



# Sleep better with circadian effective light

The human sleep/wake cycle has evolved to align with the solar day. However, in our modern lifestyle, we seldom wake up and go to sleep in accordance with sunrise and sunset. This causes a misalignment of our circadian rhythm.

Most of us spend the majority of our time indoors. We also sleep too little. Chronic sleep deprivation and circadian rhythm disruption is associated with short- and long-term health effects, including difficulty falling asleep, immune suppression and increased risk of infection and cancer <sup>1,2</sup>.

Sleep patterns are directly connected with our circadian rhythm. Research shows that light can correct a disturbed circadian rhythm.

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## How does Biocentric lighting help you sleep better?

- ✓ Mimics daylight indoors, which supports the circadian rhythm, entraining your body to the solar day
- ✓ Supports a robust and regular sleep cycle
- ✓ Protects against the negative effects of excessive evening light exposure

Biocentric lighting is a lighting system that simulates the most important aspects of daylight indoors. The light is designed to support a stable circadian rhythm with many benefits for our health and well-being, including a robust and regular sleep cycle.

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# Light is the most important time cue for the circadian rhythm

Your body needs to be able to tell apart night from day, and this is done through appropriately timed light exposure. Light stimulates light sensitive cells in the eye that projects directly to the master clock in our brain.

Circadian rhythms are the result of an adaptation to earth's rotation applying a 24 hour structure on bodily functions. Humans are diurnally active. The body, with many of its systems organized around the 24-hours, is optimally functioning when this rhythm is paced daily by light<sup>3</sup>.

## Blue-enriched light

Blue light has a direct alerting effect and it can affect our sleep. Especially blue-enriched light in the morning stabilizes the circadian rhythm<sup>4</sup>. White light sources – such as sunlight, fluorescent lights, and LEDs – may all appear similar but can have completely different spectra and blue content. Sunlight is composed of all colors of the rainbow, whereas conventional indoor lighting have insufficient blue light.

Biocentric lighting is enriched in blue light content during the day and deprived of blue light content during evening and night time. This quality helps support and maintain a stable circadian rhythm.



## The right light at the right time

Getting the right type of light for the right time of day can be complex. Eating habits, when, how and if we choose to exercise, travel schedules and work commitments all affect the bodily rhythms. These parameters are individual. People differ and so do their needs. With appropriately timed light and quality of light, we can help ensure we perform when we need to perform and sleep when we need to sleep. With Biocentric lighting, timing of light exposure is handled by automated light recipes.

Light can also be used preemptively. Getting too much light in the evenings is a common modern problem leading to sleep delay and difficulty falling asleep. Strong circadian impact light during the day, means less circadian disruption caused by blue light exposure from evening screen time<sup>5</sup>.

1. Chaix A, Zarrinpar A, Panda S. The circadian coordination of cell biology. *J Cell Biol.* 2016 Oct 10;215(1):15-25.
2. Addison K and Harris J (2019) How Do Our Cells Tell Time?. *Front. Young Minds.* 7:5. doi: 10.3389/frym.2019.00005
3. Reiter RJ, Rosales-Corral S, Sharma R. Circadian disruption, melatonin rhythm perturbations and their contributions to chaotic physiology. *Adv Med Sci.* 2020 Sep;65(2):394-402.
4. Münch, et al. Blue-Enriched Morning Light as a Countermeasure to Light at the Wrong Time: Effects on Cognition, Sleepiness, Sleep, and Circadian Phase. *Neuropsychobiology* 274, 207–218 (2016).
5. Hebert M, Martin SK, Lee C, et al. The effects of prior light history on the suppression of melatonin by light in humans. *J Pineal Res* 2002;33:198–203.