

ultiself.com

Get the most from your sleep



Sleep. We fight it so hard against it when we're young, and now, we want nothing more than a good night's sleep at the end of a long day. **But aside from counting sheep, what can you do to help improve sleep?**

The Centers for Disease Control and Prevention (CDC) [\[1\]](#) tells us that adults need at least seven hours of sleep a night, but many of us fall short of that goal. Yet those seven hours are crucial as sustained sleep loss has been shown to increase the risk of **disease** [\[2\]](#) and negatively affect **cognitive function** [\[3\]](#).

We've compiled this definitive guide to sleep, using techniques proven by research to help you get all the necessary benefits from your sleep.

DON'T EAT WITHIN 2-3 HOURS OF BEDTIME



Although eating a big meal can often make you feel drowsy, if you want a good night's sleep, it's best to not eat within two to three hours of bedtime.

The first reason for this is that foods that contain caffeine and refined carbohydrates have the potential to induce wakefulness. We all know that caffeine induces feelings of alertness, so we probably shouldn't have an espresso right before bed, but carbohydrates can be just as disruptive to sleep.

But it's not just the caffeine and complex carbs you should be staying away from at night. Eating a meal within two to three hours of bedtime, especially one that contains spicy or rich foods, can result in heartburn or digestive issues while you're trying to get to sleep.

This can lead to pain, discomfort, and likely, a poor night's sleep. Heartburn, in particular, can be triggered by eating and then lying down flat. Since gravity isn't helping to keep food down in your stomach, it can result in backflow and reflux.

A 2005 study [4] recommends that patients with gastroesophageal reflux disease should wait three hours after eating before lying flat. Bigger meals also take longer to digest, so the more you eat closer to bedtime, the longer it will take you to digest the food that is upsetting your stomach and keeping you up at night.

LIMIT CAFFEINE AFTER 3 P.M.



As one of the most widely consumed stimulants in the world, caffeine is used to stay awake, keep alert, and maintain focus. But when it comes to quality sleep, it is important to limit your intake of caffeine, especially close to bedtime.

Research [5] tells us that caffeine consumption tends to reduce both sleep time and sleep quality. If you're looking for a healthy sleep schedule, it's best to lay off the caffeine after around 3 p.m. Caffeine is thought to have a half-life of around five hours, so the **American Academy of Sleep Medicine** [6] recommends you stop consuming caffeine at least six hours before bedtime.

This is especially important for older individuals looking to improve their sleep quality as studies [5] show that older adults may be more sensitive to caffeine-induced sleep changes than younger adults.

It's also important to think about how you might be consuming caffeine as coffee isn't the only caffeine drink that may be disrupting your sleep patterns.

One study [7] of 308 children found that children were consuming up to 151 mg of caffeine per day, with 40% of caffeine intake coming from soft drinks. Caffeine consumption was then positively associated with restless sleep, indicating that caffeine can contribute to sleep problems in youth.

LIMIT SUGAR AFTER 5 P.M.



But it's not just your caffeine intake that you need to be watching, refined carbohydrates may also be messing with your good night's sleep by leading to a production of sleep-interfering hormones.

Refined carbohydrates like those present in soda and white bread result in a faster increase in blood sugar after consumption. When blood sugar increases rapidly in this way, your body works to reduce blood sugar levels through insulin.

A high blood sugar drop, thanks to the insulin, can then lead to the release of sleep interfering hormones like adrenaline [8]. Adrenaline is a neurotransmitter that can increase heart rate, nervousness, and heighten senses, all things that are likely to interfere with sleep.

A 2016 study [9] found that participants with diets high in sugar and saturated fat took longer to fall asleep and experienced more arousals during the night. Limiting your overall sugar intake and trying to not consume sugar after 5 p.m. can reduce the potential negative effects of sugar on your sleep schedule.



WIND DOWN WITH AN EVENING ROUTINE

We all have rough nightly routines, but unfortunately, late-night snacking and Netflix-binging are not conducive to good sleep. There are, however, many things you can incorporate into your nighttime schedule to help you wind down and set yourself up for the best sleep possible.



NIGHTLY STRETCHING

A nightly stretch is a great habit to incorporate into your bedtime routine. Studies [10] have shown that meditative movements like the stretches used in yoga and tai chi may improve sleep quality.

Stretches that are good for relaxation include a child's pose, lunge stretches, neck rotations, and self-hug stretches. Focusing on any problem areas (e.g. shoulders or back) that may be bothering you during sleep should also help to improve your comfort and sleep quality.



CALMING BREATHING TECHNIQUES

Breathing techniques have been found to reduce anxiety [11] and lower heart rate and blood pressure [12], helping you best prepare for a restful sleep. Any tool that can reduce anxiety and induce feelings of calmness is likely to improve sleep as sleep problems are known [13] to be common in individuals with anxiety.

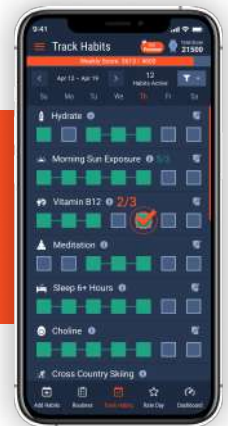
To incorporate calming breathing techniques into your nightly routine try nasal breathing [11], Bhramari pranayama breathing [12], and Kapalbhathi breathing exercises [14].

NIGHTLY MEDITATION



Much like breathing exercises, adding meditation to your nightly routine can do wonders for anxiety levels, heart rate, and overall sleep quality.

Not sure if this is for you? Track the habit with Ultiself App and find out if it's good for you!



A 2015 study [15] following the effects of meditation on patients with sleep issues found that after six weeks of meditation, patients saw improvements in sleep quality and had fewer insomnia symptoms.



- ✦ To incorporate meditation into your nightly ritual, there is a range of meditative techniques including guided meditation through apps or finding a quiet place where you can get comfortable and focus only on your breathing while trying to let go of any thoughts.

READING



Reading a book before bed is not only great for your vocabulary but could also help you sleep better and could improve your health.

A 2016 study [16] using the Health and Retirement Study found that book reading provided a survival advantage, as readers experienced a 20% reduction in mortality risk over 12 years when compared to non-book readers.

Reading has also been shown to reduce stress levels, with one study [17] finding that simply 30 minutes of reading had stress-reducing effects similar to humor or yoga. Blood pressure and heart rate were also significantly lower.

Grab a book by your favorite author and settle in for half an hour of reading before bed to improve your chances of a good night's sleep.

MITIGATE BLUE LIGHT 1-2 HOURS BEFORE BEDTIME



Many of us enjoy scrolling on social media while lying in bed, but we should put our devices down if we want a proper rest. Blue light refers to the blue wavelength that is emitted from electronic devices such as smartphones and laptops, and research [18] shows it could be very disruptive to sleep quality.

Studies [19] have shown that the artificial blue light created by our devices may mimic daytime to our brains, so looking at blue light in the evening may disrupt our sleep-wake cycles, suppressing the sleep hormone melatonin and preparing our bodies for wakefulness instead of rest.

To reduce the sleep-disruptive effects of blue light, restrict your usage of blue-light emitting devices such as smartphones and laptops within one to two hours of bedtime. But if you need to scroll in bed, there are other options. Most phones offer a night mode setting which reduces the level of blue light they emit. You can also find apps for both smartphones and laptops which automatically adjust blue light levels depending on the time of day.

Blue light blocking glasses are also available if you want to reduce your blue light exposure at night. The amber-tinted glasses are so effective at blocking blue light that one study [20] found that individuals who used them while viewing electronic devices saw no significant reduction in their melatonin production.



CALMING SUPPLEMENTS

Supplements can be another great way to add nutrients and tailor your diet to your needs. There is a range of supplements that have been shown to induce feelings of calm and help induce sleep.



MAGNESIUM

Magnesium is a great supplement to add to your diet for those looking to improve sleep quality. Low levels of magnesium in the body have been linked to insomnia [21], and it is thought [22] that magnesium may be able to induce the production of the sleep-inducing hormone melatonin.

Magnesium supplements were found to be especially effective in a 2012 study [23]. Participants in the study saw an improvement in sleep time, a reduction of insomnia measures, and an increase in melatonin levels after taking 500 mg magnesium supplements daily for eight weeks.



HONEY

Honey is not only great on your toast but could also be an effective addition to your nighttime routine to improve your sleep.

Anxiety can be a huge barrier for sleep and research indicates that honey may hold anti-anxiety properties. One study [24] found that rats that were fed honey showed a significant reduction in anxiety symptoms.



TART CHERRY JUICE

Tart cherry juice could be a delicious and sleep-inducing addition to your diet. Tart cherries are rich in melatonin, and also contain the amino acid tryptophan, a precursor [25] of melatonin.

The melatonin-rich properties of tart cherries seem to be beneficial to humans as one study [26] found that the consumption of tart cherry juice significantly increased melatonin levels. Another study [27] found that tart cherry juice consumption over two weeks increased sleep time in patients with insomnia.



CAMOMILE/PEPPERMINT TEA

We often reach for herbal tea when we want to relax, so it may come as no surprise that herbal teas such as chamomile and peppermint have calming and sleep-inducing properties. Chamomile tea is especially effective for promoting sleep thanks to the antioxidant apigenin found in the tea. Apigenin [28] binds to benzodiazepine receptors in the brain which may then induce a sedative effect. One study [29] even found that nursing home residents who consumed 400 mg of chamomile saw significant improvements to sleep quality.

Peppermint tea also has calming effects that may help you hit the hay. Peppermint has demonstrated muscle relaxant [30] properties, and there is some evidence that peppermint oil may have a sedative effect [31].



BLACKOUT YOUR ROOM WHEN YOU SLEEP



When it comes to a good night's sleep, the darker the room the better. Light can inhibit the release of melatonin. Moonlight, streetlamps, and electronic lights can all interfere with melatonin production. Even the light from an e-reader has been found [32] to reduce sleepiness and melatonin secretion.

If you want to reduce the effects of light on your sleep quality consider blackout curtains, covering electronics, or wearing a sleep mask to help encourage melatonin production and a healthy sleep cycle.

KEEP THE TEMPERATURE COOL (68-73 DEGREES)



We all have our preferences when it comes to bedroom temperature. Maybe you blast the AC or maybe you like it swelteringly hot, but it turns out that there is a proper temperature for a good night's sleep.

Body temperature decreases as we sleep, so creating a cool room of around 68 to 73 degrees Fahrenheit will help you maintain a comfortable sleep. As we cool down, our bodies lose heat, and if your environment is too hot or too cold, it can affect your temperature change and disrupt your sleep. This is why we often find it harder to sleep during the hotter summer months [33] when it can be harder to keep a cool bedroom.

The bedroom temperature is so important to sleep that a 2012 study [34] found that it is one of the key determinants of healthy sleep. Excessive temperatures are so disruptive to sleep that they can even affect sleep routines in healthy humans without insomnia symptoms.

It is important to keep in mind though that infants require a slightly warmer room than adults because they cannot regulate their temperature as efficiently.

WEAR LESS TO BED



No this isn't a pick-up line; wearing less to bed will help to improve your sleep quality.

We know that temperature can significantly affect sleep, and the type of sleepwear you wear has also been found to affect the sleep cycle. To avoid sleep interruptions, wear clothes to bed that keeps you from overheating.

Reducing the size/bulk of the clothes you wear to bed and incorporating loose/breathable clothing will help you keep your body temperature slightly lower. Bulky sleepwear is also likely to disturb you during the night and potentially restrict your breathing or circulation.



GOOD AIR QUALITY

Air quality is important for optimum airway functioning, and it is especially important for sleep quality.

A 2018 study [35] found that the presence of air pollutants increases the risk of sleep apnea. Patients with sleep apnea stop and start breathing repeatedly during sleep, and it can seriously impact sleep quality. There is however a range of things you can do to improve your air quality when you sleep.



AIR PURIFIER

Air purifiers help to reduce irritants such as pollen, pet hair, and dust that might flare up sleep-disrupting allergies. They can also remove some of the pollutants that could increase your risk of sleep apnea.



BREATHE RIGHT STRIPS

Breathe Right strips open sinus passages and improve airflow, which is great for use in combination with an air purifier. For some, they can even reduce snoring.



SALT LAMPS

Salt lamps claim to remove pathogens from the air and provide health benefits for those with respiratory conditions. However, research on the effects of salt lamps is lacking. While more research is needed, the dim light of salt lamps alone may be enough to promote sleep and melatonin production.

FIND WHAT WORKS FOR YOU



While all these techniques are beneficial for sleep, it's important to focus on what works best for you and your sleep routine. Some people may find meditation frustrating and hard to do, while stretching may be too painful for others. You know yourself best, so adjust your nighttime routine accordingly. If reading a Stephen King novel keeps you up at night terrified, then maybe give that a pass before bed!

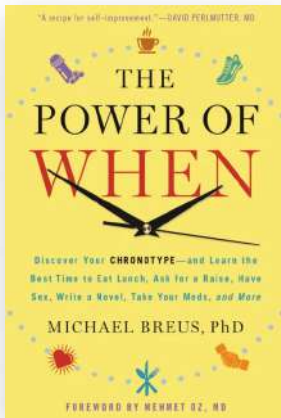
**Better yet download
our app, **Ultiself**.**



Get Started for FREE

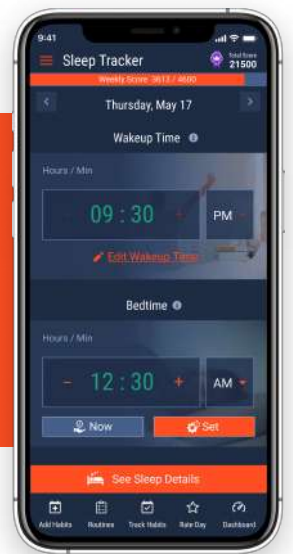


Using Artificial intelligence, Ultiself will identify your most effective habits and create your optimal wind-down routine so that you can get the most from your sleep.



Also, we are all wired differently. The book **The Power of When** by Michael Breus explains this best. We all have different chronotypes and optimal times to do certain things like work, work out, and relax. Some people are night owls and some are early birds.

Ultiself has an amazing sleep tracker built-in. This sleep tracker uses artificial intelligence to identify the optimal bed and wake up time in order for you to feel the best during the day.



CONCLUSION

Whether you're looking to change your eating habits, take up meditation, or read more, there are many sleep-inducing techniques out there that can help you get into a healthier sleep schedule and improve your overall sleep quality.



References

1. How Much Sleep Do I Need?
https://www.cdc.gov/sleep/about_sleep/how_much_sleep.html
2. Roles of Sleep Deprivation in Cardiovascular Dysfunctions.
<https://pubmed.ncbi.nlm.nih.gov/30630005/>
3. Effects of Sleep Deprivation on Cognition.
<https://pubmed.ncbi.nlm.nih.gov/21075236/>
4. Association Between Dinner-To-Bed Time and Gastro-Esophageal Reflux Disease. <https://pubmed.ncbi.nlm.nih.gov/16393212/>
5. Coffee, Caffeine, and Sleep: A Systematic Review of Epidemiological Studies and Randomized Controlled Trials.
<https://pubmed.ncbi.nlm.nih.gov/26899133/>
6. Sleep and Caffeine.
<http://sleepeducation.org/news/2013/08/01/sleep-and-caffeine>
7. The Relationship Between Caffeine, Sleep, and Behavior in Children.
<https://pubmed.ncbi.nlm.nih.gov/28162144/>
8. Adrenaline: insights into its metabolic roles in hypoglycaemia and diabetes. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4831313/>
9. Fiber and Saturated Fat Are Associated With Sleep Arousals and Slow Wave Sleep. <https://pubmed.ncbi.nlm.nih.gov/26156950/>

10. The effect of meditative movement on sleep quality: A systematic review.
<https://www.sciencedirect.com/science/article/abs/pii/S1087079215001604?via%3Dihub>
11. Effect of Fast and Slow Pranayama on Perceived Stress and Cardiovascular Parameters in Young Health-Care Students.
<https://pubmed.ncbi.nlm.nih.gov/23930028/>
12. Immediate Effect of a Slow Pace Breathing Exercise Bhramari Pranayama on Blood Pressure and Heart Rate.
<https://pubmed.ncbi.nlm.nih.gov/21446363/>
13. Sleep and Anxiety in Late Childhood and Early Adolescence.
<https://pubmed.ncbi.nlm.nih.gov/26382163/>
14. Cerebrovascular Hemodynamics During the Practice of Bhramari Pranayama, Kapalbhati and Bahir-Kumbhaka: An Exploratory Study.
<https://pubmed.ncbi.nlm.nih.gov/29188396/>
15. Mindfulness Meditation and Improvement in Sleep Quality and Daytime Impairment Among Older Adults With Sleep Disturbances: A Randomized Clinical Trial.
<https://pubmed.ncbi.nlm.nih.gov/25686304/>
16. A Chapter a Day: Association of Book Reading With Longevity.
<https://pubmed.ncbi.nlm.nih.gov/27471129/>
17. Stress Management Strategies For Students: The Immediate Effects Of Yoga, Humor, And Reading On Stress.
<https://search.proquest.com/openview/84db70c3e725777242640926dada5348/1?pq-origsite=gscholar&cbl=60280>

18. What's in a Color? The Unique Human Health Effects of Blue Light.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2831986/>
19. Exposure to Room Light before Bedtime Suppresses Melatonin Onset and Shortens Melatonin Duration in Humans.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3047226/>
20. Blue blocker glasses impede the capacity of bright light to suppress melatonin production.
<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1600-079X.2006.00332.x>
21. The Magic of Magnesium.
<https://pubmed.ncbi.nlm.nih.gov/23969766/>
22. Biorhythms and Possible Central Regulation of Magnesium Status, Phototherapy, Darkness Therapy and Chronopathological Forms of Magnesium Depletion. <https://pubmed.ncbi.nlm.nih.gov/12030424/>
23. The effect of magnesium supplementation on primary insomnia in elderly: A double-blind placebo-controlled clinical trial.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3703169/>
24. The Effects of Long-Term Honey, Sucrose or Sugar-Free Diets on Memory and Anxiety in Rats.
<https://pubmed.ncbi.nlm.nih.gov/19296910/>
25. Melatonin and Other Tryptophan Metabolites Produced by Yeasts: Implications in Cardiovascular and Neurodegenerative Diseases.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4718080/>

26. Effect of Tart Cherry Juice (Prunus Cerasus) on Melatonin Levels and Enhanced Sleep Quality.
<https://pubmed.ncbi.nlm.nih.gov/22038497/>
27. Pilot Study of the Tart Cherry Juice for the Treatment of Insomnia and Investigation of Mechanisms.
<https://pubmed.ncbi.nlm.nih.gov/28901958/>
28. Chamomile: A herbal medicine of the past with bright future.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2995283/>
29. The Effects of Chamomile Extract on Sleep Quality Among Elderly People: A Clinical Trial. <https://pubmed.ncbi.nlm.nih.gov/29154054/>
30. Systematic Review: Herbal Medicinal Products for Non-Ulcer Dyspepsia. <https://pubmed.ncbi.nlm.nih.gov/12269960/>
31. Acute and Chronic Pretreatment With Essential Oil of Peppermint (Mentha × Piperita L., Lamiaceae) Influences Drug Effects.
<https://pubmed.ncbi.nlm.nih.gov/22076909/>
32. Effects of light on human circadian rhythms, sleep and mood.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6751071/>
33. Nighttime temperature and human sleep loss in a changing climate.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5446217/>
34. Effects of thermal environment on sleep and circadian rhythm.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3427038/>
35. The Association of Ambient Air Pollution With Sleep Apnea: The Multi-Ethnic Study of Atherosclerosis.
<https://pubmed.ncbi.nlm.nih.gov/30571166/>