U.S. Department of Veterans Affairs
Veterans Health Administration
Parkinson's Disease Research,
Education & Clinical Centers

NATIONAL VA PARKINSON'S DISEASE
CONSORTIUM
Education · Collaboration · Advocacy

THE TRANSMITTER

September 2024

Article Reviews

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Contribution of basal ganglia activity to REM sleep disorder in Parkinson's disease
Rapid eye movement (REM) sleep behavior disorder (RBD) is one of the most common sleep problems and represents a key prodromal marker in Parkinson's disease (PD). The purpose of this study was to find whether and how basal ganglia nuclei, structures that are directly involved in the pathology of PD, are implicated in the occurrence of RBD. In parallel with whole-night video polysomnography, they recorded local field potentials from two major basal ganglia structures, the globus pallidus internus and subthalamic nucleus, in two cohorts of patients with PD who had varied severity of RBD. Basal ganglia oscillatory patterns during RBD and REM sleep without atonia were analyzed and compared with another age-matched cohort of patients with dystonia that served as controls. They found that beta power in both basal ganglia nuclei was specifically elevated during REM sleep without atonia in patients with PD, but not in dystonia. Basal ganglia beta power during REM sleep positively correlated with the extent of atonia loss, with beta elevation preceding the activation of chin electromyogram activities by ~200 ms. The connectivity between basal ganglia beta power and chin muscular activities during REM sleep was significantly correlated with the clinical severity of RBD in PD. It was concluded that basal ganglia activity is associated with if not directly contribute to the occurrence of RBD in PD. Better understanding of this may foster improved therapies for RBD by interrupting the basal ganglia-muscular communication during REM sleep in PD.

J Neurol Neurosurg Psychiatry 2024 Sep 17;95(10):947-955.
https://pubmed.ncbi.nlm.nih.gov/38641368/

Neuroanatomical and prognostic associations of depression in Parkinson's disease
Depression is reported as a risk factor, prodromal feature and late consequence of Parkinson's disease (PD). This study aimed to evaluate the timing, neuroanatomy and prognostic implications of depression in PD. They used data from 434 023 participants from UK Biobank with 14.1 years of follow-up. Of 2632 individuals with incident PD, 539 (20.5%) were diagnosed with depression at some point. Depression was associated with an increased risk of subsequent PD. Among incident PD cases, depression prevalence rose progressively from 10 years pre-PD diagnosis to 10 years postdiagnosis . Depression severity in PD was associated with reduced grey matter volume in structures including the thalamus and amygdala. This large-scale prospective study concluded that depression prevalence increases from 10 years before PD diagnosis and is a marker of cortical and subcortical volume loss.

Depression before PD diagnosis signals a worse prognosis in terms of dementia and mortality. This has clinical implications in stratifying people with poorer cognitive and prognostic trajectory in PD.

J Neurol Neurosurg Psychiatry 2024 Sep 17;95(10):966-973.
https://pubmed.ncbi.nlm.nih.gov/38569876/

Long-Term Dementia Risk in Parkinson Disease
It is widely cited that dementia occurs in up to 80% of patients with Parkinson disease (PD), but studies reporting such high rates were published over two decades ago, had relatively small samples, and had other limitations. This study aimed to determine long-term dementia risk in PD using data from two large, ongoing, prospective, observational studies. The Parkinson's Progression Markers Initiative (PPMI), a multisite international study enrolled de novo, untreated PD participants and University of Pennsylvania (Penn) a convenience cohort from a large clinical center. For the PPMI cohort, 417 participants with PD (mean age 61.6 years, 65% male) were followed, with an estimated probability of dementia at year 10 disease duration of 9% (site investigator diagnosis), 15% (MoCA), or 12% (MDS-UPDRS Part I cognition). For the Penn cohort, 389 participants with PD (mean age 69.3 years, 67% male) were followed, with 184 participants (47% of cohort) eventually diagnosed with dementia. The interval-censored curve for the Penn cohort had a median time to dementia of 15 years (95% CI 13-15); the estimated probability of dementia was 27% at 10 years of disease duration, 50% at 15 years, and 74% at 20 years. Results from two large, prospective studies suggest that dementia in PD occurs less frequently, or later in the disease course, than previous research studies have reported.

Neurology 2024 Sep 10;103(5):e209699
https://pubmed.ncbi.nlm.nih.gov/39110916/.

Committee Activities

Clinical Care Committee

- **Rotation of Committee Chair:** Leadership for the clinical care committee rotates amongst the PADRECCs. The West LA PADRECC leads the committee for September/October. The committee meets via conference call the first Tuesday of the month at 12pm (EST)
- **Standardize and Optimize Clinical Care:** The committee continues to discuss treatment strategies, new medications and other procedures, and other clinical issues to improve patient care and outcomes across the national PADRECCs service area. It also serves to provide clinical support to the PADRECC Associated Sites by focusing on procedures and measures to standardize clinical care across the PADRECC network.
- **Recent agenda items have included:**

    1. **Whole Health at the PADRECCs**: Training and utilization of WH champions, integrating WH in PADRECCs ~ developing a standardized practice model
    2. **Skin biopsy for alpha-synuclein - Syn-One** (CNS life sciences): practice and protocol use in the PADRECCs

3. **Movement disorders surgical procedures:** Focused Ultrasound Thalamotomy and Gamma Knife Thalamotomy- PADRECC outcomes

4. **Parkinson's KinetiGraph (PKG):** practice and protocol use in the PADRECCs

Education Committee

- **PADRECC/EES Movement Disorder Series-Webinars:** knowledge-based webinars to provide VHA healthcare professionals with current practice standards and emerging trends in the treatment of Parkinson's disease and other movement disorders. CEs are provided for the live webinars. Check out the following link for a list of past webinars: Movement Disorders Series - Parkinson's Disease Research, Education and Clinical Centers (va.gov)

  - **Movement Disorders Series Part VI: The Other Movement Disorders**
    October 10th, 2024 9am-1pm PST / 12pm-4pm EST

    REGISTER: click here

Time		Tentative/Topics	Presenter
9am PST	12pm EST	Secondary Parkinsonism	Pavan Vaswani, MD Philadelphia PADRECC
10am PST	1pm EST	Functional Movement Disorders	Joel Mack, MD Northwest PADRECC
11am PST	2pm EST	Ataxia	Jessica Lehosit, DO Southeast PADRECC
12pm PST	3pm EST	Dystonia	Adrienne Keener, MD West LA PADRECC

- **National VA PD Newsletter**: **2024 VA Parkinson Report**- Currently being compiled and edited, stay tuned!

- **PD Hospital Safety Training Presentation:** exploring the development of a short grab and go presentation for VA CLC, CNH and Veteran State Home staff to improve the care of Veterans with PD who reside there.

- **The Parkinson's Foundation/VHA Partnership**: several PF/PADRECC partnered materials have been updated and links can be found on the accompanying email. In addition, the **2024/2025 PF Veteran Webinar Series** is underway.

- **2026 World Parkinson's Congress**: WPC will be held in Phoenix, AZ in 2026 and the PADRECCs are an organizational partner. Committee is exploring outreach opportunities leading up to and during the Congress.

- **Parkinson's Disease Rehab-Community of Practice on Microsoft Teams**- collaboration with rehabilitation subject matter experts across the VA with interest in PD to develop this COP to address and enhance rehabilitation care for Veterans with PD and similar conditions. The goal of the platform is to share evidence-based knowledge to inform PD-specific rehabilitation practices, provide access to up-to-date resources, program success and opportunities for improvement. All are

welcome to join:
https://teams.microsoft.com/l/channel/19%3a_NAJNcVxoyd5XB0M_UnwK4Ym7vi8C971TC0xqerdfts1%40thread.tacv2/General?groupId=bf9f6fc8-06da-401e-99c5-6dd0b47494ee&tenantId=e95f1b23-abaf-45ee-821d-b7ab251ab3bf

- **National Website Maintenance:** The committee performs periodic maintenance checks of the National Website to ensure information is current and up-to-date.
- **PADRECC Transmitter:** This committee continues to assemble and distribute this *e*-newsletter every other month.