines Spontaneous Physical Activity in Patients with Parkinson's Disease?

**Citation:** Journal of clinical medicine; May 2020; vol. 9 (no. 5) **Author(s):** Gorzkowska, Agnieszka; Cholewa, Joanna; Małecki, Andrzej; Klimkowicz-Mrowiec, Aleksandra; Cholewa, Jarosław

Abstract: Physical activity (PA) is a factor that may have an influence on the symptoms of Parkinson's disease (PD). The aim of this study was to identify the potential determinants of spontaneous PA in a PD patient group. A total of 134 PD patients aged 65.2 ± 9.2 years with a Hoehn-Yahr scale score ≤4 and a Mini Mental State Examination (MMSE) score ≥24 were examined. For the study's purposes, the authors analyzed age, sex, education, history of PD, dopaminergic treatment, the severity of PD symptoms using Unified Parkinson's Disease Rating Scale (UPDRS), and Hoehn-Yahr scale. Additionally, all participants were evaluated through a set of scales for specific neuropsychiatric symptoms including depression, anxiety, apathy, fatigue, and sleep disorders. A linear regression analysis was used with backward elimination. In the total explanatory model, for 12% of the variability in activity (R2 = 0.125; F(16.133) = 2.185; p < 0.01), the significant predictor was starting therapy with the dopamine agonist (DA) ( $\beta$ = 0.420; t= 4.068; p = 0.000), which was associated with a longer duration of moderate PA. In the total explanatory model, for more than 13% of the variance in time spent sitting (R2 = 0.135; F(16.130) = 2.267; p < 0.01), the significant predictors were secondary education and the results of the UPDRS. The patients with secondary and vocational education, those starting treatment with DA and those with a less severe degree of Parkinson's symptoms (UPDRS), spent less time sitting in a day. It is possible to identify determinants of spontaneous PA. It may elucidate consequences in terms of influence on modifiable conditions of PA and the proper approach to patients with unmodifiable PA factors.

### Title: Management of Advanced Therapies in Parkinson's Disease Patients in Times of Humanitarian Crisis: The COVID-19 Experience.

**Citation:** Movement disorders clinical practice; May 2020; vol. 7 (no. 4); p. 361-372 **Author(s):** Fasano, Alfonso; Antonini, Angelo; Katzenschlager, Regina; Krack, Paul; Odin, Per; Evans, Andrew H; Foltynie, Thomas; Volkmann, Jens; Merello, Marcelo

**Background:** Although the COVID-19 pandemic is affecting a relatively small proportion of the global population, its effects have already reached everyone. The pandemic has the potential to differentially disadvantage chronically ill patients, including those with Parkinson's disease (PD). The first health care reaction has been to limit access to clinics and neurology wards to preserve fragile patients with PD from being infected. In some regions, the shortage of medical staff has also forced movement disorders neurologists to provide care for patients with COVID-19.

**Objective:** To share the experience of various movement disorder neurologists operating in different world regions and provide a common approach to patients with PD, with a focus on those already on advanced therapies, which may serve as guidance in the current pandemic and for emergency situations that we may face in the future.

**Conclusion:** Most of us were unprepared to deal with this condition given that in many health care systems, telemedicine has been only marginally available or only limited to email or telephone contacts. In addition, to ensure sufficient access to intensive care unit beds, most elective procedures (including deep brain stimulation or the initiation of infusion

therapies) have been postponed. We all hope there will soon be a time when we will return to more regular hospital schedules. However, we should consider this crisis as an opportunity to change our approach and encourage our hospitals and health care systems to facilitate the remote management of chronic neurological patients, including those with advanced PD.

# Title: Management of Parkinson's Disease During Pregnancy: Literature Review and Multidisciplinary Input.

**Citation:** Movement disorders clinical practice; May 2020; vol. 7 (no. 4); p. 419-430 **Author(s):** Young, Caitlin; Phillips, Rhiannon; Ebenezer, Louise; Zutt, Rodi; Peall, Kathryn J

**Background:** There are no standardized clinical guidelines for the management of Parkinson's disease (PD) during pregnancy. Increasing maternal age would suggest that the incidence of pregnancy in women diagnosed with PD is likely to increase.

**Objective:** To evaluate the evidence for the treatment of PD during pregnancy and to canvass opinion from patients and clinical teams as to the optimum clinical management in this setting.

**Methods:** This involved (1) a literature review of available evidence for the use of oral medical therapy for the management of PD during pregnancy and (2) an anonymized survey of patients and clinical teams relating to previous clinical experiences.

**Results:** A literature review identified 31 publications (148 pregnancies, 49 PD, 2 parkinsonism, 21 dopa-responsive dystonia, 32 restless leg syndrome, 1 schizophrenia, and 43 unknown indication) detailing treatment with levodopa, and 12 publications with dopamine agonists. Adverse outcomes included seizures and congenital malformations. Survey participation included patients (n = 7), neurologists (n = 35), PD nurse specialists (n = 50), obstetricians (n = 15), and midwives (n = 20) and identified a further 34 cases of pregnancy in women with PD. Common themes for suggested management included optimization of motor symptoms, preference for levodopa monotherapy, and normal delivery unless indicated by obstetric causes.

**Conclusions:** This study demonstrates the paucity of evidence for decision-making in the medical management of PD during pregnancy. Collaboration is needed to develop a prospective registry, with longitudinal maternal and child health outcome measures to facilitate consensus management guidelines.

#### Title: Peripheral neuropathy in Parkinson's disease.

**Citation:** Neurological sciences : official journal of the Italian Neurological Society and of the Italian Society of Clinical Neurophysiology; May 2020

Author(s): Paul, Dion A; Qureshi, Abdul Rehman M; Rana, Abdul Qayyum

**Abstract:** Peripheral neuropathy (PN) is a common neurological problem defined as a dysfunction of sensory, motor, and autonomic nerves. The presence of peripheral neuropathy has recently been noticed in Parkinson's disease (PD) This comorbidity is concerning as it increases the burden on patients whose motor functions are previously compromised. A comprehensive computer-based literature review utilizing multiple peer-reviewed databases (e.g., Embase, PsycINFO, CINAHL, etc.) was conducted. There is evidence for the utility of robust diagnostic criteria to distinguish between large fiber neuropathy (LFN) and small fiber neuropathy (SFN). Some studies have established links

between prolonged L-DOPA exposure and prevalence with increased levels of homocysteine (HCY) and methylmalonic acid (MMA) as pathological underlying mechanisms. PN in PD patients with relatively truncated exposure to L-DOPA therapy may have underlying mutations in the Parkin and MHTFR gene or separate mitochondrial disorders. Vitamin B12 and cobalamin deficiencies have also been implicated as drivers of PN. Accumulation of phosphorylated  $\alpha$ -synuclein is another central feature in PN and deems urgent exploration via large cohort studies. Importantly, these underlying mechanisms have been linked to peripheral denervation. This review delves into the potential treatments for PN targeting B12 deficiencies and the use of COMT inhibitors along with other novel approaches. Avenues of research with powerful randomized controlled and long-term cohort studies exploring genetic mechanisms and novel treatment pathways is urgently required to alleviate the burden of disease exerted by PN on PD.

#### Title: Parkinson's Disease and Headaches: A Cross-Sectional Study.

Citation: Headache; May 2020; vol. 60 (no. 5); p. 967-973

Author(s): Sampaio Rocha-Filho, Pedro Augusto; Leite Souza-Lima, Carlos Frederico

**Objectives:** This study evaluated headaches among Parkinson's disease (PD) patients and whether there was any correlation between the motor symptoms and the severity of the headaches presented.

**Background:** Forty to 83% of PD patients are affected by pain. Despite this high prevalence of pain, only a few studies have addressed the headaches of these patients.

**Methods:** This was a cross-sectional study. Consecutive patients with Parkinson disease were included. Semi-structured interview; the Epworth sleepiness scale; the Hospital Anxiety and Depression Scale; the Unified Parkinson's Disease Rating Scale (UPDRS), Part III (motor examination); and the Hoehn and Yahr scale were used.

**Results:** About 46 patients were included, 52% were men, mean age was 66 ± 11 years. Forty-three patients had headaches, 12/46 (26%), migraines, 31/46 (67%) had tension-type headaches. We found no association between the headache frequency (median: 0.5; 0.5 to 7.5 vs 0.5; 0.5 to 8 days/3 months; P = .757) or intensity (median: 5; 4 to 8 vs 5.5, 4 to 9; P = .514) and the different stages of the PD (Hoehn and Yahr scale:  $\leq 2.5$  vs >2.5). There was no correlation between UPDRS score and the intensity (r = -0.099; P = .530) or frequency of headaches (r = -0.136; P = .373). No association was found between the grade of neck stiffness (0 vs 1 and 2 vs 3 and 4) and the headache frequency (Median: 0; 0 to 3 vs 3.5; 0 to 12.5 vs 0; 0 to 6 days/3 months; P = .074) or intensity (Median: 5; 3 to 9 vs 5; 4 to 6 vs 7; 4.5 to 9; P = .434). Twelve patients said that their headaches started after PD had been diagnosed. There was no difference regarding the frequency and characteristics of headaches and PD characteristics between these patients and the other patients with previous headaches.

**Conclusions:** In this sample of PD patients, there is no association between headache and PD.

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

**Disclaimer:** The results of your literature search are based on the request that you made, and consist of a list of references, some with abstracts. Royal United Hospital Bath Healthcare Library will endeavour to use the best, most appropriate and most recent sources available to it, but accepts no liability for the information retrieved, which is subject to the content and accuracy of databases, and the limitations of the search process. The library assumes no liability for the interpretation or application of these results, which are not intended to provide advice or recommendations on patient care.