



WELCOME TO EXPERT BRIEFINGS

Sleep Challenges with Parkinson's

- The program will begin at the hour.
- Participants will be muted and off video.

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Welcome

James Beck, PhD

Chief Scientific Officer, Parkinson's Foundation

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Our Mission



The Parkinson's Foundation makes life better for people with Parkinson's disease by improving care and advancing research toward a cure. In everything we do, we build on the energy, experience and passion of our global Parkinson's community.

We have everything you need to live better with Parkinson's.



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PD Health @ Home



Weekly, virtual programs:

- Mindfulness Mondays
- Wellness Wednesdays
- Fitness Fridays
- EP Salud en Casa

Visit [Parkinson.org/PDhealth](https://www.parkinson.org/PDhealth) to learn more and to register

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Poll: Getting to Know You



What best describes your connection to Parkinson's disease?

- Person with PD
- Spouse/Partner
- Parent has/had PD
- Other family
- Healthcare Professional
- Physician/Clinician
- Scientist/Researcher
- Nurse/Nurse Practitioner
- Other

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For Your Convenience



Recording

Expert Briefings are recorded and archived on www.Parkinson.org/ExpertBriefings



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Meet Your Expert

Aleksandar Videnovic, MD, MSc

- Associate Professor, Neurology, Harvard Medical School
- Chief, Division of Sleep Medicine, Massachusetts General Hospital (MGH)
- Director, MGH Program on Sleep, Circadian Biology, and Neurodegeneration
- President, International REM Sleep Behavior Disorder Study Group
- Co-Principal Investigator, Network for Excellence, Neuroscience Clinical Trials
- Executive, Steering Committee, Parkinson Progression Markers Initiative



Trouble with Zzz's: Sleep Challenges in Parkinson's Disease

Aleks Videnovic, MD, MSc

Chief, Division of Sleep Medicine, Massachusetts General Hospital

Associate Professor of Neurology, Harvard Medical School

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Disclosures

- Serve on a Data Safety Monitoring Board for a clinical trial in Wilson's Disease

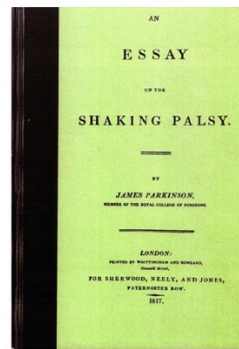
Learning Objectives

- Understand the most common sleep challenges experienced by people with Parkinson's.
- Learn what effect Parkinson's symptoms, medications and other health problems may have on sleep.
- Learn about good sleep hygiene practices and various strategies for improving sleep quality.

SLEEP IN PARKINSON'S DISEASE

“In this stage, the sleep becomes much disturbed. The tremulous motion of the limbs occur during sleep, and augment until they awaken the patients, and frequently with much agitation and alarm.”

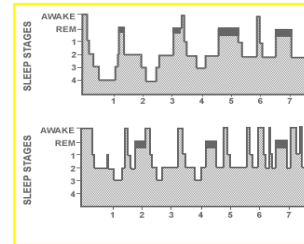
“...when exhausted nature seizes a small portion of sleep, the motion becomes so violent as not only to shake the bed-hangings, but even the floor and sashes of the room.”



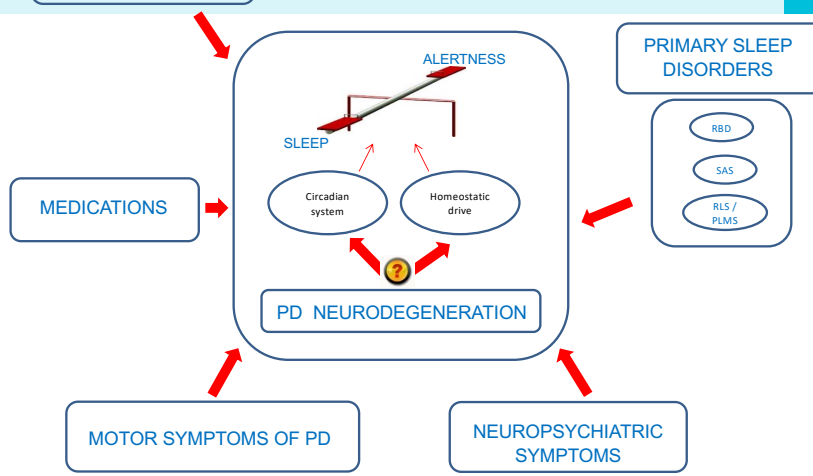
James Parkinson 1817

SLEEP IN AGING

- Changes in sleep stages
- Lower sleep efficiency
- Nighttime Arousals
- Daytime napping
- Sleep disorders



AUTONOMIC DYSFUNCTION



Sleep in Parkinson's disease



- Excessive daytime sleepiness (EDS)
- Nocturnal sleep disturbances
- As many as 80-90% of PD patients have some disturbance of sleep

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Nocturnal sleep disturbances in PD



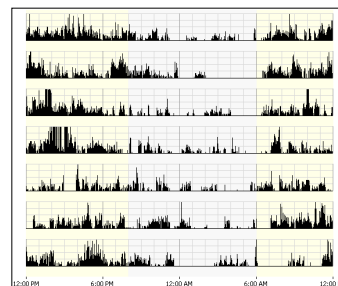
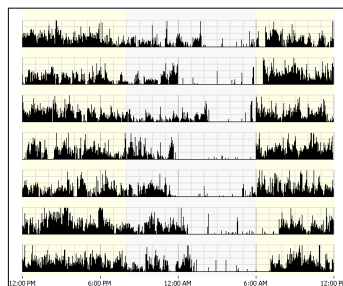
- Recurrent symptoms of PD
- Sleep disordered breathing
- REM Sleep Behavior Disorder (RBD)
- Restless Legs Syndrome
- Other causes
 - Depression, nocturia, pain etc.

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Nocturnal sleep disturbances - Sleep fragmentation -

- The most common sleep disturbance in PD patients
- Multifactorial
 - Tremor
 - Akinesia
 - Rigidity
 - Dyskinesias
 - Dystonia with painful spasms
 - Nocturia
 - Co-existence of other sleep disorders

Sleep-Wake Cycles in PD



“Sleep Hygiene” – what is in the name?



- Don't nap during the day
- Exercise earlier in the day
- Avoid television, mobile devices and other screens in the bedrooms
- Avoid caffeine and alcohol later in the day
- Don't drink too much fluid in the evening to avoid bathroom trips
 - But hydration important to avoid constipation and low blood pressure

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Sleep fragmentation - Management -



- Long-acting levodopa at bedtime
- Use additional levodopa during night
- Adding a COMT inhibitor
- No Selegiline or Amantadine late in the day
- Minimize fluid intake before bedtime
- Diuretics earlier in the day
- Bedside commode
- Anticholinergics for nocturia
- Management of depression / psychiatric co-morbidities
- Identification of co-existent sleep disorders

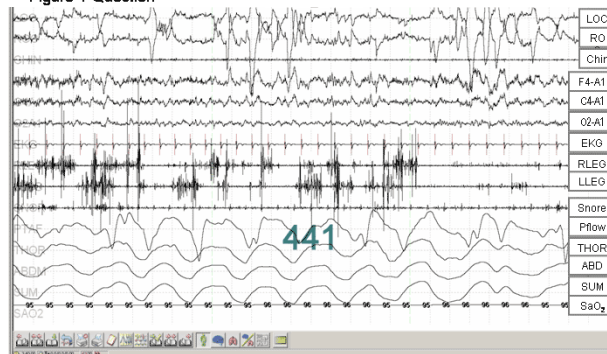
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REM Sleep Behavior Disorder (RBD) in PD



Characterized by acting out dreams, which are usually filled with fear and aggression

Figure 1-Question



Delayed emergence of a parkinsonian disorder in 38% of 29 older men initially diagnosed with idiopathic rapid eye movement sleep behavior disorder

Carlos H. Schenk, MD; Scott R. Bandie, MD; and Mark W. Mahowald, MD

Neurology 1996 46:388-93.

29 iRBD aged > 50 after 12.7 ± 7.3 years → PD 38% (1996) → 81% (2019)

Rapid-eye-movement sleep behaviour disorder as an early marker for a neurodegenerative disorder: a descriptive study

Alex Iranzo, José Luis Molinuevo, Joan Santamaria, Mónica Serradell, Maria José Martí, Francesc Valldeoriola, Eduard Tolosa

Lancet Neurol 2006 5: 572-77

44 RBD after 11.5 years: 45% PD/DLB/MSA/MCI

ARTICLES

Quantifying the risk of neurodegenerative disease in idiopathic REM sleep behavior disorder

Neurology 2009 72:1296-1300

93 Patients

- 5-Year Risk 17.7%
- 10-Year Risk 40.6%
- 12-Year Risk 52.4% for Parkinson Syndrome or MCI

**RBD in PD
- Treatment -**

- Protective measures
- Clonazepam
- Melatonin

- Antidepressants may worsen / unmask RBD symptoms

RESTLESS LEGS SYNDROME (RLS)



- An urge to move associated with unpleasant sensations in legs
- The urge worsens during period of rest or inactivity
- The urge is partially or totally relieved by movement
- The urge worsens in the evening or night

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RLS and PD - Treatment -



- Dopaminergic agents
 - dopamine agonist
 - side effect: augmentation
- Benzodiazepines
- Calcium channel alpha-2-delta ligands
- Opioids
- Avoid dopamine blockers, anti-cholinergic and anti-histaminic medications

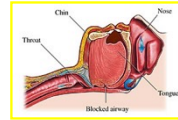
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Sleep disordered breathing and PD



- Initial studies found higher prevalence than in the general population; recent studies = equal prevalence

- Most common form - Sleep Apnea



- Obstructive, central, and mixed apneas may be equally represented in PD
- PD patients with OSA have normal body mass index
- No clear relationship between OSA and disease duration, severity, and medication regimen

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EDS in PD - Causes -



- Symptoms of PD
- Complex medication regimens
- Co-existent sleep disorders
- Age related changes in sleep architecture
- Primary neurodegeneration of PD

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Sleep disordered breathing and PD - Treatment -



- Positional therapy - avoid sleeping in supine position
- Weight loss – for patients with BMI >30
- Dental Appliance
- Several Surgical Treatments
- Main treatment – Positive Airway Pressure (PAP) therapy



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Excessive Daytime Sleepiness (EDS)



- Common and disabling symptom associated with PD
- EDS
 - 16% PD patients
 - 4% diabetes
 - 1% healthy controls

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Driving in Parkinson's Disease: Mobility, Accidents, and Sudden Onset of Sleep at the Wheel



Charlotte Meindorfner, MSc,¹ Yvonne Körner, MSc,^{1*} Jens Carsten Möller, MD,²
Karin Stiasny-Kolster, MD,² Wolfgang Hermann Oertel, MD,² and Hans-Peter Krüger, PhD¹

¹Center for Traffic Sciences, Department of Psychology, University of Würzburg, Würzburg, Germany
²Department of Neurology, Philipps-University, Marburg, Germany

- 5,210 PD subjects with a driving license
- 390 (8%) experienced sudden-onset sleep at the wheel
 - 57% had warning signs of sleepiness
 - 26% had “sleep attacks”



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EDS in PD - Assessment -



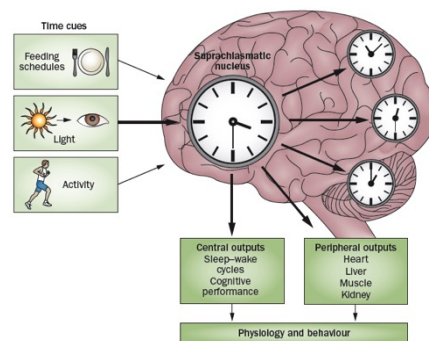
- History
- Collateral history form spouse / caregiver
- Review of the medication regimen
- Screen for primary sleep disorders
- Sleep center testing

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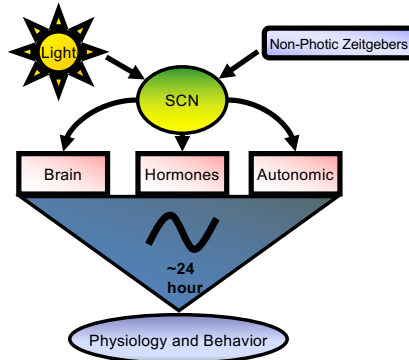
EDS in PD - Treatment -

- Sleep hygiene
- Co-existent sleep disorder
- Alterations of medication regimens
- Stimulants (dextroamphetamine, methylphenidate)
- Modafinil
- Caffeine
- Deep brain stimulation
- Sodium Oxybate

Circadian system



Light exposure and PD



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JAMA Neurology | Original Investigation

Timed Light Therapy for Sleep and Daytime Sleepiness Associated With Parkinson Disease A Randomized Clinical Trial

Aleksandar Videnovic, MD, MSc; Elizabeth B. Klerman, MD, PhD; Wei Wang, PhD; Angelica Marconi, MS; Teresa Kuhta, DO; Phyllis C. Zee, MD, PhD

Light therapy in PD

Bright light (10,000 lux) or dim-red light (<300 lux), twice daily in 1-hour sessions

Improved daytime alertness and sleep quality



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ENLITE PD
Evaluating a Novel Light Therapy
Intervention to Ease Non-Motor Symptoms
of Parkinson's Disease



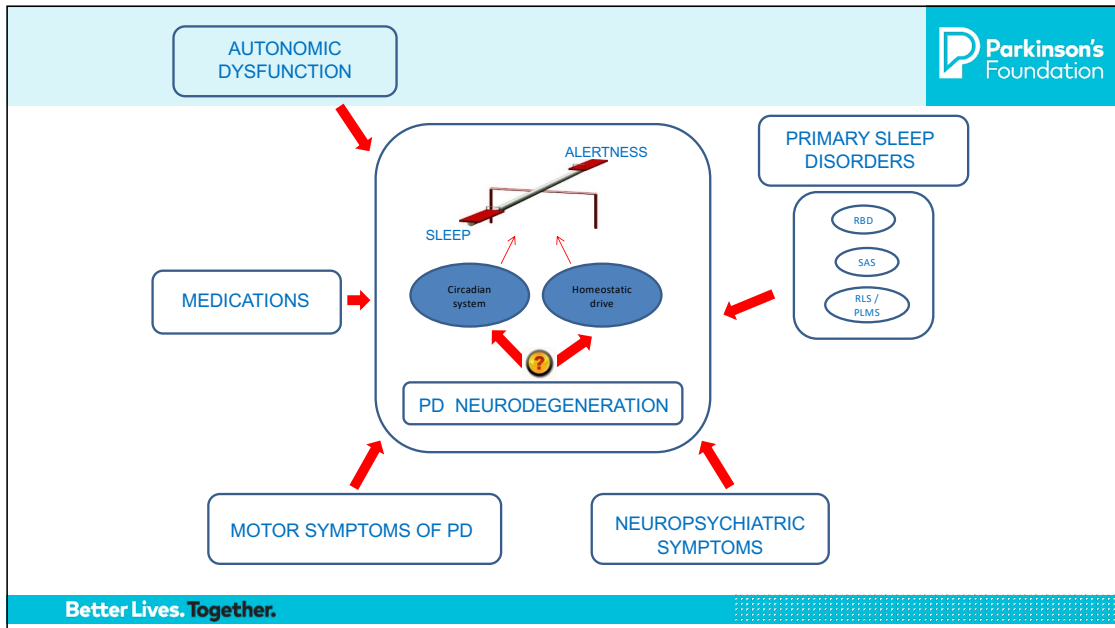
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Sleep PD Research Studies at MGH

- Several ongoing research programs
- Contact / Additional Info:

Wesley Schlett - wschlett@mgh.harvard.edu
617-726-9589

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- ## Concluding Remarks
- Education about proper sleep hygiene
 - Prompt diagnosis and treatment of co-existent primary sleep and psychiatric disorders
 - Proper diagnosis of the main sleep problem
 - Multidirectional approach: proper integration of cognitive-behavior therapy, medications, light exposure and exercise

Parkinson's & Research

Research plays a vital role in helping us understand Parkinson's.

Research:

- Leads to new treatment and medications
- Provides better understanding of symptoms and disease progression
- Ultimately brings us closer to a cure

How to get involved:

- www.clinicaltrials.gov
- Call our toll-free Helpline at 1-800-4PD-INFO or
- visit www.Parkinson.org/research



2024 Expert Briefings



Wednesday, March 13

**Understanding Pain
in Parkinson's**

Wednesday, April 10

**Research Update:
Working to Halt PD**

Wednesday, May 8

**Trouble with Zzz's: Sleep
Challenges with Parkinson's**

Wednesday, September 11

**Solving the Challenge of
Apathy in Parkinson's**

Wednesday, October 9

**More Than PD: Managing
Multiple Chronic Conditions**

Wednesday, November 13

**What's On Your Mind? Thinking
and Memory Changes in
Parkinson's**

Register at Parkinson.org/ExpertBriefings

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We're Here For You



[Parkinson.org](https://www.parkinson.org)



1-800-4PD-INFO
Helpline@Parkinson.org



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Before You Go...



Your feedback is important to us!
Please complete the evaluation after the close of this webinar.

EXPERT BRIEFING EVALUATION

Page 1 of 1

1. What best describes your connection to Parkinson's disease (PD)?

- Person with Parkinson's
- Spouse / Partner
- Parent has / had Parkinson's
- Other family of person with Parkinson's
- Friend of person with Parkinson's
- Healthcare Professional
- Other

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