

WAKE-UP CALL

FROM THE AMERICAN SLEEP APNEA ASSOCIATION

S U M M E R / F A L L 2 0 0 8

ASAA A.W.A.K.E. NETWORK NEWS

We were fortunate to have the assistance of a summer intern again this year, thanks to funds given by **Central New Jersey A.W.A.K.E.** and **Somerset County Snoozers**, one of our longstanding groups. Nichole Trumper, the intern, who is now a senior at the University of Wisconsin—Madison, conducted an exhaustive review of the groups in the **A.W.A.K.E. Network**. As a result of her extremely thorough investigation, we were able to conclude that the actual number of active groups is 250. While there was some disappointment in learning that there are many fewer active groups than we had previously believed, we will be able to weave stronger intergroup ties now that we know which groups are actually meeting. New A.W.A.K.E. groups are forming all the time. We should soon return to the 320 groups we were previously estimating, and this number will be real. There will be a there there! ... The **A.W.A.K.E. Network** got a nice boost at the June Sleep meeting in Baltimore. For a second year in a row, ASAA Executive Director Edward Grandi chaired a discussion group for the sleep techs attending the meeting on the use of support groups to improve patient compliance with OSA therapy. Colleen Bazzani, RPSGT, coordinator of the **Methodist Hospital A.W.A.K.E.** in St. Louis Park, MN, was one of the presenters. Dave Hargett, former ASAA Board Chair and coordinator of **Elk Grove Village A.W.A.K.E.** and **Naperville A.W.A.K.E.** in the Chicago suburbs, spoke to a large group of techs interested in starting a support group in their area or wanting tips on strengthening existing groups.

A.W.A.K.E. - ALERT, WELL,
AND KEEPING ENERGETIC

UNTREATED SEVERE APNEA KILLS

New Study Definitely Establishes Its Lethality

Severe sleep-disturbed breathing (frequent apnea and hypopnea events during sleep) is a significant killer, and if it's untreated it's a worse killer.

That's the headline message in a new report from the investigators studying the Wisconsin Sleep Cohort, a longitudinal collection and study of sleep-related data in a general population that's now been under way for more than 20 years.

People suffering from severe SDB experienced a mortality rate three times that of people free of SDB, the report finds. When severe SDB sufferers who had had CPAP treatment were dropped from the sample, the death-rate ratio with the non-SDB population rose to 3.8.

Even people with mild or moderate sleep-disturbed breathing showed up in the study with a mortality rate double that of those who were SDB-free

Most of the additional deaths compared to those in the non-SDB population were from cardiovascular causes, the data showed. The clear implication of the findings is that troubled sleep is wearing down and wearing out human hearts and circulatory systems before their time.

These and other findings were detailed in an article titled "Sleep-disordered Breathing and Mortality: Eighteen-year Follow-up of the Wisconsin Sleep Cohort" that appeared in the August issue of *Sleep*, the journal of the Associated Professional Sleep Societies.

Terry Young, Ph.D., an epidemiologist on the faculty of the University of Wisconsin—Madison, the principal investigator of the Wisconsin Sleep Cohort, is the principal author of the article.

To Young and her seven co-authors the call to action from the new findings is clear: there is an immediate need for wider clinical recognition and treatment of sleep apnea and related disorders to reduce unnecessary deaths. With an aging population and the contemporary epidemic of obesity, the prevalence of sleep-disturbed breathing is bound to increase, they write.

That sleep apnea and related disorders give rise to a variety of unpleasant outcomes—high blood pressure, cardiovascular disease, depression, car crashes, reduced thinking ability, and diminished quality of life—has been suggested by a number of studies, but Young and her co-authors have published what appears to be the first definitive

Sleep Cohort, continued on p. 5



Epidemiologist Terry Young

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AMERICAN
S L E E P
A P N E A
A S S O C I A T I O N

A LETTER FROM EXECUTIVE DIRECTOR ED GRANDI



Change is good, but change certainly can be challenging. This is a lesson I have learned only too well since the last newsletter.

The association moved its office Aug. 1, departing from downtown Washington, DC, its home for the past ten years, and taking up residence in the Takoma neighborhood of the city on the border with Maryland. Takoma Park, MD, is right across the street.

Now, two months after the move, we are settled in (more or less) in a space that works well for us and will allow for some expansion during the next five years.

We are planning an Open House as a part of Sleep Apnea Awareness Day 2009.

I give grateful thanks to the many who sent contributions to cover some of the expenses of the move—your money was put to good use. Post-move we continue to welcome additional donations to help with the remaining charges.

Coincident with the move, the ASAA had two staff changes that warrant recognition. Deborah Papier, who revived *Wake-up Call* and served as newsletter editor from its rebirth, has retired. We are

grateful beyond words for her assistance in getting the newsletter back into circulation and the imagination and verve with which she produced its content.

Sharifa Freeman, who had been office manager since 2001 and was the person behind the voice you mostly likely heard when you called the office, has left to pursue other employment. She provided the much needed continuity when the association changed executive directors four and a half years ago.

Amidst our changes, how sleep apnea is diagnosed continues to be unsettled. The decision by the Centers for Medicaid and Medicare Services (CMS) concerning the use of home testing to diagnose OSA, which was reported in the last issue of *Wake-up Call*, is undergoing further modification. The latest change, established

through regulation, will prevent home-care companies that vend CPAP equipment from also providing the home tests.

In this period of increasing awareness of sleep apnea and the negative effects it has on the quality and quantity of life of those afflicted (and their bed partners), CMS, a federal agency that sets the policy and practice for most private insurers, appears to have re-erected barriers their earlier actions were intended to remove.

The new regulation could create diagnosis and delivery problems in rural areas, where there are few organizations providing services to apnea patients. This in turn could set back our efforts to have sleep apnea recognized as a chronic disease that requires a continuity of care from diagnosis through treatment to compliance. ■

HELP WANTED

Needed: volunteers! ASAA will be participating in several medical conferences in 2009. On the schedule now are the American Thoracic Society, San Diego, CA, May 15-20; Associated Professional Sleep Societies (the Sleep meeting), Seattle, WA, June 6-11; and the American College of Chest Physicians, Oct. 31-Nov. 5, San Diego, CA. If you're able to lend a hand to ASAA at any of these gathering, do drop us an e-mail or give us a call.

NEWS FROM WASHINGTON

Moving to curtail the overprescription of CPAP, the **Centers for Medicaid and Medicare Services (CMS)** issued a regulation in June that restricts companies which provide the CPAP devices (home-care companies) from also providing the tests that diagnose the condition.

Earlier this year CMS had expanded the number of types of devices that could be used to diagnose sleep apnea to include devices for home sleep tests. Use of home sleep tests is rapidly increasing because they are cheaper and much easier to administer than polysomnography, the so-called Cadillac of sleep-disturbed breathing tests, which necessitates the patient's spending the night at a sleep clinic.

The agency's decision is clearly intended to head off the fraud that could arise when the organization that interprets the results of the test that might or might

not call for use of a CPAP is the same one that vends or leases the CPAP equipment.

The regulation was subject to public comment, but the comment period is now closed. ASAA will continue to monitor this issue and provide further updates in future newsletters as new developments arise.

The Office of the Inspector General (OIG), the investigative wing of the U.S. Department of Health and Human Services (HHS), released its fiscal year 2009 (FY09) work plan Oct. 1. The work plan details new and ongoing investigations for the period of Oct. 1, 2008, through Sept. 30, 2009. Two of the investigations that will be conducted focus specifically on Medicare billing for sleep-related services: Appropriateness of Medicare Payments for Polysomnography and Medicare Payments for CPAP Devices.

These investigations are serious matters that are designed to detect fraud and recover funds for the Medicare program.

The **Federal Motor Carrier Safety**

Administration (FMCSA) is the federal agency charged with regulating the trucking industry in the United States. Included in its purview are the industry's drivers. Earlier this year, a medical review board established by the FMCSA made the recommendation that truck drivers with the Commercial Drivers License who have a Body Mass Index (BMI) greater than 30 be required to undergo a sleep study to determine whether or not they have sleep apnea, prior to issuing the medical certificate that's needed to renew the license.

The FMCSA has not as yet formally adopted the recommendation of the medical review board.

A decision to use BMI greater than 30 as the trigger for determining who needs a sleep study will have a significant impact on commercial truck drivers.

The ASAA Board of Directors is reviewing this matter for comment at a future meeting of the medical review board. ■

OSA FIGHTERS GAIN A KEY ALLY

Diabetes Experts Cite Link, Warn of Apnea's Hazards

The sleep apnea community gained an important new ally in June when the International Diabetes Federation issued a statement calling for wider recognition of the “severe health consequences of untreated obstructive sleep apnea.”

In its statement, the federation’s Task Force on Epidemiology and Prevention noted that there is growing evidence of links between type 2 diabetes and OSA that go beyond their common association with obesity. “Health policy makers and general public must be made aware of the link between type 2 diabetes and sleep apnea so that we can begin to address the significant economic burden and debilitating health consequences in both individuals and the community,” said the task force’s cochair, Paul Zimmet, foundation director of the International Diabetes Institute in Melbourne, Australia. “It is imperative that we better understand the relationship between diabetes and sleep apnea through research and establish appropriate standards of care for managing diabetes and co-morbidities such as sleep apnea.”

Type 2 diabetes, formerly known as “adult-onset diabetes,” is the commonest form of the disease. Once a disease seen mainly among middle-aged and old people, it is now encountered with some frequency in young adults and adolescents.

Some studies suggest that as many as 40 percent of those who suffer from obstructive sleep apnea also have type 2 diabetes, the federation said.

The federation is an umbrella organization comprising more than 200 member organizations in more than 160 countries. Its statement on diabetes and sleep apnea was issued at the American Diabetes Association’s Annual Scientific Sessions in San Francisco and simultaneously published as an article in the journal *Diabetes Research and Clinical Practice*.

The five authors of the article—Jonathan E. Shaw, also of the Melbourne institute, Naresh M. Punjabi, of Johns Hopkins University in Baltimore, MD, John P. Wilding, of University Hospital Aintree in Liverpool, England, K. George M. M. Alberti, of St. Mary’s Hospital, London, and Zimmet—cited studies they said suggested six ways OSA might stimulate

insulin resistance, which leads the glucose intolerance of type 2 diabetes.

1. Lack of oxygen and frequent arousal from sleep seem to increase activity in the sympathetic nervous system, the central regulator of glucose metabolism.

2. Intermittent lack of oxygen and frequent arousal may also directly reduce insulin sensitivity.

3. The same sleep disturbances may stimulate excess production of cortisol, the “stress hormone,” with negative consequences on insulin sensitivity and insulin secretion.

4. The systemic inflammation observed in some OSA patients may stimulate insulin resistance.

5. Elevated levels of leptin and depressed levels of adiponectin (two hormones involved in weight regulation),

As many as
40 percent of those
who suffer from
OSA also have
type 2 diabetes.

usually seen in OSA patients, may also affect insulin sensitivity.

6. A deficiency in “slow-wave sleep,” from which OSA patients may suffer, has been shown to lead to markedly reduced insulin sensitivity.

This last point was drawn from a finding in a study reported earlier this year in the *Proceedings of the National Academy of Sciences*. In the study, the symptoms of type 2 diabetes were induced in a group of healthy young adults by suppression of slow-wave sleep, the sleep phase thought to be most “restorative,” without awakening them or reducing their oxygen intake.

There are also hints of cause and effect in the other direction, ways diabetes might cause OSA. The authors noted that autonomic neuropathy, a common result

of diabetes, has been shown to lead to breathing disorders, although not OSA specifically. (Autonomic neuropathy is a deterioration of the portion of the central nervous system that controls involuntary and automatic movements, including breathing.)

Not only is there a high prevalence of type 2 diabetes among people suffering from obstructive sleep apnea, the authors said, there is also a high prevalence of OSA among type 2 diabetics. They cited studies suggesting that up to 23 percent of those diabetics suffer from OSA and as many as 58 percent may suffer from some form of sleep-disturbed breathing.

Consequently they recommended that all health-care professionals be aware of the link, and that when they treat a patient for one disease they routinely check for presence of the other.

Tests for type 2 diabetes and other metabolic disorders are relatively cheap and simple to conduct, the task force said, and should be performed routinely on OSA patients. Similarly, it continued, screening for OSA should be conducted on type 2 diabetics, “particularly when they present classical symptoms such as witnessed apneas, heavy snoring or daytime sleepiness and poor workplace performance.”

In its recommendations for further research, the IDF called for development of a “reliable but inexpensive diagnostic strategy for OSA to be used in a primary care setting” and treatments for OSA that are easier to use and cheaper than CPAP.

In the United States, the increase in diabetes has reached an epidemic level, according to one official of the Centers for Disease Control. Ann Albright, Ph.D., R.D., director of the CDC Division of Diabetes Translation, estimated that 25 percent of the American population has either diabetes or prediabetes.

The hazards of diabetes are well known to the general public. The public announcement of links between diabetes and OSA by diabetes experts seems almost certain to contribute in the days ahead to an increase in the public’s awareness of the hazards of obstructive sleep apnea.

A portion of the work that led to the IDF report was sponsored by the ResMed Foundation of LaJolla, CA, and ResMed, Ltd., of Sydney, Australia. ■

The Associated Professional Sleep Societies Annual Meeting, better known as the Sleep meeting, was close to home this year, convening in June in nearby Baltimore, MD. We were fortunate to have ASAA Board members and a local member of the ASAA assisting in our exhibit booth. That made it possible for us to participate in some of the educational sessions.

We featured our new educational DVD at the ASAA booth. It was well received by those who stopped by watch it playing on a laptop. Many attendees took advantage of special pricing and purchased English- and Spanish-language versions.

Dr. Jonathan Benumof and the American Society of Anesthesiology (ASA) have been designated recipients of the 2008 Sleep Apnea Awareness Award.

Benumof, Professor of Medicine in the Department of Anesthesiology at the University of California, San Diego, has written extensively on anesthesia and sleep apnea. His work led to the development of guidelines for the management of OSA patients during and after surgery.

The Benumof-inspired guidelines are the basis of protocols widely used by hospitals and outpatient surgical centers to diminish or prevent injuries and deaths following surgery.

ASAA Executive Director Ed Grandi presented the award in October to Benumof and officers of the American Society of Anesthesiology at the society's annual meeting in Orlando, FL.

The ASAA created the Sleep Apnea Awareness Award in 2007 to honor individuals and organizations outside the sleep field for their contributions in raising awareness about sleep apnea and doing something to benefit those with the condition.

The first recipients of the award were Wendy Sullivan, R.N., and Schneider Trucking of Green Bay, WI. Sullivan, an occupational health manager for the trucking firm, and Schneider Trucking developed a program for sleep apnea testing and treatment for all the company's drivers. Creation and implementation of the program led to a saving of \$5,000 per year per driver, according to findings the company documented in a white paper it published in 2007. ■

ACCESS TO TEST ISN'T ACCESS TO CARE A Reflection by the ASAA President

Test—"an examination or trial" [Dorland's Medical Dictionary]

Care—"serious attention, especially to the details of a situation"; "the process of providing for the needs of someone or something" [Cambridge Dictionary of American English]; "the services rendered by members of the health professions for the benefit of a patient" [Dorland's Medical Dictionary]

Reflect on these definitions from dictionaries for a moment, and then read on ...

Exciting things are happening in the sleep community. There is evidence of growth, and the growth is accompanied by the usual growing pains. Nonetheless, the growth provides hope for those of us involved in care of the sleep patient. As president of the American Sleep Apnea Association, I am particularly and personally pleased that the message of the potential hazards of sleep apnea is capturing public attention. People with sleep apnea and the sleep medical community are very aware of the impact of untreated sleep apnea on quality of life and health. The challenge has been, and remains, how to get others to recognize and respond to this need, and how to help more people get the care they need. We are now looking at a new road. In many ways, though, this road is still under construction. It is the path to home testing. Home testing has been examined in previous newsletters and been the source of much buzz on the sleep apnea forum.

My message today is not about the details of home testing. My concern is that access to a test is not access to care. In most, if not all, aspects of medical interaction we talk about health care. Care should imply that someone is evaluating the situation and making guided recommendations about necessary testing and treatment. This should include the concerns of the patient, the patient's life situation, and the availability of testing and possible treatment. If testing is needed, it should be followed by a proper interpretation of the test information, discussion of the results, and recommendations for treatment. That follow-up should also include a discussion of therapeutic choices. This is the only way that a person (the patient) can be effectively involved in his or her own care. Research has shown



that good compliance with treatment hinges on a good understanding of the condition, the patient's role in the treatment, and a healthy rapport with the treating provider.

How does this apply to sleep apnea and portable monitoring? As a sleep specialist, I am excited about the broader availability of testing. The decision about testing and whether you are a candidate for portable monitoring should be made with a trained provider. It is not just a decision of convenience. You want a test that will give the most accurate information for your situation. As in any health care interaction, you must be your own advocate. Talk to your provider about your symptoms. If it is agreed that you have a strong chance of having sleep apnea, portable monitoring may be right for you. If you have other health conditions, like heart or lung disease, or symptoms of another sleep disorder, in-lab testing may be more appropriate. Make sure you know how you will get the results of the test and who will be involved in your follow-up care. This becomes an even larger issue with portable monitoring. Testing may be more available, but it must still be linked to the necessary decision making about treatment. Remember too, that people can have more than one sleep problem. It's not all apnea. If you have had testing and are compliant with treatment but not feeling better, you should be sure your provider knows that.

Rochelle Goldberg, M.D.

evidence that SDB kills and the rate at which it kills. They have been able to conduct this kind of investigation because of the unusual sample with which they work, a slice of general population—most of them employees of Wisconsin government agencies—who volunteered two decades ago to come in every four years or so for the rest of their lives to spend a night of sleep monitoring, “polysomnography” as it is polysyllabically called, and to answer questions about their bedtime experiences. At the beginning of the project, there were 1,522 people in the sample. Virtually all other data about sleep disorders have been gathered from people already diagnosed and under treatment.

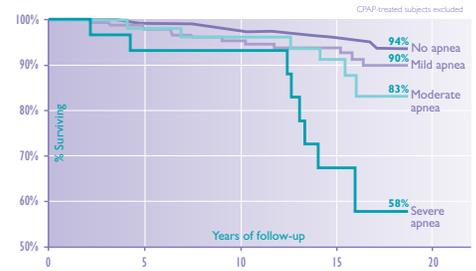
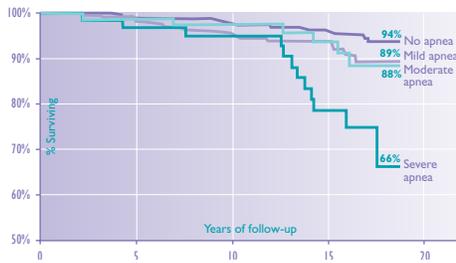
Young’s co-authors of the current article are Laurel Finn., M.D., Paul Peppard, Ph.D., Mariana Szklo-Coxe, Ph.D., Diane Austin, M.S., F. Javier Nieto, Ph.D., Robin Stubbs, B.S., and K. Mae Hla, M.D.

In a first major article on work on the Wisconsin Sleep Cohort, published in 1993 in the *New England Journal of Medicine*,

More than a minor disease of a handful of sleepy, snoring fat men.

Young and others reported that 24 percent of men between 30 and 60 had apnea-hypopnea scores of 5 or more and that a startling 9 percent of similarly aged women did as well. They further reported that 4 percent of the middle-aged male work force and 2 percent of the middle-aged female work force had symptoms that met the minimal diagnostic criteria for sleep apnea syndrome, that is, apnea-hypopnea scores of 5 or higher and excessive daytime sleepiness. The prevalence of SDB among women that the article showed, a male-to-female ratio of about 3 to 1, was startling news to clinicians, since the ratio commonly encountered in sleep clinics at the time was around 10 to 1.

Charting the Lethality of Sleep-disordered Breathing



These two figures, prepared by biostatistician Diane Austin, illustrate graphically Kaplan-Meier estimates of the probability of the continued survival of participants in the Wisconsin Sleep Cohort over time, separated by the level of severity of their apnea-hypopnea. After 18 years, 34 percent of those with severe SDB would be dead. When those who had had CPAP treatment were excluded, the picture was worse—42 percent would be dead. *Source: Data from the Wisconsin Sleep Cohort Study*

Suddenly sleep apnea syndrome was more than a minor disease of a handful of sleepy, snoring fat men. Indeed, that report has become one of the ten most cited articles published in the last 15 years in the *New England Journal of Medicine*.

In an interview with *Wake-up Call*, Young recalled how it all began, in 1987, when she was a young epidemiologist interested in statistical analysis of cancer and in gathering data useful in thinking about preventive medicine. She was drawn into a conversation with Jerome Dempsey, a respiratory physiologist, who told her that almost nothing was known about sleep disorders. How common was sleep-disordered breathing or what were its consequences other than daytime sleepiness? No one really knew.

One conversation led to another and within a few months Young, Dempsey, and James Skatrud, a pulmonologist, submitted a proposal to the National Institutes of Health to establish a long-term voluntary cohort of Wisconsin state employees (it was assumed that because of their jobs they would be a particularly stable population) whose sleep patterns and health would be followed over a number of years. The proposal requested creation of a National Institutes of Health Heart Lung and Blood SCOR (“specialized center of research”) comprising analysts drawn from a variety of disciplines to pursue the project. The NIH approved the proposal and funded the epidemiology research effort at the rate of \$200,000 a year. Through grants from the Heart Lung and Blood Institute and the Institute on Aging, the NIH has been the sole support of the Wisconsin Sleep Cohort ever since.

In gathering the data for the newly published article, the investigators established the 80 deaths in the cohort that

occurred up to March 1, 2008, by comparing the Social Security numbers of their volunteers with two death record sources: the U.S. Social Security Death Index and the Wisconsin State Bureau of Health Information and Policy. All the Wisconsin deaths were found in the federal index as well as four additional deaths that occurred out of state. Wisconsin records also provided almost all the cause-of-death information used in the analysis. (Cause of death was lacking for two Wisconsin deaths and three of the four out-of-state deaths.)

The new article concludes by questioning the emphasis placed by some practitioners on focusing sleep-apnea treatment on patients who report excessive daytime sleepiness. “Our analyses indicated that SDB, irrespective of excessive sleepiness symptoms, was associated with increased mortality,” they wrote. “This finding, and the striking high cardiovascular mortality risk in untreated severe SDB, suggests that SDB treatment should not be contingent on daytime sleepiness symptoms.”

And it underlines its finding that there is an association between CPAP treatment and a reduction of premature mortality. “CPAP use may be a marker of increased healthy behaviors that protect against death,” the authors caution, however. “Consequently, our data cannot establish how CPAP contributes to lower death rates.”

Young suggested that as the prevalence of SDB increases, as it surely will with an increase of old people in the population and an epidemic of obesity, practitioners are going to encounter an impatient clientele.

“These are the baby boomers,” she said. “They are not going to be happy to be told that it’s normal to be sleepy. They are going to want more treatment, something to be done about it.” ■

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