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Keeping the Immune System Strong

Patients turn to
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a healthy lifestyle

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AANP Wrap-up

Studying *Sleep*

A customized and comprehensive approach is needed when addressing patients' sleep disorders.

By Janet Poveromo

According to the National Sleep Foundation's 2013 "International Bedroom Poll," only 44 percent of people in the U.S. say they get a good night's sleep "every night or almost every night" on a work night. Worse, one-fourth of Americans say they never sleep well on work nights.

So it's not surprising that about 60 million prescriptions for sleep aids were dispensed in 2011, up about 20 percent from 2006 (according to IMS Health, a health care information and technology company).

A Broad Scope of Solutions

Luke Huber, ND, MBA and vice president of product innovation and scientific development with Florida-based Life Extension, said improving "sleep hygiene" can be effective for maintaining or establishing a sleep routine. These measures include:

- Minimizing the amount of light, noise, and temperature changes in the bedroom.
- Avoiding eating large meals before bedtime. Indigestion can make falling asleep difficult.
- Limiting the amount of stimulants (eg, caffeine, nicotine, and alcohol) consumed during the day, especially close to bedtime.
- Avoiding bedtime activities not related to

sleep (e.g., watching TV, reading, or listening to the radio).

• If worrying about the time it takes to fall asleep, cover the alarm clock to avoid anxiety.

Guillaume Lauseure, CEO of Florida-based Nutripuncture, noted that working with a nutritionist who can help you change a patient's eating habits to improve sleeping patterns, to the bevy of natural sleep aids available at local pharmacies and health food stores, are several different natural approaches to improving sleep quality. "Acupuncture is also a great natural remedy for sleeplessness. A trained acupuncturist can help define and treat the underlying causes of poor sleep, like relieving the stress of the workday as an example," he said.

The company's Nutripuncture combines nutrition and traditional Chinese medicine concepts, functioning similarly to acupuncture but using trace mineral tablets instead of needles. The mineral tablets go to work on different aspects of the body, depending on individualized needs. Taking the recommended supplements in the proper sequence will help address underlying causes of poor sleep, provide a general balance to the body, and allow it to be more in harmony with its environment, all leading to more restful nights.

"With Nutri Yin Nutri Yang, a popular


Nutripuncture supplement, we saw over 97 percent of sleep improvement in 200 clinical observations," Lauseure added.

At Texas-based Natural Vitality, President Ken Whitman said the company recommends its best-selling magnesium supplement in the natural channel, Natural Calm, for sleep. (Per SPINS, Natural Calm has been the top-selling magnesium supplement in all forms for more than nine years and is the No. 2 best-selling SKU in all of supplements).

"Magnesium is needed for more than 700 enzymatic reactions in the body," Whitman noted. "It plays a key role in nerve transmission, muscle relaxation and energy storage and production, all which are needed for a good night's rest."

Whitman pointed out that noted natural health expert Dr. Carolyn Dean has said magnesium is necessary in any muscle problem because magnesium regulates the way muscles function and recommends people with sleep apnea be treated with magnesium before having to resort to bulky breathing machines or surgery. The recommended dosage of magnesium citrate powder is 300 mg twice daily, she said.

In addition, clinical research found a close association between sleep architecture, especially slow wave sleep, and activity in the



Studying Sleep

glutamatergic and gamma-aminobutyric acid (GABA) system. “Because magnesium is a natural N-methyl-D-aspartate (NMDA) antagonist and GABA agonist, magnesium apparently plays a key role in the regulation of sleep. Such a role is supported by supplementation, correlation and animal studies showing that magnesium intake or status affects sleep organization,” Whitman said.

Jacob Teitelbaum, MD, a board certified internist, Natural Practitioner Editorial Advisory Board member and nationally known expert in the fields of chronic fatigue syndrome, fibromyalgia, sleep and pain, said the natural remedies he finds most helpful for sleep are:

1. Revitalizing Sleep Formula (Integrative Therapeutics). This mix of six herbs leaved most people sleeping like kittens. It contains valerian, passionflower, wild lettuce, Jamaican dogwood, hops and theanine. It can be used regularly or intermittently.

2. Cortisol Manager (a mix of phosphatidylserine and ashwagandha) (Integrative Therapeutics). This is specifically for people whose minds are wide awake at bedtime, suggesting that cortisol is not dropping adequately to allow the person to fall asleep.

3. Lavender. The smell helps sleep. It is also available in capsules by mouth (Calm Aid—Enzymatic Therapy).

4. Melatonin 1/2 mg plus magnesium 200 mg at bedtime. In addition, during cold weather, a hot bath with two cups of Epsom salts an hour before bedtime can be very helpful.

Health Implications and Awareness

“There are two types of insomnia, acute and chronic,” noted Lauseure. “Acute insomnia generally affects people for a short amount of time and occurs when a person has a temporary underlying cause of sleeplessness. Chronic insomnia affects people more permanently, particularly those who have depression/anxiety, chronic stress, or pain/discomfort at night.”

In spite of the overwhelming prevalence and potentially serious results of insufficient sleep, Americans tend to underestimate the risks, added Dr. Theirl. “It seems the prevailing attitude is have a coffee or a couple sodas and you’ll be fine.”

But, it’s not fine in the long run, he added. “Increasingly, sleep insufficiency has been linked to car crashes, industrial disasters and surgical errors.” The National Department of

Transportation estimates that each year in America, drowsy driving is responsible for 1,550 fatalities and 40,000 nonfatal injuries.

“Last year, the FDA (U.S. Food and Drug Administration) recommended that manufacturers of pharmaceutical sleep aids cut their doses in half, in response to morning-after drowsiness causing many automobile accidents,” added Dr. Theirl. “Patients are realizing that this morning drowsiness secondary to sleep aids is unsustainable long term. I continually find that many patients want to stop their prescription sleep medications and find a natural path to sleep improvement. Neurotransmitter and hormone testing has been key to helping this population.”

In addition to accidents, there are serious long-term health risks, too. People who do not sleep well are more likely to suffer from cardiovascular disease, depression and mood disorders, chronic pain and inflammation, diabetes, poor memory and concentration, as well as metabolic syndrome/obesity. Direct and indirect costs of all this sleeplessness is estimated at more than \$30 billion annually.¹

In general, Lauseure pointed out, people are sleeping 20 percent less than they did 100 years ago. “More than 30 percent of the population suffers from some form of insomnia and more than half of Americans lose sleep due to stress and anxiety,” he said. “Women are twice as likely to suffer from insomnia as men and approximately 35 percent of insomniacs have a family history of sleeplessness.

He also described the link with mood disorders. “Depression can also cause insomnia, affecting about 90 percent of all those diagnosed,” he said. “Trouble sleeping also goes hand in hand with overweight individuals. And insomnia can lead to weight gain, while weight gain can lead to sleep apnea, a disorder that further disrupts sleep patterns.”

Lauseure said sleep loss (getting less than seven hours per night) may have wide ranging effects on the cardiovascular, endocrine, immune, and nervous systems. “Insomnia has also been linked to obesity, diabetes, cardiovascular disease and hypertension, anxiety, depression and increased alcohol use,” he explained.

“In the past 10 years, research has begun to overturn the belief that insomnia has no health effects other than daytime sleepiness. With this research, more Americans become aware of the consequences of insomnia, but the overarching implications of sleep loss are still not widely understood by the average American,” Lauseure noted.

Sleep Study on Gender, Age and Pharmaceuticals

Scott Theirl, DC, DACNB, FACFN, who serves as a physician educator for Wisconsin-based NeuroScience, Inc., said people in particular age, gender and lifestyle groups are

Ingredients for Sleep

Luke Huber, ND, MBA and vice president of product innovation and scientific development with Life Extension, described three of the top natural ingredients that address sleep: melatonin, L-tryptophan and magnesium.

- Melatonin, a hormone made in the pineal gland, is highly correlated with the body’s sleep-wake cycle. In humans, elevated melatonin levels coincide with the body’s normal time for sleeping. Low melatonin levels have been linked to insomnia, particularly in the elderly. In a clinical review, serum melatonin levels were reported to be significantly lower (and the time of peak melatonin values delayed) in elderly subjects with insomnia compared to age-matched controls.

Several studies have found that melatonin supplementation supports healthy sleep. One study found melatonin helped reduce the amount of time needed to fall asleep. Other studies have found it improves sleep quality and alertness after sleep, as well as reduces the number of times subjects wake up during the night.

- L-tryptophan is an amino acid that serves as a precursor for serotonin and melatonin. L-tryptophan supplements may increase the amount of melatonin made by the pineal gland, thus facilitating sleep. Early studies found 1 gram of L-tryptophan could reduce the amount of time needed to fall asleep. Like melatonin, L-tryptophan levels decrease with age. Therefore, L-tryptophan may be helpful in seniors with sleep issues.

Animal studies have found that L-tryptophan consumption reduced activity at night and led to other biological changes conducive to sleep, such as lower core body temperature and reduced levels of interleukin-6 (an inflammatory cytokine). In one small human clinical trial, intravenous infusion of L-tryptophan caused dramatic increases in plasma melatonin levels and had a sleep-inducing effect, regardless of whether it was administered during the day or night. In addition, L-tryptophan may help support mood, which can be related to sleep deficiency.

- Magnesium is a mineral that plays a role in cellular communication and regulation of circadian rhythms. As sleep restriction increases, intracellular magnesium concentrations decline. Magnesium supplementation combined with melatonin and zinc has been shown to improve sleep in the elderly. Another trial found that magnesium consumption supported sleep in individuals with restless legs. A form of magnesium known as magnesium threonate may be beneficial for sleep since it has been shown to penetrate the blood-brain barrier more efficiently than other forms of magnesium.

more susceptible to impaired sleep. Research has found that insomnia is more common in women, older people, people with stressful work, and those who experience physical strain, he noted.

In 2010, NeuroScience, Inc. founder Dr. Gottfried Kellermann co-authored a scientific poster that explored differences in key sleep-related neurotransmitters and hormones between gender and age groups, Dr. Theirl reported, explaining that retrospective data analysis was performed on de-identified specimens from 349 adult patients with insomnia, submitted to Pharmasan Labs (diagnostic and research laboratory) for urinary neurotransmitter and salivary hormone analysis.

Lower levels in males compared to females were observed for 3,4-dihydroxyphenylacetic acid (DOPAC), GABA, glutamate, glycine, norepinephrine, phenylethylamine (PEA) and serotonin. When all subjects taking medications were removed, these differences disappeared.

However, female patients taking medications still had higher levels of DOPAC, GABA, glutamate, and PEA compared to males taking medications. Age-related differences were observed for cortisol, norepinephrine, GABA and dopamine.

“Collectively,” noted Dr. Theirl, “this indicated that gender and age differences exist in cases of insomnia, and targeting GABA with traditional sleep medications may not be the only neurotransmitter or hormone to address when treating insomnia.”

Dr. Theirl said the pharmaceutical model attempts to affect the sleep cycle through GABA receptor agonists (anti-anxiety medications), SSRIs (anti-depressants), antihistamines and even narcotics. Conventional approaches to treating insomnia are focused solely on symptoms, and root causes are often ignored.

“In contrast, NeuroScience, Inc. combines a patient’s sleep symptoms with biochemical information from laboratory testing to help health care practitioners pinpoint a patient’s imbalances and develop more natural, targeted therapeutic regimens tailored specifically for each individual,” he said.

A simple urine and saliva test identifies which chemical signals are out of balance and by how much. The resulting report shows the patient’s unique chemistry levels of the salivary hormones cortisol and melatonin, as well as urinary neurotransmitters related to sleep. The health care practitioner can then use that information to customize natural sleep aids for better likelihood of efficacy.

“Choosing the right amount and type of serotonin and GABA support is very important,” Dr. Theirl continued, adding that more than 700,000 test results have given NeuroScience insight into the natural ingredients and dosing that make a difference for

patients. These include:

- Kavinace products combine multiple ways to support GABA activity
- Kavinace Ultra PM features a unique combination of ingredients that provides comprehensive calming neurotransmitter and hormone support to promote sleep
- TravaCor, TravaGen and SeroTrex combine support for serotonin and GABA in varying strengths, allowing practitioners to choose the right support for individual patients
- SeroTrex, GABA Trex and Kavinace chewables offer easy-to-administer options for children

“The ability to couple lifestyle recommendations, such as no video sources in the bedroom, with personalized neurochemistry testing and specific supplement recommendations is a very comprehensive approach,” Dr. Theirl said.

More Sleep Research


There continues to be an abundance of research into the negative consequences associated with obstructive sleep apnea, but this is just one of dozens of sleep disorders, Dr. Theirl pointed out. “Unfortunately, the other sleep disorders are studied for their characteristics and incidence, but rarely are treatments recommended. This is because CPAP is the primary medical treatment available and it is used for obstructive apnea primarily. As for many of the other insomnia conditions, I have seen a neurotransmitter/hormone approach work very well. There are many research articles noting the importance of insomnia and its role in optimal function.”

For example, Dr. Theirl noted that it is crucial to ask patients both their frequency of waking as well as their total sleep duration because recent research demonstrates that either frequent waking or short total sleep time increases attention and cognitive errors and also increases depression and fatigue.²

“In another interesting article,” Dr. Theirl said, “the myth that exercise in the evening before sleep inhibits your sleep quality has been proven false. This isn’t to say that everyone should exercise before bedtime, but rather don’t be afraid of evening exercise if this is the only time you can fit it in.”³

Sleeping issues have become a main concern and a major market for pharmaceutical drugs so there are always new studies coming out, Lauseure added. “One very interesting study concerns the Sleep Condition Indicator (SCI),” he said. “The SCI is a number based on difficulty falling and remaining asleep, sleep quality, daytime personal functioning, daytime performance, duration of sleep problem, nights per week having trouble sleeping, and extent of the damage poor sleep has on your health. This number has been shown to have potential as a tool for evaluating insomnia and even categorizing different levels of it.”

Another area where science is making progress in the battle against insomnia is with the relationship between insomnia and depression and anxiety disorders. It has been suggested that sleep duration, rather than insomnia, is a better indicator of long-term depression and anxiety disorders. “The next step is to look at whether treating sleep disorders will have more favorable outcomes in warding off depression and anxiety,” Lauseure said.

“Sleep is not a waste of time, but rather a key regenerative phase,” Dr. Teitelbaum concluded. “One hundred thirty years ago, the average night’s sleep in the U.S. was nine hours. Now with light bulbs, radio, TV, computers, Facebook etc., we are down to six hours—a 30 percent pay cut to our bodies.”

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■ Sixty million prescriptions for sleep aids were dispensed in 2011, up about 20 percent from 2006.

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■ Magnesium is necessary in any muscle problem because magnesium regulates the way muscles function. Consider treating sleep apnea patients with magnesium before resorting to bulky breathing machines or surgery.

FOR MORE INFORMATION:

- Life Extension, (800) 544-4440, www.lef.org
- Nutripuncture, (877) 438-5702, www.nutripuncture.com
- Natural Vitality, (800) 446-7462, www.naturalvitality.com
- Dr. Jacob Teitelbaum, www.endfatigue.com
- Dr. Scott Theirl, www.yourbestbrain.com or www.yourbestsleeping.com