

Nutrients and Supplements That Can Improve Your Sleep Quality

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STORY AT-A-GLANCE

- › There are many ways to improve your sleep, including supplements and addressing certain nutrient deficiencies, such as vitamin D, vitamin C and vitamin B12 deficiencies — all of which can impact sleep quality
- › Certain minerals are also important for sleep, including magnesium, potassium and calcium
- › Amino acids and hormones that play important roles in sleep and can be augmented through supplementation include tryptophan, melatonin and 5-HTP
- › Herbal sleep aids that can help you fall asleep faster and easier include CBD oil, valerian root and chamomile
- › Two commonly overlooked environmental factors that can rob you of sleep — exposure to blue light and electromagnetic fields — are also addressed

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If you intend to live a long and healthy life, sleep needs to be a priority. Anyone struggling with chronic disease — which is at least half the adult population in the U.S. — would be wise to take heed, as sleep cannot only contribute to the problem but also counteract any healthy lifestyle strategies you're using to address it.

As a general guideline, seek to get right around eight hours of sleep every night. Anything below seven hours really starts to impact your health (if you're an adult). The good news is there are many ways to improve your sleep, including nutrients, which is the main focus of this article. While I don't recommend relying on sleep aids long-term, certain supplements can help improve sleep, and can be used while you're implementing more permanent changes.

A number of vitamins, minerals, amino acids and hormones are also critical for sleep quality, and deficiency in one or more of them may be part of your problem if you're struggling with poor sleep. Lastly, I'll address two commonly overlooked environmental factors that can rob you of sleep, namely your exposure to blue light and electromagnetic fields (EMFs).

Three Vitamins That Improve Sleep

While you're probably aware of one or more herbs that can help you sleep, few are aware that certain nutrient deficiencies can wreak havoc on your sleep.

As noted by Drs. Arielle Levitan and Romy Block, who wrote "The Vitamin Solution: Two Doctors Clear the Confusion About Vitamins and Your Health," vitamin deficiency is "an often-overlooked factor in sleep problems ... We need adequate levels of key nutrients to get good quality sustained sleep."¹ Three vitamins known to have this kind of influence include:

- **Vitamin D** — A number of studies have linked low vitamin D to poor sleep quality,² and have shown reaching and maintaining a vitamin D level of 60 to 80 ng/mL can improve sleep.³ According to the authors:

"Comparisons of brain regions associated with sleep-wake regulation and vitamin D target neurons in the diencephalon and several brainstem nuclei suggest direct central effects of vitamin D on sleep. We propose the hypothesis that sleep disorders have become epidemic because of widespread vitamin D deficiency."

- **Vitamin C** — Research⁴ published in PLOS ONE found those with low vitamin C in their blood reported more trouble sleeping, and were more likely to experience interrupted sleep. Foods high in vitamin C include⁵ guava, red and green bell pepper, kiwi, oranges, strawberries, papaya and broccoli. If opting for a supplement, I'd recommend liposomal vitamin C, as it has better absorption.
- **Vitamin B12** — Low B12, which is extremely common in the general population but even more so among vegans and vegetarians, is known to cause neurological problems, including disturbed sleep. Levitan and Block recommend getting 250 to 500 micrograms (mcg) per day to avoid deficiency symptoms.

Minerals That Influence Sleep Quality

Similarly, certain minerals are important for sleep and can affect your sleep quality.

Among them:

- **Magnesium** — Magnesium not only promotes muscle relaxation, it also helps your body produce melatonin. By boosting GABA, a nervous system relaxant, it also eases tension associated with stress. Dr. Carolyn Dean, medical advisory board member at the Nutritional Magnesium Association, suggests taking 600 milligrams (mg) of magnesium in divided doses throughout the day.

I prefer using magnesium malate, glycinate or threonate. If you have kidney failure or slow heart rate, fall back on eating more magnesium-rich foods instead, such as green leafy veggies, pumpkin seeds, sesame seeds, spirulina and raw nuts.

- **Potassium** — According to research⁶ published in the journal Sleep, potassium supplementation has a positive impact on sleep quality when taken daily for one week. Another study⁷ found potassium supplementation improved slow-wave sleep specifically, which is the deepest sleep cycle phase, during which your brain performs its most important cleanout processes.

Interestingly, the gene that controls the influx of potassium into cells also helps regulate sleep, and without potassium, your brain cannot produce the slow waves

associated with deep sleep.

- **Calcium** — Calcium deficiency, meanwhile, has been shown to disrupt the rapid eye movement or REM cycle, also known as the dream cycle. In one study,⁸ when participants corrected their calcium deficiency, normal REM sleep was regained. Foods high in calcium include⁹ organic, grass fed raw milk and other dairy products, finely powdered organic egg shells, Parmesan cheese, spinach, cowpeas, clams, okra and acorn squash.

If taking a calcium supplement, you may need to also adjust your intake of magnesium, vitamin D and vitamin K2 as all of these work in tandem. As just one example, the biological role of vitamin K2 is to move calcium into the proper areas while removing calcium from areas where it should not accumulate, such as your arteries and soft tissues.

Lack of balance between these four nutrients is why calcium supplements have become associated with an increased risk of heart attack and stroke.

Amino Acids and Hormones

Certain amino acids and hormones also play important roles in sleep, and can be augmented through supplementation. Among the most important are:

- **Tryptophan** — This essential amino acid is required for your body to produce niacin, which in turn is needed for serotonin production. Serotonin is a neurotransmitter that, along with melatonin, helps regulate your sleep patterns. “Essential” amino acids such as tryptophan cannot be produced by your body, so you have to get them through your diet.

Rich sources include¹⁰ pumpkin seeds, mozzarella cheese, organic pastured eggs and poultry. If using a supplement, what you’re looking for is L-tryptophan, or even better 5-HTP discussed below.

- **Melatonin** — This hormone, produced in your pineal gland at night, plays a central role in the regulation of your body's circadian rhythm. Many studies show melatonin supplementation can help you sleep better. Start with as little as 0.25 mg about half an hour before bed. Work your way up in quarter-gram increments until you get the desired effect.
- **5-hydroxytryptophan (5-HTP)** — An even better alternative may be 5-HTP, which enhances sleep in more ways than one. 5-HTP is the hydroxylated form of tryptophan (mentioned above), which is first converted to serotonin and then to melatonin — the two sleep cycle regulators.

I believe this is a superior approach to using melatonin. In one study, an amino acid preparation containing both GABA (a calming neurotransmitter) and 5-HTP reduced time to fall asleep, increased the duration of sleep and improved sleep quality.¹¹

Herbal Sleep Aids

The last category of natural sleep aids is the herbals, which include:

- **Cannabidiol (CBD) oil** — By bringing tissues back into balance, CBD oil helps reduce pain, nerve stimulation and muscle spasm. It also promotes relaxation and has been shown to improve sleep.
- **Valerian root** — Studies have found valerian root helps improve the speed at which you fall asleep, depth of sleep (achieving deep sleep 36 percent faster¹²) and overall quality of sleep. Start with a minimal dose and use the lowest dose needed to achieve the desired effect, as higher dosages can have an energizing effect in some people. Typical dosages used in studies range between 400 and 900 mg, taken anywhere from 30 minutes to two hours before bed.
- **Chamomile** — This herb is typically used in the form of infusions, teas, liquid extracts or essential oils made from the plant's fresh or dried flower heads. It has sedative effects that may help with sleep, which is why chamomile tea is often

sipped before bed. Chamomile also has the added benefit of increasing NAD+ levels.

Blue Light Exposure After Sunset Can Keep You Awake at Night

Lastly, there are the environmental factors, most importantly light and EMF exposure, which in some respects overlap. Virtually every organ in your body has its own clock or circadian rhythm¹³ and to keep them all in sync, you need to keep a regular waking and sleeping schedule that is linked to the rising and setting of the sun.

Your pineal gland produces melatonin roughly in approximation to the contrast of bright sun exposure in the day and complete darkness at night. If you spend all day indoors (which compared to sunlight is a relatively dark space), and then extend daylight well into the evening by having bright lights on throughout the house, your pineal gland cannot appreciate the difference between night and day, resulting in disrupted melatonin production.

The color temperature of the light also comes into play here. While the light emitted from the sun is “full-spectrum” light, it has a strong blue, short wavelength light that makes you alert and awake. Getting a healthy dose of sunlight first thing in the morning will help “reset” your circadian clocks, as will getting at least 30 minutes of sunlight during the brightest part of the day, right around noon.

In the evening, however, blue light is inadvisable as it tricks your body into thinking that it's still daytime. It does this by inhibiting the production of melatonin. Since melatonin regulates your sleep cycle, when it is suppressed, you won't feel sleepy and may end up tossing and turning for hours before finally falling asleep. Red and amber lights will not suppress melatonin while blue, green and white lights will.¹⁴

Simply swapping out LEDs and fluorescent light bulbs in your home for incandescents can be a helpful start. LEDs and fluorescent lights emit blue light that is not balanced by red and near infrared frequencies.¹⁵ Incandescent lights, on the other hand, emit red and

near infrared wavelengths and very little in the blue wavelengths, making them a far healthier type of lighting in general.

To learn more about this, please see my interview with Dr. Alexander Wunsch, a world class expert on photobiology.

Once the sun has set, the lower the light in your home, and the less blue light you're exposed to, the better. Candlelight is ideal. Salt lamps with incandescent bulbs are another option that will not have an adverse impact on your sleep quality.

Aside from your indoor lighting, electronic screens of all kinds also emit primarily blue wavelengths that inhibit melatonin production. Ideally, avoid watching TV or using computers, smartphones and tablets at least an hour or two before bedtime unless you are using a filter so that the color temp is 1,800 degrees Kelvin or less.

Research has shown that the more time you spend on electronic devices late in the day, the longer it takes to fall asleep and the less sleep you get overall.^{16,17} Other alternatives include installing blue light-blocking software such as Iris,¹⁸ or using blue-blocking glasses after sunset. (If you use one, you won't need the other.)

While amber lenses work, glasses with red lenses are preferable as they also block yellow and green light in addition to blue. You can get inexpensive amber glasses and red glasses on Amazon.

Nighttime EMF Can Impede Sleep

EMFs also disrupt your pineal gland's production of melatonin.¹⁹ What's worse, EMFs are a significant contributor to mitochondrial damage and dysfunction, which is at the heart of virtually all chronic disease. When you add poor sleep and EMF exposure together, it can really spell trouble for your health.

EMFs harm your body's mitochondria by producing excessive oxidative damage, so sleeping in a sea of EMFs all night, every night, can cause or contribute to virtually any chronic ailment, including premature aging. EMF exposure has also been linked to

neuronal changes that affect memory and your ability to learn. In fact, in a 2019 study, researchers said:²⁰

“It has been found that RF-EMF can induce changes in central nervous system nerve cells, including neuronal cell apoptosis, changes in the function of the nerve myelin and ion channels; furthermore, RF-EMF act as a stress source in living creatures.”

In another study researchers looked specifically at memory and concluded:²¹

“These data suggest that EMR can lead to a decrease in excitatory amino acid neurotransmitters in the hippocampus, which may affect the excitatory-inhibitory balance of neurons, thus causing a decline in learning and memory ability.”

Unfortunately, even if you completely shut off the electricity in your bedroom, 2 out of 3 people will still have to contend with dirty electricity and the best strategy would be use dirty electricity filters to remove those high voltage transients around 2 to 100 KHz.

Another really important step is to turn off your Wi-Fi at night, or better yet, hard wire your home and get rid of the Wi-Fi altogether. Keep in mind that if you do choose to watch TV after sunset, you have not only the blue light from the screen to contend with but also EMFs. Most new TVs are “smart,” meaning they communicate wirelessly by Wi-Fi and it is impossible to turn off. One solution to this is to use computer monitor as your TV screen, which does not have a Wi-Fi signal.

In the short term, you could try a gentle sleep aid while implementing more permanent lifestyle and/or environmental changes.