Insomnia Solution—Part One: The Power of Deep Sleep

Insomnia Antidote: Sleep is the Boss

Sleep, like food, is powerful medicine. There are few aspects of our daily lives that are as profoundly essential and influential to our health and healing as getting good sleep. Sleep is a magical, mysterious time that allows us to power down, repair, replenish, and renew—providing the deepest healing and renewal available to us.

We must sleep—this is one of those immutable and undeniable rules of the body. It can’t be hacked, passed over, or substituted for. It’s a non-negotiable element of our journey to restore vital energy, reboot our biology, recover from illness, and feel our very best. While there may well be other critical parts of our health puzzle to figure out and correct, we must include sleep in the equation.

I have seen this countless times in my clients—that the last remaining hurdle to their...
recovery, the thing that keeps them stuck in fatigue, brain fog, and illness, is not sleeping long enough or having poor quality sleep that does not restore them. Sleep is a required part of our foundational self-care—sleep is the boss.

We all struggle with insomnia from time to time and we all know the solace of good sleep. For those of us who have suffered with insomnia, we know the cruel exhaustion and total mind-body devastation that can occur. Many of us resist sleep, considering it to be a nuisance, robbing us of precious hours we’d rather use working or playing. We get into cycles of staying up late, cutting back on sleep, and using caffeine, sugar, and other stimulants to fuel ourselves during the day.

In the end, depriving ourselves of sleep always catches up with us—it has to. Sleep is so central to our ability to power up and conserve energy, and to repair the damage that has been done while we are awake, that our bodies will always bring us down in spite of ourselves—all in an effort to survive. The accumulated stress of sleep deprivation takes a terrible toll—our bodies lose their resilience and let us know about it through exhaustion, burnout, illness, and—worst of all—failure to achieve our highest potential.

The Insomnia-Illness Connection

Sleep deprivation from insomnia, including the mild forms that occur chronically—like missing out on just half an hour, or hour, of needed sleep—can contribute greatly to devastating fatigue and illness, especially if there are other imbalances present. Loss of sleep can add to the damaging cumulative effects of inflammation, toxicity, fatigue, and illness. Restoring healthy sleep patterns releases critical blockages to healing by making more energy available to us and by giving our bodies critical time for repair and renewal.

There are times when insomnia and sleep deprivation is caused by illness or a critical imbalance—losing those additional restorative aspects of sleep adds to the burden of illness. In these situations, correcting the underlying cause of the illness leads to recovery of good sleep. Conversely, having suboptimal sleep habits can lead to loss of energy and resilience, and contribute to illness. In these cases, correcting the unhealthy sleep patterns and habits solves all of the problems the sleep deprivation caused. Consider the following stories of my clients.

Gretchen’s Insomnia Recovery

Gretchen is a forty seven-year old client of mine who came to see me after several bouts with severe insomnia. She was a project manager for a local tech company, worked full-time, and was raising three young children with her husband. She’d experienced persistent insomnia twice over that past few years, each episode occurring during times of peak stress and lasting a few months. She was able to resolve them with vigilance to good sleep habits, acupuncture treatments, and massage to help relax her body and brain.
Gretchen came to see me once again after already struggling with insomnia for about six months. She told me that one night, out of the blue, she just couldn’t stay in a deep sleep. She had been doing “just fine” and noted nothing unusual going on in her life at the time. There were no new stresses, her work was good, her family was the usual busy but they were all in a good rhythm together. She was generally very happy with her life but now simply could not stay asleep. By the end of the day she was exhausted, fell to sleep immediately, but then woke up a dozen times or more throughout the night. She felt like she was never getting into a deep sleep and had become physically and emotionally exhausted. She was chronically tired, headachy, irritable, anxious, and could not stay focused at work. She was using caffeine to stay alert and awake during the day.

When I saw her, she had already been to her acupuncturist again and was getting massages. She was eating well, exercising regularly, and was keeping up with her meditation and journaling practice. She was doing all of the “right” things—all habits and practices that had been keeping her feeling well and balanced for years. But it was becoming increasingly difficult to keep up with her self-care due to fatigue.

When we talked she noted that her menstrual cycles were a bit longer and she had skipped a couple of periods. She was having more heat at night. The heat used to occur just for a few days prior to the onset of her periods. By the time we met it was happening nearly every night. She also noticed that she was losing more hair, was having trouble remembering things, and her skin seemed drier. But she was not waking up with pain, her mind was not racing, and she went to bed feeling very relaxed and ready to sleep. She just couldn’t stay asleep. This was not sustainable.

A thorough physical exam and blood work were normal. She did not have significant imbalances that could be detected through her exam or lab work. Her nutrition was excellent. But clearly something was wrong. Her symptoms suggested the effects of hormonal changes, likely due to a relative decrease in estrogen, sufficiently lowered to interfere with sleep. Her excellent self-care and regimen of relaxation modalities and healthy living were not helping. The brain is rich with estrogen receptors and even subtle changes in estrogen levels in the blood can affect some women in myriad ways relating to sleep, energy, cognition, and wellbeing.

Since her efforts to improve sleep quality were not working, we decided to see what would happen if we had her use a low-dose estrogen patch. I spoke with her one week later and she was ecstatic to report that by the second night after putting on the patch her sleep had improved, and by the one-week point she was sleeping through the night. She felt like a new woman. Her mood and energy improved substantially. We added a small dose of progesterone to her regimen and continued with the low dose estrogen patch. Several years out, her sleep has remained excellent, her energy is great, her mind is clear, and she feels wonderful. Her insomnia was clearly related to lowered estrogen levels in her brain. Correcting this imbalance using both estrogen replacement and a hormone-balancing nutrition program led to complete resolution of the insomnia that had been troubling her.
Tom’s Solution for Insomnia

Tom was the walking wounded. He felt terrible. He came to see me after several years of depression, lethargy, and poor exercise tolerance. He had body aches and joint pain. His head felt fuzzy and he had trouble concentrating. He tried to keep up with his exercise but found it unusually grueling and exhausting. He was eating the standard American diet with lots of processed grains, sugar, dairy, and fast food. He slept five to six hours at night. He felt trapped in a job that he did not like but didn’t feel he could risk making a change while providing for his family. He was having trouble controlling his irritability around his family and was easy to anger. He was feeling lost and out of control.

One of the first things we did was have him eat a nutrient-dense, low-inflammation-potential diet (The Liftoff Foundational Intensive Nutrition Food Plan), and we corrected several nutrient deficiencies through food and by having him take high quality supplements. While adhering to the food plan he felt at least fifty percent better and became hopeful about eventual full recovery. But he continued to stay up late and rise early to get his workouts in before taking the kids to school and starting his own work day. This was a long-standing pattern and he did not recognize that he was sleep deprived. I convinced him to gradually move his bedtime to an earlier time, to remove all electronics from his bedroom, and to stop using them at least two hours before lights-out. I also suggested that he try to get outside at mid-day to receive natural light for at least thirty minutes to help reset his circadian rhythm.

He worked on this for a while and was able to get his bedtime moved up to 10:00 pm (it had been 12:00 to 1:00 am), and was getting up at 5:45 am to work with his trainer. When he was able to sustain this along with the food plan he felt one hundred percent better, just like his normal self. His energy was high, focus and concentration good, mood happy and stable, and he was much less prone to irritability and anger. His exercise tolerance improved greatly. He falls off the wagon from time to time, as old habits can die hard, but he now knows the power of good sleep habits in his life.

Insomnia Basics: The Primary Functions of Sleep

We can all relate to the solace and deep comfort of a good, long night’s sleep and the many ways we feel rejuvenated. And there’s good reason for that. Sleep is the ultimate shut down and restoration at the deepest level of our biology. While sleep is complex, the foundational functions of sleep are:

- To power down for energy conservation.
- To allow for detoxification and cleansing of the brain.
- To ramp up the process of energy renewal.
- To regulate key aspects of our physiology (like hormones) through alignment with the
solar cycles of light and dark.

- To consolidate memory and integrate internal wisdom through dreams.

**Energy Conservation**

Being awake is energy expensive, regardless of our level of activity. We are not built to sustain that level of energy use without built in breaks. Sleeping overnight allows for our body to power way down. Body temperature drops, the cardiovascular and digestive systems ramp way down. The body goes into a deep state of quiet and rest. This allows energy stress on our system to stay low while restoration mechanisms get us ready for the next day of wakefulness.

This energy conservation period is facilitated by sleep-inducing homeostatic mechanisms in the brainstem that produce the urge to sleep after a period of wakefulness. It is also induced by the production of melatonin, produced by the pineal gland in response to light reduction and darkness (also by meditation). Melatonin calms the brain through global inhibition of brain activity, in addition to other aspects of our waking physiology.

**Detoxification and Cleansing**

What goes hand-in-hand with energy production during wakefulness, is the unavoidable production of oxidative stress molecules—the toxic debris of energy production—the price we must pay for using oxygen to make energy. This toxicity must be neutralized and removed to keep our cells and tissues healthy. When we lose sleep, we’re spending more time awake and making energy—this adds to the pool of toxic oxidative stress. Melatonin, the great multi-tasking hormone, in addition to functioning as an important brain-calming agent, is also a powerful antioxidant, assisting in the detoxification function of sleep.

We literally cleanse our brains while asleep. Research shows that when we sleep our brains shrink. Studies done on mice demonstrate that brain shrinkage by as much as sixty percent occurs. This allows for increased flow of the cerebral spinal fluid (CSF) that surrounds our brain and fills every available crevice. In this way the CSF sweeps away the toxic debris and proteins that accumulate while we are awake—proteins like beta-amyloid, which shows up in the destructive brain plaques seen in the brains of Alzheimer’s patients. Not surprising, there is a strong link between sleep deprivation and risk for Alzheimer’s and other forms of dementia. Based on these findings from numerous animal studies, it appears that the removal of neurotoxic waste products may be one of the important restorative functions of sleep.

**Energy Renewal**

The energy conservation and detoxification aspects of sleep allow the membranes and
delicate structures of the cells and subcellular mitochondria (where energy is manufactured) to maintain their highest level of integrity and function. Additionally, the circadian rhythm aspects of sleep, when aligned with the light-dark solar cycles, set into motion a series of physiological events that serve to anticipate and support the energy needs of waking up and moving from deep sleep into a waking state. This is achieved primarily through the hormones of our adrenal glands, which serve the primary function of providing carbon atoms for energy production when we need it.

Sleep deprivation throws a wrench into the hormonal orchestration of energy production. Initially, morning cortisol levels rise, as part of a stress response to the heightened demands placed on the body by lost sleep. Eventually, cortisol levels can fall off. To address the increased stress and energy needs of the body during sleep deprivation, appetite and food consumption are increased through loss of hormonal control by guerlin and leptin, respectively. Weight gain is a common manifestation of ongoing sleep deprivation as the body’s way of trying to maintain energy production.

**Physiological Control Through the Circadian Rhythm**

We are genetically programmed to align our physiology with the solar cycles of light and dark. When sleep aligns with this cycle, positive control of many facets of our internal biology comes to pass. Sleep deprivation interferes with this point of control, inhibiting not only energy production and detoxification, but also function of all key hubs of our internal biology—the heart and vasculature, the gut, the immune system, the brain and nervous system, hormones, and all complex cell-signaling functions of the body.

We know that sleep deprivation leads to dysfunction in all of these key domains of our biology—including elevated blood pressure, digestive and gut motility problems, hormone imbalances (including PMS, menopausal symptoms, and infertility), weight gain, increased inflammation, increased susceptibility to infectious disease, cognitive dysfunction, and much, much more.

**Memory and Dreams**

Memory consolidation and dreams occur during the rapid eye movement (REM—more about the stages of sleep below) stages of sleep. Sleep deprivation leads to memory impairment both acutely and chronically. The intent of dreams are controversial, but Carl Jung, the venerable late psychoanalyst, hypothesized that dreams carry symbolic content from the unconscious as a means to bring important wisdom into our awareness. Dream recall is the most vivid when we awaken during REM sleep.
We Are Rhythmic Beings: Clock Genes

Sleep, as a biological function, has evolved with the changing, rhythmic aspects of our earth—the solar, lunar, and seasonal cycles. This relationship has become a part of our foundational genetic wiring and optimal sleep stays true to these cycles. Our sleep story is about sleep, and also about the powerful connection of light and dark to our internal biology.

The light-dark solar cycles, seasons, lunar cycles, and temperature fluctuations of the earth have become ingrained in our genetics and biology—we are wired to live according to the dictates of these environmental cycles. When we get out of sync, our health suffers. While our modern existence has gifted us with technology that advances us in many ways and allows us to hack the pressures of nature’s fluctuating conditions—like electricity, artificial light, and electronic devices—our best health, energy, and wellbeing demand that we surrender to nature’s rhythms—especially to sleep according to the solar cycles.

Our internal sleep-wake cycles adhere closely to the light-dark cycle of the sun—in fact our biology is entrained by light and dark to control sleep and regulate key aspects of our biological function. This connection between solar cycles and our biology is facilitated by the turning on and off of clock genes. Clock genes comprise ten percent of our total genome, express themselves according to the relative amount of light transmitted to the brain, and form the basis of our circadian rhythm—our biological response to the solar cycles of light and dark. They exert control over the many rhythmic aspects of our biology, such as sleep and rest, wakefulness and activity, body temperature, blood pressure, hormone secretion, energy production, detoxification, and many other aspects of our internal biology.

For clock gene expression to exert positive control over our physiology, it is best for us to sleep at night, when it’s dark, and be awake during the day, with regular and adequate natural light exposure. It is ideal to receive a minimum of an hour of outdoor light exposure each day, preferably at noon when the sun is closest to the earth, and adherence to sleep patterns that have us awake when it’s light and asleep when it’s dark.

The physiological effects of darkness favor sleep, allow for critical energy preservation and repletion, and support for core physiological functions that restore, cleanse, and revitalize us. Likewise, our perception of sunlight starts the process of coordinating the higher energy functions of the body. We function and feel best when there’s healthy balance between sleep and wakefulness—in sync with the cycles of the sun.

Melatonin

The seat of our circadian rhythms, or biological clock, is within the hypothalamus. Environmental light is first perceived by the retinæ of the eyes, which sends this electrical information to the suprachiasmatic nucleus within the hypothalamus. Information from this control point of our circadian rhythm turns on and off clock genes, which send their information out into the body as well as to the pineal gland—the master regulatory gland that...
turns light, temperature, and electromagnetic information into signals that control sleep—and ultimately our hormonal, stress, immune, detoxification, and energy systems—through the action of melatonin.

Synthesized when it’s dark, melatonin regulates the sleep-wake cycle through its inhibitory action on the brain, encouraging sleep. It is melatonin that plays a key role in our ability to sleep and to allow all of the restorative functions of sleep to take place. Optimal production of melatonin requires exposure to light and dark according to the solar cycles of the earth.

What Happens When We Don’t Sleep? The Ramifications of Insomnia and What to Do About it.

See Part Two of this Series:

*Insomnia Solution–Part Two: Treat the Root Cause*

Resources:


Max Hirshkowitz, PhD, et al. National Sleep Foundation’s sleep time duration recommendations: methodology and results summary. Sleep Health, March 2015: Volume 1, Issue 1, Pages 40-43: [read here](#)


year career. Her work honors each individual and the power of their stories, their inner wisdom, and innate healing potential. She believes that the bones of healing are in what we do for ourselves. She is the author of Liftoff, a manual of energy recovery and healing through essential self-care practices.