Insomnia Medical Health Summary

By Amielle Moreno PhD.

STYLE	• Succinct, direct; avoid complex sentences • Easy to read and follow (no big words, link out definitions to words/phrases that may be unfamiliar to the reader) • Easily scannable - use bullet points, create tables/charts as applicable
AUDIENCE CONSIDERATIONS	• Keep a calm, optimistic, non-sensational voice • Avoid any specific product endorsements or any promotional language • Avoid any language that would scare the reader or suggest harm
PREVIEW/DESCRIPTION	What is the difference between bad sleep and insomnia? This article explains insomnia symptoms, ways to improve sleep hygiene, and when to call a doctor.
CITATION STYLE	MLA

Concerns about sleep are very common in the general population with one in three people displaying at least one insomnia symptom. Of that, between 6% to 13% of adults experience the daytime consequences of insomnia and meet the criteria for an insomnia disorder (Ohayon). With no "magic number" of sleep hours that will satisfy everyone, the diagnosis of insomnia depends on the distress one experiences concerning their sleep (Chaput, Dutil and Sampasa-Kanyinga).

What is Insomnia?

Insomnia is a sleep disorder that involves dissatisfaction with one's ability to fall asleep or stay asleep as well as complaints that this lack of nighttime sleep is negatively affecting daytime activities (Sateia 19). During the nighttime, a person with insomnia might struggle to obtain adequate sleep even when the opportunity is there. During the daytime, people with insomnia experience sleepiness, and difficulty with focus, memory, or fatigue.

The amount of sleep we need differs between individuals and across our lifespan (Hirshkowitz et al.). For example, while a toddler sleeps between 11 and 14 hours, adults usually sleep between 7 to 9 hours and the elderly 7 to 8 hours (Hirshkowitz et al.). Therefore, an insomnia diagnosis must include

dissatisfaction and discomfort concerning the lack of sleep for it to be considered a medical issue (Sateia 47).

Insomnia Symptoms

A large number of insomnia patients complain of trouble with sleep onset, sleep maintenance or both (Sateia 23). Sleep-onset is the moment one falls asleep after first laying down and usually occurs within 30 minutes in adults and 20 minutes in children and young adults (Regestein and Pavlova; Weitzman et al.). Adults with insomnia often complain of not falling asleep within 30 minutes of their sleep attempt (Sateia 23-24). When someone with insomnia manages to fall asleep, but fails to stay asleep, this is called sleep maintenance failure.

During the nighttime, insomnia symptoms include:

- Delayed sleep onset
- Trouble with sleep maintenance
- Poor quality of sleep
- Persistent sleep difficulties in spite of adequate sleep opportunity

Daytime complaints as a result of sleep issues include:

- Fatigue
- Problems with memory and attention
- Sleepiness
- Decreased motivation
- Irritability
- Increased accidents or mistakes

Types of Insomnia

- **Chronic vs. Short-term:** The type of insomnia depends on how often the person experiences sleep difficulties. Chronic insomnia lasts longer than three months or repeatedly over the course of the person's life. It involves a person experiencing at least three nights or more a week with sleeping difficulties as well as daytime disturbances (Sateia 23). Short-term or acute insomnia disorder has similar symptoms to the chronic version, but they have been experienced for less than three months and fewer than three days a week (Sateia 41-43). Short-term insomnia is often triggered by life stressors.

- **Other Insomnia Disorders:** This rarely used diagnosis allows a doctor to diagnose insomnia that does not fit all the criteria for chronic or short-term insomnia disorder.

- **Other Sleep Disorders:** There are numerous other sleep disorders which can result in insomnia and are diagnosed individually. Some of these include sleep apnea (snoring), parasomnias (sleep walking), and sleep movement disorders. The terms 'primary' and 'secondary' insomnia are no longer used.

Causes of Insomnia

Despite decades of research, there is no consensus from physicians as to a precise cause of insomnia, only risk factors that increase the likelihood of experiencing this medical issue. Being a member of certain populations increases the likelihood of insomnia.

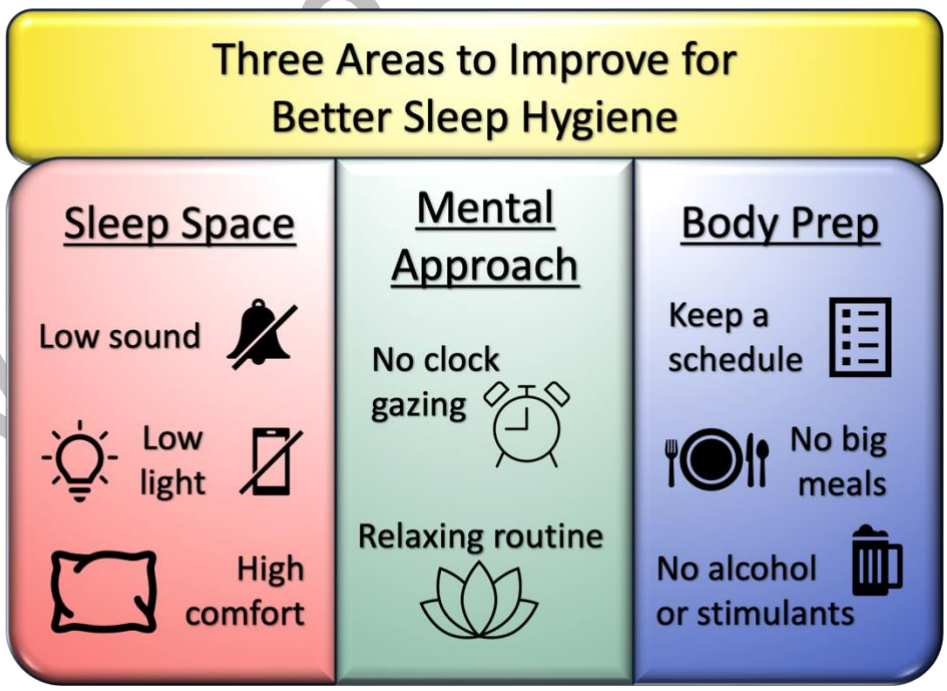
Insomnia Risk Factors

Numerous risk factors for insomnia have been identified, such as:

- Being over the age of 65 (Patel, Steinberg and Patel)
- Being a woman (Krystal)
- Mood and mental disorders such as depression (Hertenstein et al.)
- Overusing alcohol or stimulants (Chakravorty, Chaudhary and Brower)
- Anxiety disorders or anxiety from life stressors (Taylor, Lichstein, et al.)
- Having other sleep disorders (Sateia 375)
- Having other medical conditions such as heart disease, diabetes, head injury, chronic pain, urinary problems, gastrointestinal problems, and Parkinson's disease (Budhiraja et al.; Taylor, Mallory, et al.)

Tips for Preventing Insomnia

Many people bothered by their lack of sleep seek out common remedies (Morin et al.). These remedies often address the activities and the environment surrounding sleep, which all contribute to sleep hygiene (Sateia). There are a couple primary areas to consider when you attempt to improve your sleep hygiene. Speaking with a healthcare professional can help determine what changes in your sleep habits would work best for you. These and other treatments are sometimes as effective as pharmacological therapy and have less side effects (Patel, Steinberg and Patel).



Create a dedicated space for sleep:

The space you sleep most nights should be designed for comfort, relaxation, and dedicated to sleep. No other activities besides sex and sleep should occur in bed. Because light plays a very important role in stimulating arousal (Blume, Garbazza and Spitschan), you should make your space as dark as possible. Block all sources of illumination, including screens. Use blackout curtains. If you share a sleep space with a partner, wearing a comfortable eye-mask can help you avoid being disturbed. Decrease excess noise or use a white noise machine. Blocking the space under your bedroom door, the sill, can help you eliminate extra light and sound.

Change your mental response to bad sleep:

Insomnia patients often display high levels of mental and emotional arousal both during the day and at night (Insomnia: assessment and management). This means added attention should be paid to transitioning from an active to a pre-sleep relaxed state. You can decrease the counter-productive anxiety around insomnia with some simple behavior changes. For example, relaxation therapies are known to help reduce the anxiety around sleep performance and bedtime arousal (Van Dongen et al.; Nicassio and Bootzin). If sleep onset is too long, get out of bed and circle back after some time engaging in a relaxing (or boring) activity. Checking the clock to monitor your lack of sleep can increase anxiety, and make it more difficult to relax.

We are really bad at knowing how much rest we get in a night. Studies show individuals with low levels of sleep and significant impairments to their behavior can still rate their sleep as satisfactory (Van Dongen et al.). What's more, sleep satisfaction is subject to the placebo effect. Research participants actually performed poorer at mental assessments if they were told they had a bad versus good sleep the night prior (Draganich and Erdal). One's mental perception of sleep quality or amount is not always accurate, so it is important to stay positive and seek help when needed.

Get your body ready:

The good news is that your body is designed to establish a sleep and wake (circadian) rhythm. Circadian rhythms occur not just in your brain but in your cardiovascular, endocrine, immune systems and more (Patke, Young and Axelrod). This means you need to prepare your whole body for sleep.

- No big meals: Asking your body to process a large meal when you are trying to fall asleep might affect sleep onset.
- No alcohol or stimulants: Don't consume caffeine, alcohol or nicotine near bedtime (Insomnia: assessment and management). Stimulants like sugar and caffeine can hide in numerous snack foods, so check your labels.
- No screens: You should also avoid the ever-present illuminated screens. They not only affect our sleep rhythms, but also our production of sleep hormones and lead to daytime sleepiness (Green et al.).
- Exercise Earlier: Exercise earlier in the day significantly aids nighttime sleep. But because exercise releases a number of stimulating hormones, you should avoid it for 2 to 3 hours before sleep (Muncey and Malhotra; Vallières et al.).
- Keep a Routine: Changing your bedtime and morning alarm throughout the week makes it more difficult for your body to keep its rhythm. As best you can, prepare to go to sleep and wake up around the same time (Muncey and Malhotra).

When to Talk to Your Doctor

There is no doubt that the lack of sleep experienced by people with insomnia can directly relate to poor performance at cognitive tasks during the day (Ustinov et al.). Unfortunately, in spite of the high prevalence of insomnia in the general population, the majority of sufferers do not seek professional help (Morin et al.). If you have a difficult time falling or staying asleep, you should bring it up with your doctor. This is especially important if you believe it is causing issues with your daily tasks because of decreased energy, ability to focus, or motivation due to lack of sleep.

Insomnia Treatments

After speaking to you about your sleep issues and hygiene, a doctor can offer some common treatments for insomnia disorders:

- **Natural Sleep Aids:** Often available over the counter, natural sleep aids include anything from the sleep regulating molecules melatonin and GABA, to plant extracts such as valerian and cannabidiol (CBD), to aroma therapy(Babson, Sottile and Morabito; Shannon et al.; Bent et al.; Auger et al.; Byun et al.). These aids can sometimes have negative interactions with other medications, so check with your doctor before adding them to your sleep routine.

- **Cognitive Behavioral Therapy or CBT-I**: CBT-I is a therapeutic approach which seeks to change one's behavior and negative thought patterns. The American College of Physicians' recommends CBT-I as the initial treatment for insomnia disorders (Sharma and Andrade).

- **Medications:** If there are significant enough issues with sleep, there are prescription medications available.

With all the different insomnia related risk factors and approaches for treatment, the road to satisfying sleep is different for each individual. The trial and error involved with sleep satisfaction is frustrating. So, do not shy away from bringing this topic up with your doctor. If you are bothered by your lack of sleep, talk to your primary care physician or a medical professional about your sleep hygiene. It might help you identify an issue and a solution.

Bibliography

"Insomnia: Assessment and Management in Primary Care. National Heart, Lung, and Blood Institute Working Group on Insomnia." *Am Fam Physician* 59.11 (1999): 3029-38. Print.

Auger, R. R., et al. "Clinical Practice Guideline for the Treatment of Intrinsic Circadian Rhythm Sleep-Wake Disorders: Advanced Sleep-Wake Phase Disorder (Aswpd), Delayed SleepWake Phase Disorder (Dswpd), Non-24-Hour Sleep-Wake Rhythm Disorder

(N24swd), and Irregular Sleep-Wake Rhythm Disorder (Iswrd). An Update for 2015: An American Academy of Sleep Medicine Clinical Practice Guideline." *J Clin Sleep Med* 11.10 (2015): 1199-236. Print.

Babson, K. A., J. Sottile, and D. Morabito. "Cannabis, Cannabinoids, and Sleep: A Review of the Literature." *Curr Psychiatry Rep* 19.4 (2017): 23. Print.

Bent, S., et al. "Valerian for Sleep: A Systematic Review and Meta-Analysis." *Am J Med* 119.12 (2006): 1005-12. Print.

Blume, C., C. Garbazza, and M. Spitschan. "Effects of Light on Human Circadian Rhythms, Sleep and Mood." *Somnologie (Berl)* 23.3 (2019): 147-56. Print.

Budhiraja, R., et al. "Prevalence and Polysomnographic Correlates of Insomnia Comorbid with Medical Disorders." *Sleep* 34.7 (2011): 859-67. Print.

Byun, J. I., et al. "Safety and Efficacy of Gamma-Aminobutyric Acid from Fermented Rice Germ in Patients with Insomnia Symptoms: A Randomized, Double-Blind Trial." *J Clin Neurol* 14.3 (2018): 291-95. Print.

Chakravorty, S., N. S. Chaudhary, and K. J. Brower. "Alcohol Dependence and Its Relationship with Insomnia and Other Sleep Disorders." *Alcohol Clin Exp Res* 40.11 (2016): 2271-82. Print.

Chaput, Jean-Philippe, Caroline Dutil, and Hugues Sampasa-Kanyinga. "Sleeping Hours: What Is the Ideal Number and How Does Age Impact This?" *Nature and science of sleep* 10 (2018): 421-30. Print.

Draganich, C., and K. Erdal. "Placebo Sleep Affects Cognitive Functioning." *J Exp Psychol Learn Mem Cogn* 40.3 (2014): 857-64. Print.

Green, A., et al. "Evening Light Exposure to Computer Screens Disrupts Human Sleep, Biological Rhythms, and Attention Abilities." *Chronobiol Int* 34.7 (2017): 855-65. Print.

Hertenstein, E., et al. "Insomnia as a Predictor of Mental Disorders: A Systematic Review and Meta-Analysis." *Sleep Med Rev* 43 (2019): 96-105. Print.

Hirshkowitz, M., et al. "National Sleep Foundation's Sleep Time Duration Recommendations: Methodology and Results Summary." *Sleep Health* 1.1 (2015): 40-43. Print.

Krystal, A. D. "Insomnia in Women." *Clin Cornerstone* 5.3 (2003): 41-50. Print.

Morin, C. M., et al. "Epidemiology of Insomnia: Prevalence, Self-Help Treatments, Consultations, and Determinants of Help-Seeking Behaviors." *Sleep Med* 7.2 (2006): 12330. Print.

Muncey, Aaron R., and Atul Malhotra. "87 - Consequences of Sleep Disruption." *Murray and Nadel's Textbook of Respiratory Medicine (Sixth Edition)*. Eds. Broaddus, V. Courtney, et al. Philadelphia: W.B. Saunders, 2016. 1547-51.e2. Print.

Nicassio, P., and R. Bootzin. "A Comparison of Progressive Relaxation and Autogenic Training as Treatments for Insomnia." *J Abnorm Psychol* 83.3 (1974): 253-60. Print.

Ohayon, M. M. "Epidemiology of Insomnia: What We Know and What We Still Need to Learn." *Sleep Med Rev* 6.2 (2002): 97-111. Print.

Patel, D., J. Steinberg, and P. Patel. "Insomnia in the Elderly: A Review." *J Clin Sleep Med* 14.6 (2018): 1017-24. Print.

Patke, A., M. W. Young, and S. Axelrod. "Molecular Mechanisms and Physiological Importance of Circadian Rhythms." *Nat Rev Mol Cell Biol* 21.2 (2020): 67-84. Print.

Regestein, Q. R., and M. Pavlova. "Treatment of Delayed Sleep Phase Syndrome." *Gen Hosp Psychiatry* 17.5 (1995): 335-45. Print.

Sateia, M. J. "International Classification of Sleep Disorders-Third Edition: Highlights and Modifications." *Chest* 146.5 (2014): 1387-94. Print.

Shannon, S., et al. "Cannabidiol in Anxiety and Sleep: A Large Case Series." *Perm J* 23 (2019): 18041. Print.

Sharma, M. P., and C. Andrade. "Behavioral Interventions for Insomnia: Theory and Practice." *Indian J Psychiatry* 54.4 (2012): 359-66. Print.

Taylor, D. J., et al. "Epidemiology of Insomnia, Depression, and Anxiety." *Sleep* 28.11 (2005): 1457-64. Print.

Taylor, D. J., et al. "Comorbidity of Chronic Insomnia with Medical Problems." *Sleep* 30.2 (2007): 213-8. Print.

Ustinov, Y., et al. "Association between Report of Insomnia and Daytime Functioning." *Sleep Med* 11.1 (2010): 65-8. Print.

Vallières, Annie, et al. "Self-Help Treatment for Insomnia☆." *Reference Module in Neuroscience and Biobehavioral Psychology*. Elsevier, 2017. Print.

Van Dongen, H. P., et al. "The Cumulative Cost of Additional Wakefulness: Dose-Response Effects on Neurobehavioral Functions and Sleep Physiology from Chronic Sleep Restriction and Total Sleep Deprivation." *Sleep* 26.2 (2003): 117-26. Print.

Weitzman, E. D., et al. "Delayed Sleep Phase Syndrome. A Chronobiological Disorder with SleepOnset Insomnia." *Arch Gen Psychiatry* 38.7 (1981): 737-46. Print.