

Sleep Apnea Awareness Newsletter

FALL 2009

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Research Studies

[Learn about and participate in the latest research studies!](#)

Upcoming Events

Sleep Apnea Awareness Meeting Newton, MA

Please join us February 3, 2010 at 7:30 PM at the Newton Free Library in the Druker Auditorium located at 330 Homer Street in Newton Centre, MA.

Dr. Doug Kirsch, Regional Medical Director for Sleep HealthCenters will speak.

CPAP equipment companies will also be available to show their latest equipment and answer any questions.

Welcome!

Welcome to the Sleep Apnea Awareness Fall E-Newsletter! We created this newsletter to provide education about sleep apnea, inform you about the latest treatments and to share with you our patient experiences. Please feel free to forward this newsletter to family and friends. Enjoy!

November is American Diabetes Month®

The American Diabetes Association has made November American Diabetes Month®. Diabetes is a serious disease that can lead to conditions such as heart disease, stroke, kidney disease, blindness and amputation. To learn more about diabetes, please visit <http://www.diabetes.org/>

Sleep and Diabetes: How is control of sugar related to your nighttime rest?



Doug Kirsch, MD

Regional Medical Director, Sleep HealthCenters

At face value, it might seem hard to see how your sleep relates to control of diabetes. For most people, sleep occurs when we can't keep our eyes open or is a quiet escape from our bleak economic news. However, as sleep has become a more intriguing research area, scientists have begun exploring the links between sleep disorders and a host of medical conditions. For instance, research studies have been published associating obstructive sleep apnea (OSA) with an increased risk for high blood pressure, heart disease, and strokes.

For many years, it was assumed that sleep was a typical time for the body to be quiet and resting, without a lot of body or brain activities occurring concurrently. More recently, researchers have shown that sleep can be related to memory, mood, and metabolism. By following levels of hormones and other brain chemicals during the night, scientists can see that sleep is quite an active time. In some sleep stages, the brain is in fact more active than it is while we are awake.

Loss of Sleep and Diabetes

Voluntary sleep loss is common among the US population. Data has been published from the National Sleep Foundation "Sleep in America 2005" poll that adults currently average about 6.9 hours of sleep (40% getting less than 7 hours per weekday night), significantly less than the 8 hours demonstrated from studies in 1959. Though increasingly common sleep disorders, such as insomnia, could account for some of this change, it is more likely that many people restrict their sleep in order to complete work or for entertainment.

When looking at large groups of people, trends around sleep time and diabetes appear. The Nurses Health Study of over 70,000 subjects found that people who slept less than 5 hours per night were more prone to developing diabetes. Further information from the Sleep Heart Health Study population (over 2000 patients, ages 53-93) indicates that short sleep time was significantly associated with those subjects who had diabetes mellitus and impaired glucose tolerance (pre-diabetes).

In one voluntary experiment, young adult research subjects were limited to 4 hours of sleep per night for 6 nights. When they were tested at the end of the 6 nights, they showed blood work

CPAP Success Group



Maximize Your CPAP Experience with Rick Clerici, Behavioral Medicine Specialist

Learn to use CPAP more easily and effectively, receive clear information and useful tips to improve your CPAP experience, learn simple relaxation techniques to help you breathe normally during sleep and reclaim sleep, energy and overall health. Attend as often as you like.

[Click here for more information](#)

Insomnia Workshops

Do you or someone you know suffer from Insomnia?



Insomnia Treatment Workshops are now forming at Sleep Health Centers' Framingham location at 125 Newbury Street, Suite 200.

The Insomnia Workshop consists of (7) 60-minute sessions across 8-9 weeks. There are approximately 6-8 patients enrolled in each workshop.

Sessions include treatment modules to:

- Educate you about factors that regulate your sleep
- Equip you with specific skills to improve your ability to quiet your mind at night
- Change your current ingrained poor sleeping patterns

The goal of treatment is to help develop a stable and more satisfactory sleeping pattern.

The treatment you will receive is called Cognitive

consistent with that of someone with pre-diabetes. When they slept more typical (8) hours per night, their pre-diabetic abnormalities resolved. This finding gives credibility to the fact that insufficient sleep may lead to diabetes, if maintained for a long enough period of time.

Researchers do not currently understand why low sleep times appear to lead to diabetes, but there is some suspicion that the effect may involve the pituitary hormone system, which is regulated by sleep. These findings lend credence to the recommendations to get seven to eight hours of sleep per night and that adequate nocturnal sleep may be a helpful non-pharmacologic adjunct in treatment of diabetes.

Interestingly, it appears not only that patients with short sleep time (less than seven hours/night) are susceptible to increased risk, but that patients sleeping nine or more hours per night also had similar increases in risk for diabetes. This finding was seen in both the Sleep Heart Health Study and the Nurses Health Study.

Research on young patients with enforced increased time in bed did not demonstrate impairment in sugar metabolism. Theories as to the causes of the increased diabetic risk are more speculative, but include reduction in physical activity.

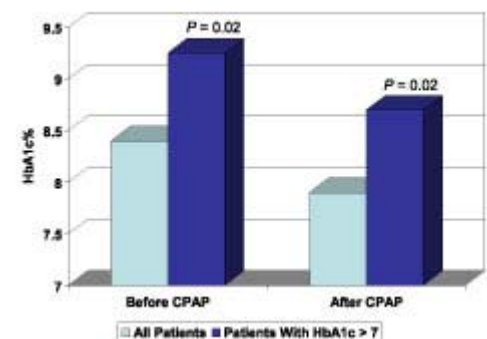
Diabetes and Obstructive Sleep Apnea

The readers of this article are probably already well versed about obstructive sleep apnea (OSA). For review, OSA is a disease in which the patient's airway closes repetitively during sleep, frequently related to either upper airway anatomy or weight. OSA causes disruption to sleep and often daytime sleepiness. The "gold standard" of treatment for this disorder is CPAP (continuous positive airway pressure), a machine which allows patients to breathe uninterrupted throughout the night.

An active area of research has been the relationship between obstructive sleep apnea and diabetes. Men ages 30-69 who were habitual snorers, a group at high risk for OSA, were demonstrated to have an increased incidence of diabetes. Further evaluation of patients with hypertension provided evidence that those subjects with OSA had higher fasting blood glucose, fasting serum insulin and hemoglobin A1C levels when compared to patients without OSA.

More recent studies have examined the relationship between sleep-disordered breathing and insulin resistance. Research on 150 mildly obese men without overt diabetes demonstrated that higher levels of OSA correlated with worse results on diabetes testing. Remarkably, there was a two-fold increase in insulin resistance with a very low level of OSA. Further research on 185 subjects found to have OSA on polysomnography, but without a history of diabetes, demonstrated that the number of breathing events per hour at night and the lowest oxygen saturation during the night were independent determinants of pre-diabetes. One study (June 2006) of 394 patients showed that those who spent 2% or more of the diagnostic sleep study below an oxygen saturation of 90% were at least twice as likely to have impaired glucose tolerance.

Now that sleep apnea and diabetes have been shown to be related, the next step is to explore whether treatment of OSA improves diabetic control. An early study of 10 sleep apneics found improvement in insulin resistance with 4 months of CPAP treatment. Another study evaluated 25 patients with type 2 diabetes and moderate-severe OSA, before and after CPAP use. The study demonstrated significant improvement in glucose levels and hemoglobin A1C with CPAP use, particularly in overweight patients. This study also examined CPAP compliance, which was not measured in prior studies, finding a significant improvement in glucose control in patients who used CPAP for more than four hours per night, compared to those who used it less than four hours per night. (See figure below). The authors suggest that CPAP may have a significant benefit on glucose metabolism in type II diabetic patients who also have OSA. Though not all studies have shown that CPAP improves diabetes, enough evidence exists to suggest that patients with OSA and diabetes should use their CPAP nightly, attempting to help both diseases.



Behavioral Therapy for Insomnia (CBT-I), which is a skill-based multi-component treatment program. Many research studies demonstrate that CBT-I is effective and produces long-lasting results.

The total cost of the workshop is \$175. For more information, call 508-270-6020.

What's New in CPAP

NEW! Mirage SoftGel nasal mask from [ResMed](#)

Introducing ResMed's NEW Mirage SoftGel nasal mask! The Mirage SoftGel delivers the softest gel seal for long term comfort



and compliance. [READ MORE](#)



Mirage ActivaLT Mask from [ResMed](#)

Designed to accommodate every patient and ensure a comfortable, hassle-free night. [READ MORE](#)

Everest® Integrated CPAP System from [AEIOMed](#)

Enjoy freedom and flexibility with the integrated Everest system in place of conventional, component separated CPAP systems. [READ MORE](#)



Summary

Current research indicates a relationship between sleep and diabetes, particularly type 2 diabetes. Appropriate amounts of sleep on a nightly basis and good sleep habits may help glucose regulation. As well, recent evidence suggests that effective control of obstructive sleep apnea may improve glucose metabolism in some patients with diabetes type II. So, if you are looking for more reasons to continue using your CPAP machine, you've now got another one.

CPAP Counselor's Corner



Don Ordway

Manager of Ancillary Services and CPAP Therapist
Sleep HealthCenters

Can nightly use of PAP resolve diabetes?

Over the past 5 years there has been a tremendous amount of research devoted to the co-morbidities associated with obstructive sleep apnea (OSA). We now know that hypertension can be a result of untreated OSA. When a patient is placed on PAP therapy and is compliant with nightly use, a decrease in both systolic and diastolic pressures is often seen. In my clinical practice I have had many patients coming back to report that their blood pressure had normalized and subsequently they no longer required medicine.

With November being *American Diabetes Month* we ask the question, can nightly use of PAP resolve diabetes as well?

Unfortunately that answer is no. However, we do know that it can be beneficial in at least improving insulin resistance.

Usually in this corner of our newsletter we present a particular patient experience related to our main topic. This time I'm going to do something a little different and present a personal story about a person suffering from both OSA and Diabetes. Me.

At the age of 50, I started losing a significant amount of weight over a relatively short time. I was trying to diet, but my eating habits were horrible and really didn't connect to the amount I was losing. I was tired and irritable all the time. Sleeping was fitful as I was up constantly going to the bathroom and drinking water to quench a thirst that would not go away. Finally a visit with my physician revealed a diagnosis of Type II Diabetes. My A1C was so high that my only option was to start on insulin to bring my glucose levels down to the normal levels.

By doing that I started sleeping better and was less tired during the day. But that was not the end of the story. A few years later, my weight increased and I developed OSA. My fasting blood sugars were elevated in the morning even though I was compliant with taking my insulin and watching what I ate. A sleep study confirmed my suspicions that I needed to start wearing a PAP device. It was not a big obstacle for me, as my thoughts were, "If I can tell my patients that they need to use their PAP every night, I should be able to follow my own advice."

My delight in using the PAP was not only that I had more energy at the end of the day, but that I was waking up with lower fasting blood sugars. It actually improved so much that I had to lower the amount of insulin I was taking at bedtime as I started waking up with hypoglycemia which was not a pleasant feeling!

Is this a typical response on insulin resistance from using PAP? I'm not sure. But I do know that I will continue to wear my PAP every night because I don't want to suffer from the results of elevated glucose levels. I also want to sleep better and have more energy during the day so I can continue to exercise and eat correctly.

How about you??

Sleep Education



Does sleep affect asthma? Allergies? COPD? Learn about the importance of sleep and the effect sleep disorders can have throughout your life.

[Log on today!](#)

Locations

Massachusetts

[Bedford](#)
[Beverly](#)
[Boston](#)
[Brighton - BIDMC](#)
[Brighton - BWH](#)
[Framingham](#)
[Jamaica Plain](#)
[Marlborough](#)
[Medford](#)
[North Dartmouth](#)
[Stoughton](#)
[Weymouth](#)
[Worcester](#)

New York
[Manhattan](#)

Rhode Island
[Cumberland](#)

CEO Spotlight



Paul S. Valentine
President and CEO

This past September, Sleep HealthCenters hosted its 3rd Annual *Future of Clinical Sleep Medicine*. Larry Epstein, Chief Medical Officer for Sleep HealthCenters, led a group of distinguished sleep clinicians and scientists from medical campuses including Harvard, Tufts, Johns Hopkins and Case Western to discuss how recent developments in sleep medicine impact and affect healthcare today. Sleep HealthCenters continues to support clinical leadership within the sleep medicine community.

Sleep HealthCenters will be getting a new look-starting with a new logo. You will begin to see that and many additional changes incorporating our new look in the coming months.

In other big Sleep HealthCenters news, we are pleased to announce we have joined forces with REM Medical of Arizona. We are bringing together two sleep companies dedicated to elevating the quality of care and pursuing a path of innovation in sleep medicine. Both companies have nationally-recognized sleep physician leadership offering the highest standards.

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.

We hope you have a terrific holiday season!

Sleep HealthCenters is a network of specialized sleep medicine centers, staffed by board-certified sleep specialists. Sleep HealthCenters' comprehensive care services include diagnosis, evaluation and treatment of patients with all types of sleep disorders including obstructive sleep apnea, insomnia, narcolepsy, and restless legs syndrome. Please visit our website at www.sleephealth.com to learn more about Sleep HealthCenters or contact us at 877-SLEEPHC (877-753-3742) to schedule an appointment.