Why We Need Sleep

We spend, on average, a third of our lives asleep. Most Westerners don’t value that time very much, considering it unproductive. We set our alarm clocks to keep us from oversleeping, and many of us consume stimulants in an effort to extend our waking hours. After all, no one pays us to sleep.

When we’re sleeping, it doesn’t look like much is going on. We barely move and we rarely speak. But our bodies are very much at work, repairing our tissues and recharging our minds to prepare us for the next day. There are many health benefits to sleep, which are not fully realized until we get enough.

Sleep Balances the Body’s Hormone Levels

Turns out, hormones are not just for sex. Hormones are chemical signals produced by the body’s endocrine glands that regulate all kinds of bodily functions. Metabolism, mood, behavior, libido, immune function, growth, weight loss, and muscle gain are all strongly influenced by hormones. All of these hormones are needed at precise levels in the body.

Sleep helps to regulate cortisol. The right amount of cortisol enables us to metabolize proteins, fats, and carbohydrates. It is needed to regulate blood sugar and blood pressure. Even the immune system is dependent upon proper levels of cortisol for optimum functioning. But lack of sleep can cause the body to produce too much.

Excessive cortisol makes us irritable, anxious, and depressed. We put on extra weight and are even prone to insomnia, which creates a vicious cycle. Over the long term, very high levels of cortisol can do even more serious damage to our systems.

Excessive levels of cortisol impair digestion, damage muscle and bones, interfere with healing and regeneration, disrupt mental functions, hinder immune response, and further disrupt the proper levels of other hormones in our bodies. The easiest, cheapest, and most natural way to regulate cortisol levels is to get adequate sleep.

Our bodies produce growth hormone when we are sleeping. This is the main hormone that stimulates children's bodies to grow. In adults, this is one of the hormones that helps to regulate muscle mass. Growth hormone also helps to control body fat. Like cortisol, too much is not a good thing. The best way to get the correct nightly dose of growth hormone is to get enough sleep every night.

Grehlin and leptin are additional hormones that are produced during sleep. Grehlin and leptin both play an important role in regulating our urges to eat. An out of control appetite is arguably the most crippling obstacle to controlling weight. Without adequate leptin, it is difficult to find satiety at the end of a meal. In order to get a properly balanced dose of these hormones, we need to get a full night's sleep.

How Sleep Affects Brain Waves

Cells, known as neurons, use electricity to send signals throughout the brain. The combined electrical activity of the brain is referred to as brainwaves because of the oscillating, wave-like effect of the electrical activity. Science has denoted four different types of brain waves: delta, theta, alpha and beta. Each type of brainwave is distinct due to the different speeds of oscillating charges that make up the brain activity.

Beta brainwaves make up the fastest cycles, firing at 13 to 60 pulses per second. Generally, when we are awake, we tend to exhibit more beta brainwave activity than any other. Routine stressors of everyday life typically require us to be able

process information quickly, and beta waves are perfect for that. We don’t exhibit beta brainwaves when we are sleeping.

Alpha brainwaves are somewhat slower, oscillating at 8-13 pulses per second. Alpha brainwaves can occur when we are sleeping or awake. Alpha brainwaves are present during REM sleep, but they are more common when an individual is awake, relaxed, and in a state of focused calm. When our brainwaves slow to alpha speed, we put ourselves in the ideal frame of mind to handle complex information, to create art, to acquire a foreign language, or to analyze concepts at a deep level.

Theta brainwaves are present in deep meditation and light sleep. Theta brainwaves are common in stage 1 sleep. Theta brain waves are markedly slower, oscillating at 4-7 pulses per second.

Delta brainwaves, oscillating at speeds of 0.1 to 4 pulses per second, are the slowest brainwaves. Typically, this is the rhythm the brain favors during stage 3, deep sleep.

What Happens When We Sleep

The experts have previously broken down sleep into five stages. Recently this has been changed to combine stages 3 and 4 into one stage. The first three stages are unimaginatively called stage 1, stage 2, and stage 3. The other commonly used term for stages 1-3 is NREM or nonrapid eye movement sleep. The last, and most important stage, is REM or rapid eye movement sleep.

Stage 1

State 1 is the borderland between consciousness and sleeping. In this stage of sleep, we are still somewhat aware of our surroundings, as this is the lightest stage of sleep. At this stage, many of us don’t realize that we are asleep yet, and it

is very common for someone when woken up from this stage of sleep to say that they weren’t sleeping.

At this stage of sleep, brainwaves move from fast pulsing beta waves to a more relaxed state, producing slower alpha waves; and then even slower theta brainwaves.

It is not unusual at this stage of sleep to experience something known as hypnagogic hallucinations. These are extremely vivid sensations experienced as one is falling asleep. A sensation of weightlessness, the feeling of falling, the sensation of being touched, or hearing someone call your name are prime examples of hypnagogic hallucinations.

Another typical but jarring experience in this stage of sleep is the myoclonic jerk. Have you ever been falling asleep and then abruptly startled awake, but seemingly without any cause? This is the experience of a type of myoclonus reflex. Although very disconcerting, myoclonic jerks are common during stage 1 sleep.

Stage 2

This is a deeper onset of unconsciousness. At this stage of sleep we are unaware of our surroundings. Breathing and heartbeat are regular, and the body’s temperature drops slightly. This temperature drop is only by a couple of degrees Fahrenheit, but it is crucial in order get to deeper stages of sleep. This is why sleeping in a cool room helps; most prefer temperatures between 65 and 75 degrees Fahrenheit.

Stage 3

Dreams are more likely to occur in stage 3 than in the previous stages of NREM sleep. A small drop in blood pressure occurs. Breathing slows. Brain activity slows. Delta brainwaves are common in this stage. Many different hormones

are released. Blood supply to muscles increases, tissues are repaired, and growth occurs. This stage also restores energy to the body.

Stage 4 or REM Sleep

REM sleep stands for rapid eye movement. Many changes in the body take place. The cardiovascular system speeds up, heart rate increases, blood pressure rises, and our breathing becomes more rapid. Brainwave activity increases. In this stage of sleep, alpha waves are common.

It used to be believed that dreams only took place during REM sleep. Actually, dreaming is more common in REM sleep than in the other stages of sleep, but dreams can occur at every stage of sleep.

During REM sleep, dreams tend to be more intense. This is why our bodies paralyze us until we cycle out of REM sleep. This paralysis is caused by chemical signals sent from the brain that inhibit us from acting out our dreams.

REM sleep plays a crucial role in our mental health, and REM sleep is the stage of sleep needed for memory consolidation.

Stages Revisited

After stage 4, or REM sleep, the stages are repeated, excluding stage 1. So on a typical night, we first experience stages 1,2,3, and 4, then we experience stages 2,3,4, and 2,3,4 over and over until we wake up. The length of each stage depends on many factors, including our quality of sleep. With optimal rest, REM sleep usually lasts 90 min.

Dreams

Everyone dreams, and usually we have several dreams a night.

If you don’t remember your dreams, there is a good chance that your sleep cycle is disrupted.

Dreams can vary a great deal from person to person, due to different life experiences. There are, however, a few common themes that many of us experience in our dreams. Dreams of falling are very common, as are dreams of flying. Dreams involving violence are also commonplace. Dreams of being chased and dreams of being followed are experienced by nearly everyone. Everyone dreams about sex. Forgetting to get dressed is also a common theme shared by many.

Lucid dreams are the dreams wherein we are aware that we are dreaming and we have some control over the dream. The extent of control over the dream varies, and in order for the dream to be under our control, we must first be aware that we are dreaming. Lucid dreaming is a skill that can be practiced and later mastered. If, before going to sleep, we focus on our desire to control our dreams, then we are more likely to be able to do so, at first to a limited extent, and later to a large extent. However, complete control of our dreams all night, every night, is beyond human ability.

Nightmares happen to everyone from time to time. If they occur frequently, they can be a symptom of an underlying neurological or psychological condition. One of the most effective treatments for frequent nightmares is to practice lucid dreaming. Life isn’t always pleasant, so it only makes sense that dreams are not always pleasant either.

Sleep Revs Up The Immune System

Individuals who sleep nine hours a night, instead of seven hours a night, have greatly enhanced NK cells, or natural killer cells. NK cells are special white blood cells. They are the special forces of the immune system that patrol the body in search of pathogens. They can kill cells infected with cancer or cells infected with viruses. They can also kill

viruses, bacteria, fungi, protozoa, and helminthes.

NK cells are just one component of our complex immune system. All parts of our immune system work more efficiently with adequate rest.

Snoring

What causes snoring? Like many things in life, it is a combination of factors, not just one. We all have differences in anatomy. Variation is found in uvulas (the soft tissue that resides in the back of the throat), tonsils, and nasal passages. Structural differences in these anatomical structures can play a role in snoring.

Most of the people who snore are overweight. More often than not, a lack of muscle tone around the neck area, and excess fat around the neck is the main problem. Usually, weight loss and exercise is the best cure.

Smoking, alcohol, muscle relaxers, tranquilizers, and sleep medications, can all make snoring worse. Smoking cigarettes or smoking marijuana tends to generate excess mucus, which can obstruct the airway, contributing to that aggravating, rasping sound. The other drugs mentioned tend to relax the muscles around the throat, further aggravating a snoring problem.

Insomnia

Insomnia afflicts one half of Americans at some point in their lives, and many people suffer from insomnia on a regular or even nightly basis. There are a number of causes of insomnia. If insomnia has been a persistent problem, lifestyle changes are necessary in order to overcome chronic sleeplessness.

Lifestyle changes include giving up habits that are detrimental to our health. This is easier said than done. In fact, for most people, it is very difficult to give up those

things that get in the way of sleep, even when they really do want to sleep well.

Alcohol

Many people think a nightcap or two will help them relax before turning in for the night. It’s true. Alcohol helps us relax, but it doesn’t help us to enter a deep sleep or to stay asleep, making the night’s sleep less rejuvenating.

Coffee and Energy Drinks

Coffee and energy drinks contain harmful substances in addition to caffeine. Caffeine increases levels of adrenaline and cortisol in the body, and increased levels do not help us sleep. Caffeine can stay in your system for up to 20 hrs. The average American downs three cups of coffee a day, usually drinking extra coffee following nights that they don’t sleep well. Unfortunately, this can create a vicious, exhausting, grouchy cycle. Both drinks are also very hard on the kidneys.

Smoking

The nicotine found in cigarettes stimulates the body to release adrenaline. Of course adrenaline interferes with sleep, and the hundreds of other chemicals that are found in cigarettes aren’t likely to help us sleep either.

How to Cure Insomnia

Camping

Camping is one of the most effective cures for insomnia. Time away from urban living helps to clear the mind, as does being immersed in natural surroundings. Being outside helps to get our bodies in tune with our natural circadian rhythms. In other words, it can help reset your biological clock.

Another thing that we can only get from the outdoors is the realignment of our nervous system. This realignment is different than the kind you can get from a chiropractor. Our nervous system runs on electrical impulses, so it needs grounding from time to time. When we are indoors or outside and wearing shoes all the time, the body's electrical nervous system never gets properly aligned. Try standing outside with no shoes on when camping for fifteen minutes a day. It is amazing how rejuvenating and relaxing it feels at the same time. It will make you feel in sync.

Staring at artificial light sources such as TVs or computers interferes with the body's production of melatonin, nature's sleep aid. Electronics can also interfere with our electrical alignment, so leave the electrical devices in the car.

How Much Sleep Do We Need

Sleep needs vary by age. The following are recently revised guidelines from The National Sleep Foundation's panel on how many hours of sleep we need at different ages.

- Newborns (0-3 months): 14-17 hours a day.
- Infants (4-11 months): 12-15 hours a day.
- Toddlers (1-2 years): 11-14 hours a day.
- Young children (3-5 years): 10-13 hours a day.
- Children (6-13): 9-11 hours a day.
- Teenagers (14-17): 8-10 hours a day.
- Young adults (18-25): 7-9 hours a day.
- Adults (26-64): 7-9 hours a day.
- Older adults (65+): 7-8 hours a day.

How well we sleep is one of the best predictors of our longevity. Sleep slows the aging process. Those who sleep poorly actually age faster. Chronic sleep deprivation can shorten a lifespan by an average of eight to ten years. Instead of trying to get more hours out of the day, we should all be trying to get more years out of our bodies. In the end,

isn’t that the best way to get more out of life and to get more done?

Many people boast about how they can function just fine on five or six hours of sleep a night. These are usually the same individuals who chug energy drinks, drink copious amounts of coffee, and pop energy pills. Instead of functioning at full capacity, they have learned to “get by” with only a shadow of their physical and mental capacities. Many of these people don’t realize that they are chronically sleep deprived because they’ve grown accustomed to being low on sleep and stimulated all of the time.

Signs of Sleep Deprivation

The most noticeable sign of sleep deprivation are dark circles under the eyes. Unfortunately raccoon eyes can also be a sign of kidney and liver toxicity, and it can be difficult to tell the difference between dark circles caused by a lack of sleep, dark circles caused by a build up of toxins in the body, or both.

Another common symptom of sleep deprivation is a pronounced difficulty in making decisions. Commonly this manifests as a tendency to delay decision making, to relegate decisions to a spouse or close friend, or to freeze when faced with important, time sensitive decisions. For others this manifests as a tendency to impulsively make the wrong decision or to overreact to an aggravating situation.

Clumsiness is another common symptom of sleep deprivation. No amount of caffeine or other stimulants can mask this symptom completely. The lack of coordination is often caused by dozing off, also referred to as micro sleeps. If we’re lucky, we drop a bowl of food, or the remote control. If unlucky, we have more serious accidents.

According to the NHTSA (National Highway Traffic Safety

Administration) in the U.S. alone at least 100,000 automobile accidents a year are the direct result of driver fatigue. Sadly, of these crashes, there are roughly 1,550 fatalities, 71,000 injuries, and $12.5 billion in financial losses. These figures may only be the tip of the iceberg. According to Harvard Medical School those figures are the tip of the iceberg and the real figures are actually much worse.

“Every week, 2 million Americans nod off at the wheel; drowsy drivers get into 1.9 million crashes a year; and 20 percent of all serious motor vehicle accidents—one out of every five—involve sleepy drivers. The annual death toll is 7,500, and serious injuries number 50,000.”

Are You Getting Enough Sleep?

Try this test recommended by Dr. Don Colbert. During waking hours, try sitting in a comfortable chair in a dark room, without any music or noise for five minutes. If after five minutes you feel tired, then you aren’t getting enough sleep.

The Power of Naps

The vast majority of mammals (more than 85%) are polyphasic sleepers, which means that they sleep on and off throughout a 24 hr. period.

It is normal for people to grow tired twice in a 24 hr. period. We are polyphasic sleepers, but more specifically we are bi-phasic sleepers. We are designed to sleep twice a day – a short time in the afternoon and a longer, deeper sleep at night. Interestingly, at both times that we are designed to go to sleep our body temperature drops slightly, in the afternoon and at night.

There is no reason to believe that human beings should only sleep for one long stretch a day. Americans and others in the

Western world are often under the impression that if they sleep during the day, they are being lazy. Other cultures have an entirely different take on this.

Throughout much of the world (especially in hot areas near the equator) afternoon commerce comes to a stop, businesses close, and people everywhere turn in for a siesta or a nap. In the Mediterranean, Southern Europe, and Latin America, afternoon naps are seen as necessary to maintain a high level of productivity. Siestas, to them, are a physical necessity, not an extravagant luxury reserved for small children and the elderly.

Not everyone works a job with the flexibility to take naps during the workday. But those who do should take advantage. It will make you more productive. Napping on your days off can also help you to make the most of your time away from work.

Afternoon naps are favored by many of the most successful people in history including Albert Einstein, Bill Clinton, George W. Bush, John F. Kennedy, Leonardo Da Vinci, Margaret Thatcher, Napoleon, Ronald Reagan, Thomas Edison, and Winston Churchill.

Naps have been shown to:

- Improve productivity by 34%
- Enhance alertness by 100%
- Reduce the risk of accidents (at work and on the road)
- Improve negotiation and communication abilities
- Reduce stress
- Promote positive emotions
- Provide extra energy

Conclusion

With today’s busy lifestyle, sleep is often a low priority. Most of us do not fully understand what sleep does for us,

other than making us feel less tired. This is why so many substitute stimulants for adequate sleep. But stimulants only make up for our lack of energy, not for our lack of sleep. Even though it takes more time to get adequate sleep, we get more out of our bodies, more out of our minds, and our waking hours are much more productive when do make time to sleep and sleep well.

Recommended Supplements:

- Shillington's Nerve Sedative Formula
- L-Tryptophan
- Stress B-Complex – Thorne Research
- Basic B-Complex – Thorne Research
- SleepThru – Gaia Herbs
- Sleep & Relax – Gaia Herbs
- Shillington's Cal-Calm Tea
- Skullcap Herb – Gaia Herbs
- Vitamin D
- More supplements for insomnia

Further Reading:

- *The Glymphatic System – How Insomnia Leads to a Filthy Mind*
- *Pure Sleep – 11 Tips for Better Sleep*
- *Natural Remedies for Insomnia*
- *Thyroid Disease Epidemic – How is Yours Doing?*
- *Natural Remedies for Adrenal Fatigue*
- *Mental Health, Physical Health & B Vitamins – Nature's Valium*
- *Earthing – Touching Earth*
- *Earthing – Ground Your Body for Optimal Health*

Sources:

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- *What Happens When You Sleep-National Sleep Foundation*
- *Brainwaves*-Doctor Hugo

- *Why Cortisol is Good For You-SCD Lifestyle*
- *How Dreams Work*-How Stuff Works
- *Siesta Facts*-ZZZ National Siesta Day
- *How Much Sleep Do We Need*-Science Daily
- *Facts and Stats-Drowsy Driving by The National Sleep Foundation*
- *Drowsy Driving*-Radcliffe Institute for Advanced Study Harvard University
- *The Seven Pillars of Health*, by Don Colbert M.D.