

THE SOMNUS ODYSSEY

WELLNESS INSTITUTE FOR SLEEP & HEALTH NEWSLETTER



TALKING SLEEP WITH DR. PATEL

We are keeping the conversation alive monthly at the Camas Public Library!

Next session is:

January 17th at 6 PM.

It's the perfect chance for patients to connect with us, as we strive to meet the long-awaited demand for inclusive sleep services within the community.

Featured Topics:

- Managing OSA Post-Hospitalization p.2
 - cardiovascular health
 - socioeconomic challenges
- Impacts of Holiday Spirits on Sleep p.3
 - dependence for sleep
 - sustainable alternative
- SyncWell: A closer look at Leptin's Role in Upper Airway Patency p.4
 - local influence
 - future benefits

Merry Christmas and brace yourself for an outrageously fantastic New Year ahead!

COMMUNITY CONNECTIONS

We are pleased to inform you we have established partnerships with local insurance carriers to enhance accessibility to high-quality sleep care within our community. This collaborative initiative is committed to reaching more of our population and ensuring that comprehensive sleep services are readily available.

For a detailed list of **accepted insurance carriers** for our practice, we recommend referring to our website or reaching out to our office directly. Our specialized staff are ready to offer assistance and provide information based on your individual needs.

Your continued support and collective ethos are invaluable as we strive to provide comprehensive sleep care to our community.

CLINICAL UPDATES

We've broadened our offerings at the beginning of the year to incorporate **wellness services**. One such initiative promotes health by incorporating meal planning with targeted exercise plans.

These plans are specifically crafted to be manageable, allowing patients to stay committed without the need for gym sessions, aligning seamlessly with their new year resolution goals. Our commitment extends to ongoing development and refinement of many such wellness initiatives throughout the year.

MANAGING OSA POST-HOSPITALIZATION

In the intricate landscape of cardiovascular health, a silent co-existing factor often emerges, significantly impacting patient outcomes – sleep apnea.

Individuals hospitalized following a cardiovascular event or diagnosed with cardiovascular diseases such as MI, congestive heart failure, atrial fibrillation, pulmonary hypertension, CAD, or CVA may have a comorbid diagnosis of sleep apnea. This correlation is substantial, affecting 40–80% of the population.

Regrettably, many patients with sleep-disordered breathing remain undiagnosed or inadequately treated. Some struggle with ineffective control of sleep apnea, and others face challenges in utilizing therapy effectively.

As healthcare providers, we are acutely aware that the adept management of sleep apnea in individuals with cardiovascular diseases (CVD) plays a crucial role in mitigating the risks associated with both the progression of cardiovascular disease and hospital readmission due to related complications. Emphasizing the critical importance of patient understanding and dedication to therapeutic interventions for their sleep disorder is strongly tied to their cardiovascular health paramount in optimizing cardiovascular outcomes.

Post-hospital follow-up assessments are strongly recommended to identify the need for sleep apnea evaluation, especially when previously incomplete. For patients with a known diagnosis of sleep apnea, reassessment with their sleep medicine provider is necessary.

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As the sleep provider, we evaluate the post-discharge status of a patient and the need for testing and management. Where applicable, we assess the current obstructive sleep apnea (OSA) treatment plan for effectiveness and patient compliance. Sleep lab assessment is often necessary to make a detailed determination. We aim to eliminate episodic hypoxemic desaturations by way of nocturnal airway and pulmonary optimization, which can cause repeated oxidative stress during sleep.

The suspicion or presence of central sleep apnea may require re-evaluation, starting with a diagnostic PSG for a comprehensive assessment, followed by titration studies to optimize future treatment that may require more complex PAP modalities.

Patients may face barriers such as socioeconomic challenges, including financial limitations hindering the acquisition of proper PAP equipment or changes in sleep locations due to comorbidities. Such circumstances especially require careful collaboration with the entire care team, and are of significance when discharging a patient.

As we navigate the post-hospital phase, it is imperative to advocate for comprehensive follow-up assessments, especially for those yet to undergo sleep apnea evaluation. For individuals with established diagnoses, reassessment becomes equally paramount. Our commitment as sleep providers broadly includes evaluating the possibility of new or underlying diagnoses, optimizing obstructive sleep apnea treatment plans, addressing recurring events, and effectively managing the airway and optimizing nocturnal respiration.

Citations:

Zhang Y, Hao W, Fan J, Guo R, Ai H, Que B, Wang X, Dong J, Nie S. Association Between Obstructive Sleep Apnea and Cardiovascular Events in Acute Coronary Syndrome Patients With or Without Revascularization – A Prospective Cohort Study. *Circ J*. 2023 Sep 25;87(10):1369–1379. doi: 10.1253/circj.CJ-23-0164. Epub 2023 Aug 23. PMID: 37612051.

Wang G, Miao H, Hao W, Zhao G, Yan Y, Gong W, Fan J, Ai H, Que B, Wang X, Nie S. Association of obstructive sleep apnoea with long-term cardiovascular events in patients with acute coronary syndrome with or without hypertension: insight from the OSA-ACS project. *BMJ Open Respir Res*. 2023 Jun;10(1):e001662. doi: 10.1136/bmjresp-2023-001662. PMID: 37369551. PMCID: PMC10410951.



Specialists' Corner

The finding of obstructive sleep apnea in the inpatient setting can appear quite emergent and cause significant clinical concern. Fundamentally, however, it is important to note that **a)** the clinical consequences of underlying sleep apnea are insidious in presentation, and that **b)** the inpatient setting (inclusive of reason for admission, poor sleep quality, and other psychological and physical stressors) plays a significant role in exacerbation of such a diagnosis. For this reason, while it is extremely important to remain vigilant and manage any findings immediately, the role of a sleep specialist for management in this capacity is limited. We are best utilized as part of a discharge plan to evaluate for the presence and severity of those objective observations.

Secondarily, while we may all agree that, clinically, it is apparent that a patient has sleep apnea, insurance will not abide by these metrics for the purpose of validating the diagnosis. There is some merit to this method – in an inpatient setting, the presence and severity of the disorder may be inaccurately represented. More importantly, the acute setting does not allow a true baseline or unconfounded diagnostic test of sleep.

Our integral role in the post-hospitalization transition and management, thus, cannot be understated. A typical option is to set up evaluation approximately 2 weeks after discharge in order to allow the sleep rhythms and comorbid disturbances to settle. For more directly impacted diseases such as stroke and heart attack, we prioritize the sleep diagnosis and therapy after this initial evaluation as timely management can have a profoundly positive impact on patient outcomes.

The goal is to minimize sequelae, optimize care, and reduce the resource burden for the patient and care team. As always, but especially in this regard, remember to include us in your discharge plan. We are glad to be a part of the team!

IMPACTS OF HOLIDAY SPIRITS

One of the most frequent online searches regarding sleep concerns asks: "Does alcohol help you sleep?" Understanding this inquiry, we aim to provide patients with accurate information and dispel the dangerous misconception surrounding alcohol as an "acceptable" sleep remedy.

Alcohol consumption significantly increases during holidays like Thanksgiving, Christmas, and New Year's, as well as during daylight saving time adjustments. During these periods, many individuals drastically alter their sleep schedules for social gatherings, inducing "social jet lag." This, along with frequent sleep disturbances, can lead to daytime fatigue and naps during the day, further impacting sleep quality.

Frequent sleep disturbances or shortened sleep times often leave individuals feeling unrefreshed upon waking, leading to daytime fatigue. It is common for individuals to seek a quick nap or doze off during periods of inactivity, initiating a harmful cycle by reducing the adenosine levels and sleep pressure needed to fall asleep at their usual bedtime. This can create a cycle of dependence on alcohol, over-the-counter sleep aids, or prescription medications, potentially leading to chronic insomnia.

When patients seek medication refills for sleep aids, we, as healthcare providers, must pose a crucial question: are there safer, alternative approaches to managing their insomnia?

This concern becomes particularly acute for patients with polypharmacy, where the risk of mixing their existing sleep medications with alcohol escalates. This potent combination can amplify central nervous system depression, hinder medication absorption, and dangerously exacerbate respiratory difficulties.

While the risk of alcohol compromising the body's natural respiratory drive applies to everyone, certain populations face heightened vulnerability. This is particularly true for individuals with obesity and those with existing respiratory diseases like sleep apnea, COPD, or cystic fibrosis.

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In obese patients:

- Excess adipose tissue around the chest wall can mechanically restrict lung expansion, reducing available oxygen and increasing carbon dioxide levels (hypercarbia).
- Alcohol further compromises the respiratory control center in the brainstem, leading to shallower breaths and decreased breathing effort (hypoventilation and worsening hypercarbia).

In patients with underlying respiratory diseases:

- Chronic respiratory disease alters the normal chemostatic respiratory drive by reducing the threshold of response.
- The centrally depressing effects of alcohol may reduce these thresholds to fatal levels.

Cognitive behavioral therapy for insomnia (CBT-I) should be considered the first-line therapy for most individuals, even those who have relied on sleep aids for years. This collaborative approach between a certified CBT-I instructor and the patient's care team provides the most effective tools to address underlying sleep issues and restore healthy sleep patterns.

It is important to dispel the myth that chronic insomnia cannot be improved. We must emphasize this message to our patients, even when faced with resistance. Relying on alcohol to address sleep difficulties is never a solution, and we must guide patients towards safer and more sustainable alternatives.

By acknowledging the limitations of alcohol, actively promoting CBT-I, and addressing potential medication interactions, we can empower patients to break free from the vicious cycle of insomnia and achieve healthy sleep for the long term.

Citations:

Heacock RM, Capodilupo ER, Czeisler MÉ, Weaver MD, Czeisler CA, Howard ME, Rajaratnam SMW. Sleep and Alcohol Use Patterns During Federal Holidays and Daylight Saving Time Transitions in the United States. *Front Physiol.* 2022 Jul 11;13:884154. doi: 10.3389/fphys.2022.884154. PMID: 35899022; PMCID: PMC9309397.

Pacheco, D. Alcohol and Sleep | Sleep Foundation. Updated 11/8/2023. www.sleepfoundation.org/nutrition/alcohol-and-sleep. Reviewed 12/2023.

SYNCWELL: A CLOSER LOOK AT LEPTIN'S ROLE IN UPPER AIRWAY PATENCY

In the realm of sleep medicine, delving into the complexities of the intricate cascading sleep cycle reveals a fascinating focus on the role of the hormone leptin in upper airway patency. This article aims to further our understanding of the implications of leptin levels, particularly in relation to upper airway management and the manifestation of sleep apnea symptoms.

As discussed in our previous newsletter edition, the correlation between rising body mass index (BMI) and marked increases in leptin levels underscores the development of leptin resistance. Recent studies have undertaken a comprehensive exploration of leptin's association with upper airway dynamics and its potential influence on sleep apnea.

Leptin, beyond its well-established role in metabolic regulation, exerts a local influence on the airway. This impact is achieved through bronchodilation and vasodilation, critical properties that enhance the functionality of the respiratory musculature, including the diaphragm and intercostal muscles. The result is an augmentation of breathing efficiency and muscular contraction, contributing to overall respiratory efficacy during sleep.

Leptin's stimulation of norepinephrine further amplifies its effects on upper airway dynamics. The increase in norepinephrine contributes to the relaxation of smooth muscle within the airway, facilitating improved airflow and mitigating potential obstructions.

Furthermore, increased levels of serotonin and endothelin-1 are associated with enhanced airway closure through constriction, a fundamental aspect of leptin's multifaceted impact. Interestingly, serotonin, akin to leptin, acts in small doses to oxygenate smooth muscles and promote vasodilation, further contributing to the nuanced interplay of factors influencing airway dynamics.

Somnus's January Spotlight

Weight Loss Ties to Sleep Apnea
Sleep and Wellness

In unraveling the multifactorial relationship between leptin and upper airway management, we gain valuable insights into the potential implications for sleep apnea. As we continue to refine our understanding, opportunities for targeted interventions may arise, offering new avenues for the management and treatment of sleep apnea.

Citations:

Patil K, Mishra HP, Pal G, Suvvari TK, Mahapatra C, Amanullah NA, Singh I, Gaur SN, Behera RK. Assessment of Leptin Levels and Their Correlation With the Severity of Obstructive Sleep Apnea Syndrome: A Case-Control Study. *Cureus*. 2023 Jul 17;15(7):e42028. doi: 10.7759/cureus.42028. PMID: 37593311; PMCID: PMC10431687.

Berger S, Polotsky VY. Leptin and Leptin Resistance in the Pathogenesis of Obstructive Sleep Apnea: A Possible Link to Oxidative Stress and Cardiovascular Complications. *Oxid Med Cell Longev*. 2018 Feb 20;2018:5137947. doi: 10.1155/2018/5137947. PMID: 29675134; PMCID: PMC5841044.



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