

Sleep HealthCenters partners with Milton Hospital

Sleep HealthCenters has entered into a partnership with Milton Hospital to develop and manage a comprehensive sleep medicine program on the Milton Hospital campus.

The Sleep HealthCenter at Milton Hospital will provide diagnostic sleep studies, beginning in March, followed by the opening of a CPAP Clinic in the near future.



AN AFFILIATE OF
Beth Israel Deaconess
Medical Center



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...

- ▶ Chronic Pain and Sleep Disorders by Norah S. Simpson, PhD
- ▶ Fallon Community Health Plan New Requirements for Sleep Studies
- ▶ CEO Corner:
 - Gaylord Sleep Medicine and Milton Hospital Relationship
 - Sleep HealthCenters' Staff in the News
- ▶ 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, Milton Hospital, New England Sinai Hospital, Southcoast Hospitals Group; Connecticut Affiliations: Gaylord Sleep Medicine; New York Affiliations: Beth Israel Medical Center

Massachusetts Locations: Bedford, Beverly, Boston, Brighton, Framingham, Jamaica Plain, Marlborough, Medford, Milton, North Dartmouth, Stoughton, Weymouth, Worcester; New York Locations: Manhattan; Rhode Island Locations: Cumberland; Connecticut Locations: Hartford, Glastonbury, Guilford, North Haven, Trumbull, Bridgeport; Arizona Locations: Mesa, Phoenix, Scottsdale, Tucson

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

Winter 2010

Dear Colleague:

In this issue of the Sleep HealthCenters Newsletter, we highlight another aspect of the growing awareness of the interaction between sleep quality and overall health, the relationship between sleep and pain. In our feature article, behavioral sleep medicine psychologist Norah Simpson, PhD, explains the bi-directional relationship between sleep and pain. Poor sleep can detrimentally affect the perception of pain and improvement in sleep can have a therapeutic effect. Similarly, pain can disrupt sleep while improvement in pain management can improve sleep. To demonstrate this interaction, Dr. Simpson presents the case of a patient with chronic pain who underwent behavioral therapy to improve her sleep and had improvement in both her sleep and pain.

For those interested in learning more about sleep medicine, Sleep HealthCenters will again host the North East Sleep Society meeting, themed "Promoting WakefulNESS", at the Marriott in Newton, MA, March 26 and 27. This regional sleep medicine conference will feature nationally known speakers discussing the latest in sleep medicine and sleep research. Highlighted speakers include Nancy A. Collop, Associate Professor of Medicine at Johns Hopkins University in Baltimore and the Medical Director of the Johns Hopkins Sleep Disorders Center in Maryland, and Stephanos Kales, Associate Professor in the Department of Environmental Health at the Harvard School of Public Health. For more information, go to www.northeastsleep.org.

In the CEO Corner, Paul Valentine announces our new relationships with Gaylord Sleep Medicine in Connecticut and Milton Hospital in Massachusetts. He also discusses Sleep HealthCenters' staff in the news.

Finally, another insurer, Fallon, is now requiring prior authorizations for sleep studies. Please see enclosed for specific information.

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
Chief Medical Officer
Sleep HealthCenters LLC

**SLEEP HEALTHCENTERS®**
...better sleep. better health.

1-877-SLEEPHC
1-877-753-3742



Chronic Pain and Sleep Disturbances: A Behavioral Sleep Medicine Perspective

By Norah S. Simpson, PhD

Dr. Simpson is a Behavioral Sleep Medicine Fellow at Sleep HealthCenters and Research Fellow at Beth Israel Deaconess Medical Center/Harvard Medical School. She received her PhD in psychology from the University of Pennsylvania and completed her clinical internship at the Alpert Medical School of Brown University.

Bi-directional relationship of sleep and pain

Sleep complaints are frequently reported among chronic pain patients, with over 80% of chronic pain patients reporting some sleep complaints (Smith et al., 2000). Numerous medical conditions result in chronic pain symptoms, including osteoarthritis and temporomandibular joint disorder. Even healthy individuals occasionally experience transient pain complaints. There is increasing evidence sleep disturbances and pain have a bi-directional relationship, such that nighttime pain disturbs sleep and poor sleep exacerbates pain. For both health care providers and health care consumers, having a better understanding of the relationship between pain and sleep may facilitate better management of both conditions.

Effects of pain on sleep

There is a wealth of evidence that pain can cause poor quality sleep, through arousals or microarousals resulting from pain sensations (Drewes et al., 1997). These pain-related arousals may be complicated by co-morbid insomnia, resulting in lighter sleep and longer times awake after sleep onset. The presence of sleep disturbances is also associated with pain severity, even after controlling for the contributing effects of psychological distress and behavioral factors associated with pain conditions (for review, see Smith and Haythornthwaite, 2004). Several studies have found that nighttime, but not daytime, pain is associated with reduced quality of sleep at night, suggesting some temporal specificity in the relationship between sleep and pain symptoms (Raymond et al., 2001; Affleck et al., 1996). Pain severity has also been found to independently predict the occurrence of long-term sleep disturbances (Nicassio & Wallston, 1992), although it is likely that other effects of pain (e.g., maladaptive behavioral or coping strategies, or mood changes) may also independently contribute to sleep disturbances.

Effects of sleep disruption on pain

Research conducted as early as the 1930s has shown that sleep deprivation can lower pain thresholds (Copperman et al., 1934). There is some evidence that selective reductions in slow wave or REM sleep, in particular, may increase pain sensitivity (Lentz et al., 1999; Roehrs et al., 2006). One recent study has also shown that quality of sleep (consolidated or fragmented), as well as sleep quantity (sleep duration) have independent effects on pain, with a 4-hour fragmented sleep opportunity resulting in a significantly greater decrease in pain inhibition and a significantly greater increase in spontaneous pain compared to a 4-hour consolidated sleep opportunity or a control condition (Smith et al., 2007). There is also a temporal relationship between the effects of sleep disruption and pain, where sleep on a given night is associated with pain symptoms on the subsequent day; this relationship has been shown in both healthy adults (Edwards et al., 2008) and medical populations (e.g., fibromyalgia patients; Affleck et al., 1996). Further, sleep problems either at the time of, or prior to, pain onset have been shown to predict pain symptoms, with greater pain symptoms more likely among individuals reporting sleep problems (Edwards et al., 2008; Raymond et al., 2001). Together, these studies demonstrate the bi-directional relationship of sleep and pain, as well as suggest a predictive value of sleep disruption on future pain symptoms.

Impact of treatment

There are multiple studies documenting the efficacy of cognitive behavioral therapy for insomnia (CBT-i) on symptoms of insomnia (for a review: Morin et al., 2006). While there are fewer studies specifically investigating CBT-i for insomnia associated with chronic pain, one recent study found that CBT-i was effective in improving sleep and pain complaints among

Sleep HealthCenters® Newsletter

older adults with both chronic insomnia and osteoarthritis (Vitiello et al., 2009). There are also limited data to suggest that CBT to reduce pain may have beneficial effects on sleep (Basler & Rehfish et al., 1991), although the majority of research in this area has not been specifically designed to assess changes in sleep as an outcome measure. Nonetheless, there is some evidence that in patients with sleep disturbances and pain, cognitive behavioral approaches (particularly for insomnia) may benefit patients in both domains, particularly when poor sleep habits and conditioned arousal are significant presenting factors (Smith and Haythornthwaite, 2004). It is possible that deeper, more consolidated sleep resulting from successful CBT-i treatment may decrease pain sensitivity or reduce arousals resulting from pain symptoms.

Important considerations

Given recent research, it is important to take the type of sleep disturbance (e.g., insufficient sleep quantity vs. quality) into account when considering the clinical presentation of patients (Smith et

al., 2007). Health care providers may also be faced with additional treatment challenges in patients with co-morbid insomnia and chronic pain, including patient acceptance of, and adherence to, CBT-i interventions due to perceived and real limitations from chronic pain. Also, despite the documented effects of pain on sleep, the majority of these effects (e.g., polysomnographic changes) are not specific to pain and may also be related to other 'third variables' (e.g., depression) that are known to affect both sleep and pain – suggesting the possibility of a more complex relationship. There is evidence, however, that there are shared brain structures in both sleep and pain modulation, which provides support for at least some direct relationships between these factors. Finally, there is little research on whether sleep disorders other than insomnia are associated with pain. While there is one study suggesting that primary insomnia, but not sleep apnea, is associated with increased pain (Smith et al., 2009), more research still needs to be done in this area.

Summary

Research has documented both cross-sectional and long-term (predictive) effects of sleep disturbances on pain, and pain on sleep disturbances. Given this bi-directional relationship between sleep and pain, it is important to evaluate the effects of both symptom clusters in the clinical setting. Patients may not be overtly aware of the impact of pain on their sleep (or the converse); education about this relationship may not only increase treatment adherence due to increased motivation, but also help improve global functioning through careful assessment of, and attention to, both sleep and pain in treatment. ★

Recommended Reading:

Smith, MT & Haythornthwaite, JA (2004). *How do sleep disturbance and chronic pain inter-relate? Insights from the longitudinal and cognitive-behavioral clinical trials literature.* *Sleep Medicine Reviews*, 8(2):119-32.



CASE STUDY

Mary was a 66 year old woman referred for cognitive behavioral treatment of insomnia by the sleep specialist treating her obstructive sleep apnea. Mary had previously been diagnosed with depression and fibromyalgia and was in treatment for both disorders with outside physicians. Mary's presenting chief complaints were: extreme daytime fatigue, difficulty falling asleep and staying asleep, pain, and depression. She reported "never feeling like I am able to sleep enough" and being "tired and in pain all the time." Her daytime fatigue and high sleep need also negatively impacted her quality of life due to limited time for daily activities (e.g., running errands, attending social events with friends and family). At the time of evaluation, Mary described spending a total of 12-15 hours per 24 hour period in bed, often including 1-2 naps of up to 4 hours each. Mary's compliance with CPAP for her obstructive sleep apnea was excellent and thus this was not a primary focus of treatment.

Assessment & Treatment Plan:

Mary presented with a complex set of inter-related medical issues: insomnia, obstructive sleep apnea, fibromyalgia and depression. She reported feeling out of control with respect to symptom management, and, over time, had developed strategies to maximize the amount of sleep she could obtain in a 24-hour period in an attempt to reduce her symptoms. However, these poor sleep habits, including extended sleep opportunities, an irregular sleep/wake schedule, and spending significant periods of daytime in bed, were interfering with her ability to obtain an appropriate quantity of

good quality sleep and maximize her daytime functioning.

The goals of treatment were to improve the quality of Mary's sleep in an attempt to decrease her daytime fatigue, sleep onset latency and time awake after initial sleep onset. The possible benefits of improvement in her sleep on her pain (particularly with respect to consolidated and deepened sleep) and mood were also discussed by Mary and her therapist. After an initial period of psycho-education, an 8.5 hour sleep schedule with an opportunity for a time-limited, scheduled nap in the late morning was generated. With her therapist's input, Mary also developed strategies for implementing daytime activity pacing, as well as other healthy sleep habits—including staying out of bed outside of her scheduled sleep opportunity periods.

Outcome:

Initially, Mary was not confident about the potential benefits of consolidating and deepening her sleep with respect to her daytime fatigue and pain symptoms. However, she was willing to conduct a two week 'experiment,' in which she tracked her daytime alertness and pain in a daily sleep diary. During this time, she found it very difficult to get out of bed at her designated wake time and to limit both the duration and frequency of her daytime naps. Additional strategies to reduce her difficulty meeting these goals were developed with the therapist, including setting an alarm across the room from her bed (to prevent her from being able to turn off her alarm without getting out of bed), laying out a robe and slippers beside the bed (patient was in treatment

during a cold New England winter), and utilizing her husband to provide back-up support/encouragement for her to get out of bed, if needed, in this initial phase of treatment.

Over two months of treatment, Mary's sleep onset latency, and time awake during the night gradually decreased. Eventually, her sleep onset latency fell below 15 minutes and she had no significant periods of time awake after sleep onset on most nights. While she still reported significant daytime pain, Mary described her functionality during the day as greatly improved, as was her mood. She also benefitted from increased 'functional time' during the day, which likely had an additional positive impact on her mood and pain. A broken toe during treatment resulted in some temporary setbacks, including increased time in bed, increased sleep opportunity, and more difficulty scheduling daytime activities. However, this experience reinforced the gains that Mary had made to date in treatment, and she gained confidence in her ability to manage her sleep by re-implementing her schedule and coping strategies as her physical condition improved. It also highlighted for her the strong relationship between sleep and pain.

Mary continues to experience symptoms of fibromyalgia and depression, but her sleep improvements have largely been maintained. She is no longer in active cognitive behavioral therapy for insomnia, although she is still regularly followed by her sleep specialist, who continues to monitor her sleep.



CEO CORNER

Paul S. Valentine
President and
Chief Executive Officer

We are two months into the new year and proud to say it has been a solid beginning to a great 2010 for Sleep HealthCenters. I assume you also join me in celebrating the longer days and the beginning of spring. It's been a busy winter. We'd like to take this opportunity to provide a short summary of activities.

In November, we began a relationship with Gaylord Sleep Medicine in Connecticut. Gaylord is the largest single provider of sleep medicine services in the state of Connecticut. We will provide management services for Gaylord's sleep centers in Connecticut which includes facilities in Hartford, Glastonbury, Guilford, North Haven, Trumbull and Bridgeport. Gaylord and Sleep HealthCenters share similar models of care and hope to grow the existing program through new services, locations and affiliations. Last year, Sleep Review magazine highlighted Sleep HealthCenters' management role in helping Brigham and Women's receive the AASM's Academic Program of Distinction in an article titled, "A Serious Approach to Sleep".

We also recently entered into a partnership with Milton Hospital to develop and manage a comprehensive sleep medicine program on the

Milton Hospital campus. Beginning in March, we will provide diagnostic sleep studies, followed by the opening of a CPAP Clinic in the near future. We are pleased to bring sleep medicine to Milton Hospital's patients and referring provider network and look forward to providing the highest level of sleep medicine care.

In January, our own Chief Medical Officer, Dr. Lawrence Epstein, appeared on the Boston radio show "Dan Rea's Nightside" to talk about sleep and sleep disorders. The listeners' response clearly demonstrated the need for sleep education in the consumer marketplace, and sleep disorders screening in the ordinary course of patient care. We are happy to provide educational materials and professional speakers to support relevant program opportunities.

Also in the news, Sleep HealthCenters' Regional Medical Director, Sandra Horowitz, MD, was named President of the Massachusetts Sleep Society. This society unites the state's sleep professionals in order to promote communication, understanding and management of sleep disorders through education programs, support of scientific research and other scientific activities.

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. For more information about Sleep HealthCenters, please visit www.sleephealth.com.

Insurance Bulletin

Fallon Community Health Plan NEW SLEEP STUDY REQUIREMENTS

Effective January 1, 2010

Sleep Studies Require Prior Authorization Completed by the Referring PCP

To comply with new Fallon Community Health Plan requirements, all requisitions referring patients to Sleep HealthCenters **MUST INCLUDE an authorization of services issued directly to the referring PCP by Fallon.**

Sleep HealthCenters cannot obtain or complete the pre-authorization requests. And, we cannot schedule any patients unless the authorization is sent to our Scheduling Office. Upon receipt of the authorization, we will schedule the patient as soon as possible for the requested services.

If you have questions about these new requirements please contact Fallon Community Health Plan at 888-693-3211.

Research Activities

Sleep HealthCenters is proud to work with some of the premier sleep researchers in the country. The following research studies are currently under way 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 visit www.sleephealth.com/research-studies.htm.

FREQUENT SEIZURES?

Consider new possibilities by volunteering for a research study.

Taking part in this study will give you access to an investigational medication to see if it reduces the frequency of partial seizure epilepsy.

You may qualify for this study if you:

- Are at least 18 years of age
- Have been diagnosed with epilepsy and experience partial onset seizures despite medication
- Have had an average of at least four seizures in the last eight weeks
- Have taken anti-seizure medication within the last eight weeks

As a qualified participant, you will receive all study-related care and study medication at no cost for up to five months, and you may be compensated for time and travel.

If interested, please contact Nicole at Sleep HealthCenters by calling 617-783-1496 x117 or emailing SleepResearch@sleephealth.com.

DO YOU HAVE INSOMNIA?

Are you between the ages of 21 and 65? Brigham and Women's Hospital is looking for people who have been diagnosed with insomnia to participate in a research study. The study involves approximately two weeks of at-home assessments and one 9-hour visit in our laboratory. Up to four screening visits may be required prior to beginning the study. Receive up to \$300 at the completion of the study.

For more information, please contact Julia at 617-732-6460 or email insomniastudy@partners.org.

ARE RESTLESS LEGS KEEPING YOU UP AT NIGHT?

You may have Restless Legs Syndrome, or RLS, if you have:

- discomfort or pain in your legs which worsens at night or when resting
- a strong urge to move your legs for relief
- itching, creepy-crawly feeling, pulling or tugging inside your legs

You may qualify for this research study if you:

- are 18-60 years of age
- have had RLS symptoms for at least 6 months

If interested, please contact Nicole at Sleep HealthCenters by calling 617-783-1496 x117 or emailing SleepResearch@sleephealth.com.

HEAD INJURY? BUMP ON THE HEAD? CONCUSSION? ALWAYS SLEEPY OR TIRED?

Do you know there might be a connection? Many people with a head injury may feel sleepy during the day, even if the injury happened years ago. Researchers are inviting those with a head injury who feel sleepy during the day to take part in a clinical study. This study will assess how well a study medicine works for people who feel sleepy during the day as a result of head injury. To qualify, you must:

- Be age 18 to 65
- Have had a head injury in the past 1 to 10 years that may have led to increased daytime sleepiness
- Feel sleepy or tired 5 or more days a week on average
- Be willing to take tests and medicine for 12 weeks
- Be available to sleep overnight in a sleep lab 5 times

If you Qualify:

- You may learn more about your sleep patterns
- You will receive study-related medical care and study medicine at no cost

If interested, please contact Nicole at Sleep HealthCenters by calling 617-783-1496 x117, emailing SleepResearch@sleephealth.com or go to www.TiredHeadStudy.com.