

# Beating COVID-19 and Other Illnesses in Your Sleep

People often brag about how little sleep they get or need, as if that's a good thing. While it's true that some people can function better than others on less sleep, quality sleep enables our bodies to fight infection, repair damage, and recover from illness.

Here at BioDesign Wellness Center, we take sleep very seriously, both as a symptom of underlying dysfunction and as an essential tool for restoring optimal health and fitness. In this post, we present some of the evidence that attests to the importance of sleep in combating illnesses (including COVID-19), we highlight some additional benefits of quality sleep, and we explain how we work with our patients to ensure they're getting the sleep they need.

***Exploring the Connection Between Lack of Sleep and COVID-19***



(Image courtesy of Gregory Pappas – sourced from Unsplash)

According to the Centers for Disease Control and Prevention, adults of any age with certain underlying health conditions have an increased risk of severe illness from the virus that causes COVID-19. Severe illness from COVID-19 is defined as hospitalization, admission to an intensive care unit (ICU), intubation, mechanical ventilation, or death.

Underlying medical conditions that increase a person's risk of severe illness from COVID-19 include the following:

- Cancer
- Chronic kidney disease
- Chronic obstructive pulmonary disease (COPD)
- Heart conditions, including heart failure, coronary artery disease, or cardiomyopathies
- Immunocompromised state (weakened immune system) as a

result of organ transplant

- Obesity
- Pregnancy
- Sickle cell disease
- Smoking
- Type 2 diabetes

In addition, the following conditions may create an increased risk for severe illness from COVID-19:

- Asthma
- Cerebrovascular disease (affects blood vessels and blood supply to the brain)
- Cystic fibrosis
- Hypertension (high blood pressure)
- Immunocompromised state from blood or bone marrow transplant, immune deficiencies, HIV, or the use of corticosteroids or other medications that weaken the immune system
- Neurological conditions such as dementia
- Liver disease
- Pulmonary fibrosis (damaged or scarred lung tissue)
- Thalassemia (a type of blood disorder)
- Type 1 diabetes

What's missing from these lists? According to a study published in the journal *Epidemiology*, what's missing from these lists is *obstructive sleep apnea (OSA)*. The study we're referring to concluded that patients with OSA were *eight times more likely* to be infected with COVID-19, had an increased risk of hospitalization, and had twice the risk of respiratory failure. Another recent study analyzed data on more than 4,500 patients with COVID-19 and found that those with sleep apnea had an increased rate of mortality.

***The Connection Between Lack of Sleep and Neurodegenerative***

## ***Diseases***

Not convinced that sleep is more important now than ever? *TIME* magazine recently published an article titled “A Rinsing of the Brain. New Research Shows How Sleep Could Ward Off Alzheimer’s Disease,” stressing the importance of sleep in maintaining neurological health. A growing body of evidence shows that when we are asleep, our brains remain very busy. While the body rests, the brain sorts out the day’s events, catalogs memories, and detoxes itself of harmful molecules, including amyloid (pronounced *am-a-loyd*) proteins and their precursors – fragments of amyloid proteins called *beta amyloid*.

If you’re unfamiliar with them, amyloid proteins circulate freely in the brain during the daytime and are then “flushed” from the brain when you sleep. The flushing is thought to be what separate those who *don’t* get Alzheimer’s disease and other forms of dementia from those who *do*. In Alzheimer’s patients, however, beta amyloid builds up in the brain and clumps together to form a sticky plaque that chokes and kills neurons, especially in memory regions of the brain.

In 2013, Adam Spira, PhD., a professor in the department of mental health at the Johns Hopkins Bloomberg School of Public Health, studied the effects of sleep deprivation on 70 human participants with an average age of 76. Brain scans of sleep-deprived subjects showed higher levels of amyloid plaques than were present in the brains of study participants who slept better.

One year later, in 2014, Dr. Maiken Nedergaard, co-director of the Center for Translational Neuromedicine at the University of Rochester, identified a group of cells that delivers fluid through the brain during sleep. Dr. Maiken referred to these cells collectively as the “glymphatic system,” because they

function like the lymph system, which drains fluid from bodily tissues. These cells appear to be responsible for the nightly neural cleansing that flushes beta amyloid and other toxins from the brain.

### ***Ten Other Health Benefits of Sleep***

Reducing one's risk of dementia and the most severe cases of COVID-19 should be enough to convince us to begin taking sleep seriously. But consider these additional ten benefits of a good night's sleep:

1. **Improves mood.** Let's face it, you don't need a doctor to tell you that a good night's sleep – especially on a consistent basis – leaves you feeling rested, which improves your mood.
2. **Boosts your immune system.** Not getting enough sleep negatively impacts the release of antibodies, protective cytokines, , and disease-fighting cells, and increases your susceptibility to infectious viruses and bacteria and impairs your ability to recover when you get sick.
3. **Quality sleep fights inflammation.** When you do not sleep well or get enough sleep, you promote the activations of undesirable markers such as inflammation, which is a root cause of many chronic illnesses.
4. **Reduces stress.** The production of stress hormones that can trigger a host of medical conditions, is something we see in patients who consistently lack the proper amount of sleep.
5. **Aids in the maintenance of healthy weight.** Lack of sleep causes the body to release a hormone that increases appetite, and decreases the production of *leptin*, a hormone that signals when you're full.
6. **Improves cardiovascular health.** Many studies show a connection between sleep apnea and cardiovascular disease

and stroke, while teens who sleep poorly are known to have a higher body mass index, larger waists, higher blood pressure, and an elevated risk of hypertension.

7. **Stimulates creativity.** During sleep, the brain processes the events of the day and often entertains us with fanciful dreams and delivers solutions to problems that just the night before seemed insurmountable. Many people believe that while we sleep, the subconscious/creative part of the brain is allowed to take over and accomplish feats that are beyond those of the conscious/rational mind.
8. **Enhances memory and cognition.** Lack of sleep negatively impacts reaction times, concentration, memory, decision-making, and even one's ability to process emotional information.
9. **Improves exercise performance.** Lack of sleep often results in decreased strength, energy, endurance, and coordination/reaction times – all of which can impact exercise performance.
10. **Increases your pain threshold.** Sleep deprivation can lower a person's pain threshold, and increased pain can negatively impact the ability to sleep, creating a vicious cycle.

### ***Not Sleeping Well? We Can Help***

If you are struggling to get enough quality sleep or are waking up after “a good night's sleep” feeling tired (an entirely different issue), we can help. Among the top factors causing or contributing to poor sleep are anxiety, hormone imbalances, chronic inflammation, and nutritional imbalances. Our medical team will work closely with you to identify and address the root causes of your sleep issues with a personalized treatment plan that enhances your sleep and restores your energy.

Our treatment plans are informed by testing and may include dietary adjustments, hormone replacement therapy (HRT), natural anti-inflammatory injections (including glutathione and B vitamins), and working with you to reduce anxiety with natural and effective supplementation. Our doctors will monitor your progress and make sure you are getting the sleep your body needs to function at its best and wake up feeling rested and revitalized.

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