

Sleep and the Brain

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Taking Out The Trash

Every night, when you are sleeping, your body is at rest, but your brain is busy taking out the trash. A 2013 study in the journal *Science*, reveals that a good night of sleep may be more important than we once thought. The study reveals that the brain's own method of waste removal – called the glymphatic system – is highly active during sleep, clearing away toxins responsible for Alzheimer's disease and other neurological disorders. Furthermore, the research indicates that during sleep the brain's cells reduce in size, allowing waste to be removed more effectively.

“Sleep puts the brain in another state where we clean out all the byproducts of activity during the daytime,” said study author and University of Rochester neurosurgeon Maiken Nedergaard. Those byproducts include beta-amyloid protein, clumps which can form plaques found in the brains of Alzheimer’s patients.

Neurodegenerative disorders, such as Parkinson’s and Alzheimer’s are associated with a backup of too much cell waste in the brain. Sleep deprivation can be a result of insomnia, or sleep apnea, which can prevent a person from reaching all stages of sleep.

A Message From Dr. Whitney By Dr Courtney Whitney, Board Certified Sleep Physician, Owner, Medical Director WSDC

When we don't get a good night's sleep we can easily tell by the performance of our brains. I think we have all witnessed that with insufficient sleep we can be short-tempered and irritable. This often results in regrettable behavior. This behavior can be traced to impaired performance by an area in our brain called the prefrontal cortex. Studies show that deprivation of sleep can interfere with our brain's response to aversive stimulation. The outcome is often an inappropriate and unfavorable response that in a normal state of mind we would have avoided. Many of us have also witnessed this in our children. A missed nap or lack of sleep can bring out the worst behavior in our kids. In conjunction with this emotional imbalance we can also see impaired memory and academic performance. Schools across the country have been making later school start times in response to the discovery that performance academically is closely linked to sleep time and circadian rhythms. We also know there is a relationship between poor sleep and diseases of the brain, such as stroke, Alzheimer’s and dementia.

Sleep deprivation can be the result of trying to pack too much activity into a day, but it can also be caused by common (and treatable) sleep disorders like sleep apnea, insomnia, and restless leg syndrome. Without proper sleep, our mental processes are slower and we are often more forgetful. This results in compromised health and safety--especially on our roads. The Center for Disease Control has listed insufficient sleep as an epidemic in our country. The impact improper sleep has on our society is finally gaining the attention it deserves.

Do you Think You Might Have A Sleep Disorder?

Yes No

- Do you snore?
- Are you excessively tired during the day?
- Have you been told you stop breathing during sleep?
- Do you have a history of hypertension?
- Is your neck size > 17 inches (male) or > 16 inches (female)?
- Do you wake up to use the bathroom more than twice a night?
- Have you ever fallen asleep while driving?

Answering “yes” to two (or more) of these questions may be a positive screen for Obstructive Sleep Apnea. Patient should consider talking with their healthcare provider about a referral for a sleep evaluation or sleep study at your local hospital.

We Can Help!

Discover real solutions to your sleep problems by talking with your Health Care Provider about a sleep study at

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Attention Deer Hunters

Gun? Check. Blaze Orange? Check. Safety Harness? Check. Beef Jerky? Check. CPAP Machine? Wait, what?

If you or someone in your deer camp suffers from sleep apnea, everything on the list above is essential for a quality hunt (beef jerky is optional—or is it??). If you have sleep apnea and choose to not address it year after year, your entire hunting camp would like you to take a serious look at the questions on the other side of this newsletter. Not only will taking care of your sleep apnea help them get decent sleep while at deer camp, it will allow you to be around to enjoy more deer camps than you might otherwise without treatment.

You can be tested and treated for any sleep disorder right at your local hospital. Most insurers cover sleep testing and therapy because, left untreated, sleep apnea puts a person at higher risk for some very expensive to treat conditions like stroke, heart attack, high blood pressure, diabetes, and coronary artery disease to name a few. Something you'll **never hear** at Deer Camp, *"I wish you would have waited longer to treat your sleep apnea."*

CPAP Talk By Susan Gunwall, LPN, WSDC Clinical Coordinator and Director of Operations

CPAP Supply Replacement Schedule

Item	HPCPS Code	Replacement Schedule
Full Face Mask	A7030	90 days
Full Face Cushion	A7031	30 days
Nasal Cushion	A7032	30 days
Replacement Pillow	A7033	30 days
CPAP Mask	A7034	90 days
CPAP Headgear	A7035	180 days
CPAP Chinstrap	A7036	180 days
CPAP Tubing	A7037	30 days
Disposable Filter	A7038	30 days
Filters	A7039	180 days
Oral Interface	A7044	90 days
Heated Humidifier	E0562	5 Years
CPAP Machine	E0601	5 Years

Has someone you know been through an overnight sleep study and issued a CPAP machine, only to be frustrated with its use, cleaning, and keeping current with supplies? (filters hoses and masks do wear out over time)

If you are not using your CPAP because you are not sure if it is working properly, has a poorly fitting mask, or the mask seal is worn out, Whitney Sleep would be happy to give you a free inspection of your equipment. If needed, we can show you the latest in mask designs too.

Since we visit your hospital only when we are needed, you will need to **call us to set up an appointment at 877-844-6150**

Continuous Positive Airway Pressure

CPAP therapy uses pressurized air to keep the airway open during sleep. It is a non-invasive, painless and very effective way to treat Obstructive Sleep Apnea

Whitney Sleep Celebrates 6th Anniversary

Starting with just one hospital partner in 2008, Whitney Sleep now serves over 40 hospitals. We value and appreciate the trust that our hospital partners continue to place in us.

Whitney Sleep Diagnostics & Consultants

119 Graystone Plaza Suite 102
Detroit Lakes, MN 56501
877-844-6150
info@whitneysleepcenter.com
www.whitneysleep.com

About Whitney Sleep Diagnostics & Consultants

Founded in 2008, Whitney Sleep Diagnostics & Consultants (WSDC) was created to serve patients living in areas where access to comprehensive sleep medicine has not been available. WSDC is owned and operated by Dr Courtney Whitney, who is Board Certified in Sleep Medicine.

Instead of making patients drive to the next larger town, or settling for diagnostic-only sleep testing services, we partner with hospitals in smaller towns to provide the same level of sleep medicine care that would be found in a major metro market.

Hospitals that partner with WSDC, are able to offer a high quality, AASM accredited sleep medicine program to their patients right at their home town hospital. WSDC diagnoses and treats all 84 known sleep disorders. **If you are reading this in a waiting room or clinic lobby, your hospital partners with WSDC.**

Patients who feel they may have a sleep disorder are encouraged to talk to their healthcare provider about their symptoms. A simple one page screening form can often help determine the need for an overnight sleep study.