



KARYN SHANKS MD

*Heart, Hope, Healing*

# How to Heal Chronic Fatigue with Beautiful Natural Sleep

BY KARYN SHANKS MD | AUGUST 16, 2019



## Why Sleep is a Non-Negotiable Key to Chronic Fatigue Resolution

Sleep is powerful medicine and one of the absolute keys for [sustainable resolution of chronic fatigue](#).

Energy restorative sleep can't be hacked, passed over, or substituted for. Few aspects of self-care are as necessary to our healing and energy as good sleep.

Sleep allows us to power down, repair, replenish, and renew, providing the deepest restoration of energy and wellbeing available to us.

# Not Sleeping Well Keeps Us Stuck in Fatigue

I've seen it countless times in my clients. How the last remaining hurdle to their chronic fatigue recovery is not sleeping enough. Or not getting quality, restorative sleep. It's the thing that keeps them stuck in exhaustion, brain fog, and chronic illness.

We *must* sleep. Sleep is the boss.

Many of us resist sleep, considering it a nuisance that robs us of precious hours of being awake. 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.

## Fatigue is How We Survive the Effects of Sleep Deprivation

In the end, depriving ourselves of sleep always catches up and slams the brakes on our energy and wellbeing.

Sleep is so central to our ability to power up, conserve energy, and repair the damage that has been done while awake, that when we skimp, our bodies will always bring us down (exhaustion, chronic fatigue, illness) to survive.

Even mild forms of sleep deprivation are important players in chronic fatigue and persistent illness, contributing to dysfunction and suffering.

## Sleep Problems May Be the *Effect* of Illness

Sleep disturbances may also be *caused* by illness or critical imbalances that affect the brain's ability to make energy and control sleep, or by creating uncomfortable symptoms that make it hard to fall or stay asleep.

Loss of sleep will exacerbate the underlying causal problems.

Some common dysfunctions that effect sleep quality:

- persistently high stress levels,
- anxiety and depression,
- trauma,
- pain,
- inflammation,
- toxicity,

- persistent infection,
- hormone imbalances, and
- nutrient deficiencies.

It's important to correct the underlying causes of illness to recover good sleep.

# Healing Stories: The Power of Sleep to Resolve Chronic Fatigue

## *Story of Gretchen*

*Gretchen was forty-seven years old and suffered from chronic fatigue and severe insomnia. She was a project manager for a local tech company, worked full time, and was raising three young children with her husband.*

*Seemingly out of the blue, she just couldn't stay in a deep sleep. By the end of the day she was exhausted and fell to sleep immediately, but she would then wake 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.*

*She was already eating well, exercising regularly, and keeping up with her meditation and journaling practice. She was doing all the "right" things, the same 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.*

*As we talked, she noted that her menstrual cycles were a bit longer, she had skipped a couple of periods, and she was hot and sweaty many nights. She also noticed that she was losing more hair, was having trouble remembering things, and her skin seemed drier. All these were symptoms of decreased estrogen which, if sufficiently lowered, can also interfere with the ability to stay asleep. At her age, it was the biology of life. She was moving to a new equilibrium, but one that didn't work for her. Her self-care regimen of relaxation modalities and healthy living were great, but for her were not enough to offset the effects of low estrogen. Fortunately, we could help her reestablish her old sleep balance.*

*We took measures to improve her estrogen equilibrium, including 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 and feeling much more rested in the morning. She felt like a new woman. Her mood and energy improved substantially and chronic fatigue resolved. Several*

years out, while continuing hormone therapy, her sleep remained excellent, her energy robust, her mind clear, and she felt wonderful.

For Gretchen, menopausal hormone imbalance was an important cause of her insomnia. Correcting the underlying imbalance led to restoration of good sleep.

Now, let's consider the opposite, a case where not sleeping led to illness.

## Story of Tom

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 felt trapped in a job that he did not like but didn't feel he could risk making a change and still provide 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. And he only slept five to six hours each night.

In situations like Tom's, our Functional Medicine approach is to get at root causes—those things that support us, fuel us, and get at what we're made of. So, one of the first things we did was have him start a nutrient-dense, low inflammation potential diet (the FINE food plan detailed here), and we corrected several nutrient deficiencies through food and high quality supplements. By adhering to the food plan, he felt considerably better and became hopeful about eventual full recovery.

But Tom continued to stay up late and rise early to get his workouts in before taking the kids to school and starting his own workday. This was a long-standing pattern, and he thought it worked. But it was such a routine part of his day that he did not recognize he was still sleep deprived. Yes, he might have been fifty percent better, but he wanted more. So, as we talked, I convinced him to gradually move his bedtime to an earlier hour, to remove all electronics from his bedroom and always use blue light filters when using them, and stop 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 gradually got his bedtime moved up to 10:00 p.m. (it had been 12:00 to 1:00 a.m.), which allowed him to get sufficient sleep before getting up at 5:45 a.m. to work with his trainer. Along with sustaining his food plan, he now felt one hundred percent better! Just like his normal self. His energy was high, focus and concentration good, and his mood happy and stable. 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.

# What Makes Sleep So Important

We can all relate to the solace and deep comfort of a good, long night's sleep and the many ways it makes us feel rejuvenated. But we sometimes take for granted *why* it makes us feel so much better and why not sleeping enough leads to chronic fatigue.

While sleep is complex, there are four foundational functions of sleep that lead to its profound restorative properties and importance for reversing the energy deficit and cognitive problems associated with chronic fatigue.

## The Four Foundational Functions of Sleep

- energy conservation and renewal,
- detoxification and cleansing of the brain,
- circadian rhythm regulation, and
- memory consolidation and dreaming.

## Foundational Sleep Function: Energy Conservation and Renewal

Being awake is energy expensive, regardless of our level of activity. We are not built to sustain the awake-level of energy use without built-in breaks.

Sleeping overnight allows for our body to power down—body temperature drops, and our body systems are less active. Blood pressure and heart rate go down and our digestive system rests. The body goes into a deep state of quiet, reducing energy stress on our bodies, restoring us for the next day of wakefulness.

The energy conservation aspect of sleep is facilitated by the brain. It controls the sensation of sleepiness and levels of the sleep hormone, melatonin. These powerful factors make it hard for us to resist surrendering to sleep.

Sleep also supports our daily renewal of fresh energy. Energy renewal depends on healthy energy conservation, detoxification (see next section), as well as energy nutrition.

Sleep supports the balance of hormones critical to energy production: hypothalamic and pituitary hormones that control thyroid and adrenal function, thyroid hormones, and the adrenal hormones cortisol, DHEA, and aldosterone. [See Brain-Thyroid-Adrenal-Mitochondrial energy activating system discuss.]

# Foundational Sleep Function: Detoxification and Cleansing of the Brain

Antioxidant protection and the removal of neurotoxic waste products are some of the most important restorative functions of sleep. The energy use and work of being awake leads to the accumulation of toxic debris from the chemistry of energy production. This toxicity, referred to as *oxidative stress*, must be neutralized and removed to keep our cells and tissues healthy. Our cells depend on protection from dietary antioxidants (like vitamins C and E, glutathione, and alpha-lipoic acid), and intrinsic antioxidants such as melatonin. Sluggish energy detoxification is an important contributor to chronic fatigue.

We literally cleanse our brains while we sleep. The spaces between cells throughout the body play a dynamic role in clearing toxins and debris. Within the brain this is accomplished by cerebral spinal fluid (CSF) that fills those spaces between cells. [Research](#) shows that when we sleep our brains shrink. Studies done on mice demonstrate brain shrinkage by as much as sixty percent. This allows for increased flow of the CSF around the brain and through every fold and crevice, allowing the fluid to sweep away the toxic debris that accumulates while we're awake. This includes proteins such as beta-amyloid, toxic components of the destructive brain plaques observed in the brains of people who've died from Alzheimer's disease.

If we don't sleep, not only does the additional wakefulness demand energy to sustain it—adding to the pool of toxic oxidative stress—but our brains can't clean things up. The toxins, debris, and waste products that accumulate around the brain with nowhere to go flatten us. Not only does this make us chronically fatigued and sick, it is not at all surprising that there is a strong link between sleep deprivation and the risk for dementia and neurodegenerative disorders, including Alzheimer's, all linked to brain toxicity.

# Foundational Sleep Function: Circadian Rhythm Regulation

We are genetically designed to live according to the solar cycles of light and dark. Being out of sync with this circadian rhythm is an important contributor to chronic fatigue. Not only is our sleep pattern affected by our circadian rhythm, but our circadian rhythm—and all the important physiology it controls—is, in turn, affected by our sleep.

While many of our modern technological advances allow us to subvert the pressures of nature's fluctuating conditions—like electricity, artificial light, and electronic devices—our best health, energy, and wellbeing occur when we live according to nature's rhythms, sleeping when it's dark, being awake when it's light, and getting optimal exposure to mid-day sunlight. The light produced by electricity and electronic devices (blue light) interferes with healthy sleep by altering our internal circadian rhythm and control of sleep physiology.

How to Honor Your Innate Circadian Rhythm for Optimal Health and Energy:

- Sleep at night, when it's dark,
- Be awake during the day, with adequate natural light exposure.
- Ideally get a minimum of an hour of outdoor light exposure each day—preferably at noon when the sun is closest to the earth.
- When outdoor light is unavailable, use a 10,000 lux therapy light: sit within one foot of the device for a minimum of 30 minutes per day.

## Foundational Sleep Function: Memory Consolidation and Dreaming

Sleep is critical for editing and interpreting all the information collected by our brains while awake. Sleep reinforces memory in all stages of sleep, but primarily early in the sleep cycle. Sleep deprivation interferes with the creation of new memories, which may lead to cognitive impairment—a common occurrence with chronic fatigue and insomnia.

Dreams occur during the rapid eye movement (REM) stages of sleep. The brain is highly active during this time, while the muscles of the body (except for eyes, ears, heart, and diaphragm) are paralyzed. This may be the only time the mind activates outside the bounds of our conscious control. Dreamtime is thought to be when our untethered brains are the most intelligent, insightful, and creative, potentially leading to innovation, discovery, and freethinking.

## What Gets In The Way Of Good Sleep?

### Habitual Sleep Debt

Some of us have developed bad habits that rob us of the restorative sleep we need to stay well and that contribute greatly to chronic fatigue. Intentional sleep debt is the number one cause for our culture's epidemic of sleep loss and chronic fatigue.

### Excesses of Stress

The excessive stresses of modern living can leave us feeling tired, but wired, and unable to fall or stay asleep. Or perhaps we're worriers and our thoughts and concerns about tomorrow are keeping us up.

# Unsuitable Sleep Environment

Our sleep environments can interfere with good sleep due to noise, light, or discomfort. We may have infants or small children living in our homes. Uncomfortable bedding can be an annoyance.

## Excesses of Light

Excessive exposure to blue light emitted from electronic screens or nighttime light, will keep us up by reducing melatonin production. Even small amounts of light (a single photon!) emitted into your sleep environment causes a decrease in melatonin production, the hormone responsible for calming the brain in preparation for sleep.

## Health Problems

Acute and persistent mood problems such as anxiety, depression, and bipolar disorder can interfere with both quantity and quality of sleep. And a host of other health problems will interrupt sleep: hormone imbalances, body pain and discomfort, urinary tract dysfunction, primary sleep disorders such as sleep apnea and movement disorders (periodic limb movement disorder, also known as restless legs syndrome, is common), circadian rhythm disturbances, chronic infections, allergies, inflammation, gastrointestinal disorders, and blood sugar instability.

## Sleep Deprivation

Some of the reasons for not being able to sleep well are, themselves, the very result of sleep deprivation. It can become a vicious cycle. When we're deprived of needed sleep, a wide range of health problems can occur, which themselves contribute to not sleeping well.

## What *Is* Good Sleep?

We understand why sleep is important. We know some of the toxic consequences of lack of sleep and how they rob us of ourselves. We've seen some of the most common causes of lack of sleep. But how do you know if you're one of the many sufferers of sleep deprivation? As with Tom in the earlier story, it may not be immediately apparent (though chronic fatigue is a good clue).

What does it mean to sleep well? The answer will vary from one individual to the next. The specifics—number of hours needed, best particular time of night best for sleeping, waking time, for instance—are unique to each of us. But based on what we've discussed up to this

point, you can ask yourself four simple questions when evaluating your sleep.

## Four Essential Questions to Assess Your Sleep Quality

- Is sleep sustained long enough to meet your unique needs?
- Is sleep deep enough and uninterrupted?
- Does sleep align with the solar cycle of light and dark?
- Are you waking up feeling refreshed and restored?

## Is Sleep Sustained Long Enough to Meet Your Unique Needs

It is important that we sleep *long enough* to meet our needs. We are all unique in what those needs are, and they change with age, level of activity, and energy requirements. They've changed as we've moved from living according to the natural conditions of the earth and her light-dark cycles, to using artificial light. Our ancestors slept many more hours, on average, than we do today.

Sleep research is tricky because it's hard to quantify optimal sleep time in a world that is so changed by the usual triggers and mediators of sleep—exposures to light and dark, and a multitude of lifestyle characteristics. These are factors that are difficult to control even in a research setting. However, [a gross approximation of optimal sleep times are as follows:](#)

- Newborns sleep most of the time—on average fourteen to seventeen hours per day. Then, the need for sleep gradually decreases as we age.
- Teens require eight to ten hours on average each night.
- Young adults need seven to nine hours each night.
- Adults ages twenty-six to sixty-four need an average of seven to nine hours of sleep per night.
- Older adults need seven to eight hours on average.

*For people who are severely fatigued, ill, or highly active, longer periods of sleep are necessary.*

*Note: These are all averages determined from observation of modern people sleeping*

*spontaneously in conditions in which we've overridden the natural light-dark cycles with artificial light sources.*

Many experts hypothesize that our sleep needs are actually much greater than these, and that we sleep longer and better with more daytime exposure to natural light and decreased exposure to artificial light—especially the blue light emitted from electronic devices, which inhibits melatonin production—at night.

## Is Sleep Deep Enough and Uninterrupted?

The quality of our sleep is as important as the amount of time we spend in bed. This means we must pass through the structural attributes of sleep that we refer to as the sleep stages. We don't yet understand all the details about sleep stages and the roles they play in the restorative functions of sleep, but we do know that they are necessary.

As we move through a full night of sleep, we cycle through all four non-rapid eye movement (NREM) stages as well as rapid eye movement (REM) sleep. We spend approximately eighty percent of our time in stages one through four NREM sleep, each defined by the particular types of brain waves that occur and our potential for arousal.

Each of the sleep stages has unique brain wave patterns as well as eye and muscle movement characteristics. We begin in stage one, rapidly advance to stage two, and end up in the deeper, coma-like stages three and four. Brain waves become slower, and it becomes increasingly difficult to arouse. These deeper stages of sleep are necessary for many of the restorative actions of sleep that we've talked about.

The remaining twenty percent of our sleep time is spent in REM sleep. REM cycles are typified by chaotic brain wave activity, muscle paralysis, and burst of rapid eye movement. This is the time when we dream. As we progress through the night, REM sleep periods increase in length while deep sleep decreases. Our most vivid dream recall occurs when we are aroused out of REM sleep.

If we become unable to spend enough time in the deeper stages of sleep due to interruptions or conditions that awaken us—such as pain, abnormal movement, or environmental disruptions—those deep restorative phases of sleep do not occur. This results in nonrestorative sleep. We experience this as fatigue. If it persists, the result is chronic fatigue and the multitude of chronic health conditions we've discussed.

## Does Sleep Align with the Solar Cycles of Light and Dark?

We've already discussed the importance of aligning sleep with our natural circadian rhythms, but I want to underscore that the literature on circadian rhythm disruption and health is

huge. We're designed to take in large amounts of natural light during the day, so much so that normal physiological function depends on it.

Low daytime light exposure, such as occurs when we stay inside all day, is associated with many problems involving energy, mood, sleep, hormone balance, and weight control. Many sufferers of chronic fatigue feel better when they increase their daily light exposure.

Sleeping in the dark and experiencing reduced light in the evening—as our ancestors did before our extensive use of artificial light—downshifts levels of stress hormones and inflammation mediators, and improves sleep quality. Shift workers who are awake during the night and sleep during the day, completely losing the influence of light-dark solar cycles on their bodies, have a reduced lifespan and increased risks for a myriad of health conditions, including chronic fatigue.

## Are You Waking Up Feeling Refreshed and Restored?

*This is by far the most important question of all.*

Feeling refreshed and restored is the best indicator of whether we have received sufficient high quality sleep. We don't need fancy tests to figure this out. Our bodies know.

How do you know? Each of the four sleep cycle categories overlaps and can be difficult to separate out, but if you are at all uncertain about the quality of your sleep, or have difficulty reading the signals of your body, observe yourself carefully and answer the following questions.

### Assess Your Sleep Quality

- Are you as alert and awake as you would like to be?
- Are your motivation, effort, and performance of tasks not where you want them to be?
- Are others expressing concern about your performance?
- Are you yawning, irritable, restless, having headaches, or falling asleep at inappropriate times during the day?
- Do you snore or wake up startled in the night?
- Do you need to wake up to an alarm in the morning?
- Do you depend on caffeinated drinks, stimulants, or sugar to get through the day?

If you answered "yes" to any of these questions, you may not be getting enough sleep, or sleep of sufficient quality. I've had clients who spend ample time in bed, and think they are sleeping, but we discover problems that interfere with their ability to stay in the necessary deep stages of sleep (such as sleep apnea or periodic limb movement disorder). Treating

these problems resolves their fatigue.

# 13 Beautiful Natural Sleep Solutions for Chronic Fatigue

Now that we understand the key components to beautiful natural sleep, let's explore the specifics of what we can do. Link to my next article, ["13 Beautiful Natural Sleep Solutions for Chronic Fatigue."](#)

## Resources

Karyn Shanks MD. [Heal: A Nine-Stage Roadmap to Recover Energy, Reverse Chronic Illness, and Claim the Potential of a Vibrant New You.](#) 2019.

Karyn Shanks MD. [How to Treat Chronic Fatigue with Energy Nutrition.](#) 2019.

Karyn Shanks MD. [13 Beautiful Natural Sleep Solutions for Chronic Fatigue.](#) 2019.

Karyn Shanks MD. [What Goes Wrong in Chronic Fatigue Syndrome: Introduction to the Brain-Thyroid-Adrenal-Mitochondrial \(BTAM\) Energy Operating System.](#) 2019.

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Karyn Shanks, MD, is a physician who lives and practices in Iowa City. Her work is inspired by the science of Functional Medicine, body-mind principles, and wisdom gleaned from the transformational journeys of thousands of clients over her twenty-five-

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.

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