

Sleep HealthCenters and Tilak K. Verma, MD, Open Sleep Center In Cumberland, Rhode Island



We are pleased to announce our partnership with Dr. Tilak Verma in the opening of our first dedicated sleep medicine center in Rhode Island – The Sleep HealthCenter of Cumberland.

Dr. Verma is a Diplomate of the American Board of Internal Medicine and the subspecialty boards in Pulmonary Diseases and Critical Care Medicine. Dr. Verma is also board certified by the American Board of Sleep Medicine and is currently a member of the American Academy of Sleep Medicine. He completed fellowship training at Temple University Hospital in Philadelphia and Massachusetts General Hospital in Boston.

Dr. Verma is Chief of Pulmonary, Critical Care and Sleep Medicine at Landmark Health Medical Center and Past-President of the Rhode Island Medical Society. Additionally, many local residents and physicians will recognize him from his medical column in *The Call* newspaper and his frequent radio interviews on WOON-1240. Dr. Verma will serve as the Regional Medical Director for Sleep HealthCenters' Southcoast/Rhode Island Region.

The Sleep HealthCenter of Cumberland offers comprehensive sleep medicine services for investigating, diagnosing and treating sleep disorders, such as sleep apnea, excessive daytime sleepiness, narcolepsy and leg movement disorders including restless legs syndrome.

To inquire about services at the new Sleep HealthCenter of Cumberland, or any one of our locations, call 877-SLEEPHC (877-753-3742).



Sleep HealthCenters is a network of sleep medicine centers staffed by experts in the field of sleep medicine. Our integrated care system provides all the services needed to diagnose and treat patients with the entire array of sleep disorders including obstructive sleep apnea, insomnia, narcolepsy and restless legs syndrome.

In this issue of the Sleep HealthCenters Newsletter...

- ▶ Sleep Disturbances in Parkinson's Disease by Ina Djonlagic, MD
- ▶ CEO Corner:
 - Sleep HealthCenter of Cumberland, Rhode Island Opens
 - Sleep HealthCenters Welcomes New Staff
 - Sleep HealthCenters Chosen as Sponsor for 2009 NESS
 - 2nd Annual Future of Clinical Sleep Medicine Forum
- ▶ Research Activities

Massachusetts Affiliations: Beth Israel Deaconess Medical Center, Brigham and Women's Hospital, Faulkner Hospital, Hallmark Health, Marlborough Hospital, Massachusetts Eye and Ear Infirmary, McLean Hospital, New England Sinai Hospital, Southcoast Hospitals Group; *New York Affiliations:* Beth Israel Medical Center

Massachusetts Locations: Bedford, Beverly, Boston, Brighton, Framingham, Jamaica Plain, Marlborough, Medford, North Dartmouth, Stoughton, Weymouth, Worcester; *New York Locations:* Manhattan; *Rhode Island Locations:* Cumberland

For more information, please contact us at: 1-877-SLEEPHC (1-877-753-3742) or visit our website at www.sleephealth.com.

Requisition forms are available on our website.

Sleep HealthCenters® Newsletter

Lawrence J. Epstein, MD, Editor

Summer 2008

Dear Colleague:

In this issue of the Sleep HealthCenters Newsletter, Ina Djonlagic, MD, writes our feature article about Sleep Disturbances in Parkinson's Disease. Sleep problems are one of the most common complaints in patients with Parkinson's disease and are related to both the underlying disease and its treatment. In addition to her clinical practice, Dr. Djonlagic has made this her area of research and is currently completing a funded research grant investigating the sleep of patients with Parkinson's disease.

In the CEO corner, Paul Valentine introduces our newest center, the Sleep HealthCenter of Cumberland, opened in partnership with Tilak K. Verma, MD. This is our first center in Rhode Island and the only sleep center in the area that provides comprehensive sleep medicine services. He also welcomes our newest staff members.

In March, the Center for Medicare and Medicaid Services (CMS) released a new National Coverage Determination (NCD) policy for the coverage of continuous positive airway pressure (CPAP) for patients with obstructive sleep apnea (OSA). In August of this year, the four regional Medicare durable medical equipment administrative contractors issued local coverage determination (LCD) policies that provide the details on how to comply with the CPAP NCD. Initially, these LCDs contained guidelines effective September 1, 2008, that would have implemented requirements for the pre-study sleep evaluation, sleep study, CPAP setup, and CPAP follow-up. For those referring providers who prefer to manage their own OSA patients, these guidelines would have added new paperwork to the process. As of the editing of this newsletter, the implementation of these guidelines was postponed, with a revised LCD clarifying the requirements expected soon. We will continue to keep you informed as to any changes that affect your role in the care of OSA patients.

Sleep HealthCenters would like to welcome our two new fellows, who started the sleep medicine fellowship on July 1, 2008, David Plante, MD, and Maryann Deak, MD. Dr. Plante came to us after completing a Psychiatry residency at McLean Hospital affiliated with Harvard Medical School, Dr. Deak came to us following her Neurology residency at University of Massachusetts School of Medicine in Worcester.

Sleep HealthCenters' Brighton center is the site for Brigham and Women's Hospital's Sleep Medicine Fellowship Program, which has been training fellows in sleep medicine for over a decade. The fellowship is a two year program that aims to develop the next generation of sleep clinician-scientists. The first year is a primarily clinical year during which the fellows receive training in the evaluation and treatment of patients with sleep disorders. The second year focuses on research, during which the fellows learn research methodology, apply for research grants and conduct a research project. It is one of the premier sleep medicine fellowships in the country.

If you have any questions about sleep disorders, our services, our affiliations, or our locations, please feel free to contact us.



Sincerely,
Lawrence J. Epstein, MD
Medical Director
Sleep HealthCenters LLC



Sleep Disturbances and Parkinson's Disease

Ina Djonlagic, MD

Dr. Djonlagic is a sleep specialist at Sleep HealthCenters in Weymouth. She is board certified in Neurology and Sleep Medicine. She is an Associate Physician, Division of Sleep Medicine, Department of Medicine, Brigham and Women's Hospital and an Instructor in Medicine, Harvard Medical School

Most of us associate Parkinson's disease (PD) primarily with its motor manifestations and the classic triad: tremor, rigidity and bradykinesia. Sleep disturbances, on the other hand, have long been an underemphasized cause of disability in PD patients. Yet sleep disturbances are very common and were in fact part of the original description by James Parkinson in 1817 of what he then termed "shaking palsy".

It is now estimated that Parkinson's disease affects more than 1 million people in the United States, while the prevalence of sleep disorders is thought to be between 74 and 98% of PD patients. They can present with a wide range of sleep disruptions and disorders.

Studies in newly diagnosed, un-medicated, and young PD patients suggest that the underlying cause for sleep/wake rhythm disturbances in PD is disease related, and involves the degeneration of sleep-wake cycle regulation centers in the brainstem and thalamocortical pathways.

In a retrospective analysis by Diederich et al. from 2005, polysomnographic data from 46 non-demented Parkinson patients showed a correlation between increasing sleep latency and disease duration. In addition, the total sleep time, time in slow wave sleep, REM sleep, and sleep efficiency were inversely correlated with the disease duration. These effects were independent of the degree of motor impairment and dosage of dopaminergic medication and age, indicating a direct link between the disease and sleep architecture.

These sleep disturbances can then be further exaggerated by factors such as coexisting primary sleep disorders, medication and depression.

Insomnia

The most common sleep disorder in PD is insomnia. A prospective longitudinal study by Gjerstad et al. from 2007 following 89 PD patients for 8 years found that up to 60% of patients developed insomnia. Comparatively, the incidence in the general population aged 65 years and older is approximately 5% per year.

The insomnia can have different origins ranging from inadequate control of motor symptoms and vivid dreaming to nightmares and nocturia. Nocturia can be increased in PD as a result of impairment of automatic function or due to 'end of dose' urge incontinence. Motor symptoms such as nocturnal dystonia and nocturnal akinesia can result in increased rigidity and stiffness, making it difficult to move and turn in bed. Nocturia in a patient who is too stiff to get out of bed can result in enuresis, thus further worsening sleep quality.

Overall, patients with PD have problems with sleep fragmentation and early awakenings compared with age-matched controls, whereas sleep initiation problems do not appear to be more frequent. Aside from disease duration, the presence of insomnia is also associated with a higher incidence of depressive symptoms and female sex.

Besides stressing good sleep hygiene and assessment for depression, medication often needs to be adjusted. The effect of dopaminergic agents are often dose dependent, with lower doses promoting sleep and higher doses suppressing slow-wave and REM sleep. On the other hand, for nighttime awakenings due to rigidity, adding long-acting carbidopa/levodopa or a long acting dopamine agonist may be helpful.

REM Sleep Behavior Disorder (RBD)

Another common sleep disorder in PD is REM sleep behavior disorder (RBD). RBD is a parasomnia with a prevalence of 0.5% in the general population, yet it occurs in about one-third of patients with PD. Symptoms of RBD often precede the onset of motor symptoms and the clinical diagnosis of PD. Schenck et al. found that 38% of men 50 years or older with idiopathic RBD developed PD after a mean interval of 3.7 ± 1.4 (SD) years following the RBD diagnosis, and 12.7 ± 7.3 years after the onset of RBD symptoms. It is assumed that RBD arises from changes in the lower brainstem nuclei, such as the pedunculopontine and subcoeruleal nuclei. (continued on page 2)


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(continued from page 1) Diagnosing REM sleep behavior disorder in a patient without PD raises some concerns on how much to disclose about the possible future development of PD. One study published in 'Brain' in 2005 by Stasny-Kolster et al. has suggested an increased risk of developing PD in individuals who have RBD and concomitant olfactory disturbance, which makes sense, given the disease pathway, but still needs further confirmation. Hypnagogic hallucinations and vivid dreaming are frequent in patients treated with levodopa, but also dopamine agonists and hence could be misdiagnosed as RBD.

Clonazepam is regarded as the treatment of choice for RBD. The initial dose is 0.5 mg at bedtime, which can be increased to 1 or 2 mg if lower doses are ineffective. Suppression of problematic sleep behaviors and nightmares can often be seen in the first week of treatment. More recently, studies have suggested a beneficial effect of melatonin on RBD with doses varying between 3 and 12 mg. Given that Clonazepam may increase the risk of confusion or falls in the elderly, melatonin may even provide a safer option for patients with PD.

Restless Leg Syndrome (RLS)

Several studies have pointed to a higher incidence of RLS in patients with PD, however this still remains controversial. Patients with PD frequently report a variety of unpleasant sensory symptoms in the legs such as restlessness, discomfort, stiffness, pain, tingling, burning, coldness, heat, and cramps. The nature of these sensory symptoms is not always clear. In patients with PD, akathisia, severe off states and inner tremor, may be associated with sensory disturbances occurring in a temporal pattern thus resembling RLS.

Treatment, by increasing the dose of levodopa or dopaminergic agents in the evening can usually be effective. There are also reports that adding non-dopaminergic agents such as gabapentin in the evening can be helpful.

Although RLS and PD share some similarities, such as

their response to dopaminergic drugs, there are also differences. For example, the RLS-augmentation phenomenon has not been reported in PD individuals with RLS chronically treated with dopaminergic agents.

RLS typically occurs after the clinical onset of the characteristic PD motor symptoms and there is no clinical evidence that subjects initially diagnosed with idiopathic RLS eventually develop PD over time.

Periodic Leg Movements in Sleep (PLMS)

PLMS are very common in the elderly and it is not clear whether they are more frequent in PD, per se, or whether they are more frequent in PD patients with RLS than without RLS. What has been shown is that PLMS increases after chronic treatment with bilateral subthalamic stimulation. Most patients with PD who have PLMS are unaware of these leg movements, and they do not appear to be a major contributing factor to developing sleep fragmentation and sleepiness.

Obstructive Sleep Apnea

Conflicting results are reported for increased sleep disordered breathing in PD. Obstructive and central sleep apnea are often seen in patients with PD. In most cases, this is age-related. In some cases, however, abnormalities of upper airway muscle tone may predispose patients to obstructive nocturnal events. Nocturnal respiratory disturbances generally appear to be more prevalent in patients with marked autonomic dysfunction.

Excessive Daytime Sleepiness (EDS)

EDS is a common complaint of up to 50% of PD patients. The etiology is multifactorial and thought to be due to the disease process itself, nocturnal sleep fragmentation, age and antiparkinson medication, especially dopamine agonists.

EDS can manifest in many different ways. While some patients feel sleepy, others may have rapid onset of sleep without any preceding drowsiness. These so

called 'sleep attacks' have been related to medication, particularly the dopamine agonists, and have been controversially reported to lead to traffic accidents. More recent reviews suggest that 'sleep attacks' are not drug specific but rather a class effect of all dopamine agonists as well as dopaminergic agents such as levodopa.

The general consensus has been that dopamine cell death, as seen in PD, leads to profound alterations in sleep/wake states including loss of sleep spindles and slow-wave sleep, an increase in daytime sleepiness and the intrusion of sleep-onset REM (SOREM) sleep into daytime naps, thus resembling narcolepsy.

EDS often occurs early in the course of the disease and can even predate the diagnosis.

Treatment of EDS includes reduction or discontinuation of medication that may induce drowsiness/sleepiness. There was some early evidence that adding a stimulant such as modafinil could be beneficial. This however was not confirmed in double blind controlled trials.

Evaluation of Patients

Since 2002, the 15-question Parkinson's Disease Sleep Scale (PDSS) has become available. These visual analog scales are the first formal instrument for quantifying sleep problems in PD. The PDSS has robust test-retest reliability and a good discriminatory power between patients with PD and healthy controls.

Numerical scoring is carried out with a transparency that is placed over the printed scale after the patient has marked it. It is suggested that the scale be used to identify sleep problems in the PD population and that poor scores may merit further evaluation of the sleep architecture with an overnight polysomnogram.

For a copy of the Parkinson's Disease Sleep Scale (PDSS) and article references, visit the Sleep HealthCenters' website at www.sleephealth.com/media_center/newsletters.htm.

CASE STUDY

Mr. S is a healthy 60 year-old man, who came to the clinic with his wife of 34 years to be evaluated for violent nocturnal movements that had increased in frequency. They first started 2 years ago and at that time he would only occasionally flail his arms in bed while screaming and yelling. Over time, these movements became more violent and started to occur at least two or three times a week. They were highly variable and often occurred in the setting of nightmares during which he was being chased and attacked and would fight back by punching and kicking. He had hit and bruised his wife a few times during dreams, in which he was in fact attempting to defend her, and now was sleeping in the guest room. Most recently he was playing soccer in his dream and while diving out of his bed hit his head against a table resulting in lacerations and a trip to the emergency room.

The patient denied excessive daytime sleepiness but his wife noted that he would occasionally sleep through church services, and they had stopped going to the movies

at night because he would not be able to stay awake throughout a film.

Diagnostic polysomnography showed abnormal architecture, with a short sleep latency (7 minutes) but significant sleep fragmentation leading to a total sleep time of only 268 minutes with a reduced sleep efficiency (73%). Chin EMG during REM sleep showed sustained muscle activity in REM sleep confirming the diagnosis of REM sleep behavior disorder.

The patient was started on Clonazepam 0.5 mg at bedtime, which led to resolution of his nocturnal movements and he was able to move back into the bedroom. He remained clinically stable on this dose for the following year but discontinued further clinic visits.

Seven years later he was referred to the sleep clinic again, this time by his neurologist for evaluation of excessive daytime sleepiness. He had developed clinical Parkinson's Disease in the interim and had been started

on a dopamine-agonist three times a day. His wife reported he would often fall asleep right after taking his medication, especially around lunchtime. He was still taking Clonazepam at bedtime, however had started to wake up 1 to 2 times per night because of nocturia and had stumbled a couple of times on the way to the bathroom.

He underwent a follow-up polysomnography followed by a Multiple Sleep Latency Test (MSLT). The MSLT confirmed the presence of pathological sleepiness by showing a reduced sleep onset latency in all 5 naps, averaging 4.2 minutes. In addition, REM sleep was present during each of the naps.

His EDS improved after reducing the amount of the dopamine-agonist during the day. He was also asked to reduce the evening fluid intake in order to reduce nocturnal awakenings due to nocturia. In addition, Clonazepam at bedtime was discontinued and he was started on 9 mg of Melatonin at bedtime, which successfully controlled his RBD.

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CEO CORNER

Paul S. Valentine
President and
Chief Executive Officer

We are happy to announce the opening of our first center in Rhode Island – The Sleep HealthCenter of Cumberland located at 175 Nate Whipple Road, Suite 108. Opened in partnership with Tilak K. Verma, MD, MBA, the new center is the first dedicated sleep medicine center in the area providing comprehensive sleep medicine services for investigating, diagnosing and treating sleep disorders. Services include medical consultations, sleep diagnostics, a wide range of treatment options (including CPAP set-ups), patient monitoring, follow-up and outpatient care.

We are pleased to welcome Vicky Seelall, MD, as the new Medical Director for the Sleep HealthCenter at Beth Israel Medical Center (New York). Dr. Seelall is board certified in Pulmonary Disease and Internal Medicine and completed her Sleep Fellowship at NYU Medical Center. Also new to our New York center is Alicia Barrios, CRT. Alicia, a certified respiratory therapist, will be performing sleep studies and running the CPAP clinic. Sandra Horowitz, MD, has been promoted to Regional Medical Director in addition to being the Medical Director for the Sleep HealthCenter of Framingham. Beginning September 1st, Jeffrey Scott, MD, will assume the role of Medical Director for the Sleep HealthCenter affiliated with Marlborough Hospital.

Finally, we are proud to introduce Kirsty Kerin, PhD, as the Director of Strategic Development. Dr. Kerin obtained a BSc Honors degree in Human Anatomy and Cell Biology and was awarded a PhD for her research into Human Fatigue. She has designed innovative OSA screening programs and created extensive employee training materials about the dangers associated with a lack of sleep. Dr. Kerin is the author of numerous reports on sleep health and the effects of sleep on productivity and safety and is well-versed in the field of sleep medicine. Dr. Kerin is responsible for new programs we are organizing in the area of disease management, both with corporate clients, as well as with payers.

Sleep HealthCenters is honored to be chosen as sponsor for the 2009 Northeast Sleep Society meeting on March 20-21, 2009 at the Marriott Boston-Newton. In our role of sponsor, we are responsible for all program content. We are looking forward to the opportunity to provide a great, educational and interesting program. The northeastssleep.org website will be updated as information becomes available.

This year's Future of Clinical Sleep Medicine forum will be held on September 18, 2008, at the Hilton Boston Back Bay, 40 Dalton Street, Boston, MA. This invitation-only event brings together a distinguished group of sleep clinicians and scientists to share their visions of where the field of sleep medicine is going. If you are interested in attending, please contact me at ceo@sleephealth.com.

By this time, you all should have received the new requisition forms. If you have any questions about our referral process or would like Sleep HealthCenters to visit your practice, please let us know. We will be happy to provide you with whatever information or education you may need.

We are happy to continue to provide sleep medicine services to your patients. Please do not hesitate to contact us if you have any questions.

RESEARCH ACTIVITIES

Sleep HealthCenters is proud to work with some of the premier sleep researchers in the country. The following research studies are currently underway in conjunction with our partners. To take part in a study or for more information, please contact us toll free at 877-SLEEPHC (877-753-3742). For a full listing of our research activities, please log onto our website at www.sleephealth.com.

Wake up Tired? Do you wake up unrefreshed, irritable and unable to concentrate after a full night's sleep? Find out if you have Nonrestorative Sleep by volunteering for a clinical research study. This study is evaluating an investigational medication to see if it can help you wake up refreshed and ready to start your day.

To qualify, you must:

- Be between 18 and 64 years of age
- Wake up tired even after 7 to 8 hours of sleep

As a participant, you will receive the study medication and all study-related care at no cost, and you may be compensated for your time and travel.

If interested, please contact Melissa at Sleep HealthCenters by calling 617-783-1496 ext. 121 or emailing SleepResearch@sleephealth.com.

Do you Snore? Sleep HealthCenters is looking for people who have never had an overnight sleep study. Is that you? The purpose of this research study is to see how well devices called portable monitors work for diagnosing Obstructive Sleep Apnea at home. Participants will wear a portable monitor for two consecutive nights at home and will wear a portable monitor during their scheduled overnight sleep study.

If interested, please contact Melissa at Sleep HealthCenters by calling 617-783-1496 ext. 121 or emailing SleepResearch@sleephealth.com.

Tired of Being Tired? Every morning thousands of people with Obstructive Sleep Apnea and Depression wake up tired. A local clinical research study is underway to see if an investigational drug is effective at reducing daytime sleepiness for people with obstructive sleep apnea and depression. We're looking for people who:

- Have daytime sleepiness caused by obstructive sleep apnea
- Use nasal CPAP therapy to treat their apnea
- Are taking prescription medication for depression
- Are between 18 and 65 years old.

If you want to learn more, please contact Melissa at Sleep HealthCenters by calling 617-783-1496 ext. 121 or emailing SleepResearch@sleephealth.com.

Do you get out of bed to eat at night, after you have gone to sleep? Do episodes of repetitive eating at night feel out of your control? You may have Sleep-Related Eating Disorder, which can disrupt your sleep and health. The Sleep HealthCenter associated with Brigham and Women's Hospital in Brighton is conducting a research study on an investigational medication for Sleep-Related Eating Disorder. Qualified participants can receive study medication and medical evaluation at no cost.

If interested, please call Jessica at the Sleep HealthCenter associated with Brigham and Women's Hospital by calling 617-783-1496 ext. 115 or emailing SleepResearch@sleephealth.com.

Do you have Restless Legs Syndrome? The Sleep HealthCenter associated with Brigham and Women's Hospital in Brighton is conducting a research study that is following up on the recent finding of a genetic marker for Restless Legs Syndrome (RLS). To further investigate the genetics of RLS, we are asking patients to give blood to determine if they have genes for RLS. We will then see if these genes affect certain aspects of the disorder and response to treatments. This study may help us learn about what causes RLS, and may help us guide future treatments. The study will require one visit to the Sleep HealthCenters clinic located in Brighton, MA. The visit will take about 30 minutes. Participants will receive compensation for travel expenses to the clinic. At the study visit we will describe the research study to you, ask you questions about your sleep and your health, and take a sample of blood from a vein in your arm.

To learn more, please call Jessica at the Sleep HealthCenter associated with Brigham and Women's Hospital by calling 617-783-1496 ext. 115 or emailing at Sleepresearch@sleephealth.com.