

Melatonin is my favorite hormone as well as a supplement. Why? Because it does not just help manage anxiety and depression(via helping secreted brain chemicals) but also helps mitochondrial functions and slows down the aging process.

Research shows that blue light exposure after sunset can disrupt circadian rhythms and decrease natural melatonin production, which can increase your risk of diabetes and cancer. How About the Caffeine? Does Melatonin Counteract Caffeine?

Yes, Caffeine might be.

It's not just about artificial blue light exposure; excessive Caffeine can reduce potential harm to Melatonin production.

Yet, there are some research shows: [Caffeine can significantly lower melatonin levels in humans on the day of administration.](#)

In this article, I will cover all of the aspects of optimizing Melatonin and knowledge about Caffeine.

Effects Of Caffeine On The Human Internal Body Clock

The circadian system(Body Clock) regulates sleep-wake cycles and other physiological and behavioral activities such as digestion and sleep. This is an important process for our physical as well as mental health.

Caffeine is not evil, but it's not "the best friend" when it comes to optimizing sleep and anxiety because they are actually opposite effects. Caffeine can be a stimulant, but melatonin is the opposite effect.

It is also supported by science because the research showed that chronic caffeine consumption lengthens the circadian period of molecular oscillations [in vitro primarily via an adenosine receptor/cyclic AMP-dependent mechanism.](#)

Finally, consumption of caffeine was found to result in a reduction in the quality of sleep as well as the release of melatonin, the primary hormone that regulates sleep. This most commonly occurs when caffeine is taken at night. (affecting REM sleep)

But don't be sad. You can still drink coffee. Actually, sleep is not affected by Coffee but by Caffeine itself. I mean, there is tons of decaffeinated Caffeine, that same taste as regular but even beneficial.

Do you know that circadian rhythm impact our mood? An irregular circadian rhythm can have a negative effect on a person's number of health problems, including mood disorders such as depression, anxiety, bipolar disorder, and seasonal affective disorder.

Caffeine Lower GABA Level, Which Another Factors Affective Our Sleep Cycle



There is another reason Caffeine can impact our sleep cycle as well as quality it increases Glutamate, which is responsible of alertness and focus but negatively impacts our GABA level, which is responsible for relaxation and calmness.

GABA has undervalued anti-anxiety brain chemicals people are not aware of that. Regardless of Caffeine, another reason particular kinds of people tend to have more deficiency GABA is because of gene mutation and [Gut problems \(lactobacillus rhamnosus deficiency\)](#).

Without enough **GABA, you will produce glutamate(the amino acid when too much, which causes you to overthink and anxious behavior)**

Anxiety directly impacts our sleep cycle because how can you get sleep while you are in an overthinking state?

The problem is that Caffeine actually lowers GABA, and the research found that **Caffeine has been found to suppress the inhibitory (GABAergic) activity and modulate GABA receptors.**

There are another research shows that reduced GABA activity has been associated with insomnia and poor sleep, and I believe that without enough GABA receptors, we tend to have more overthinking states.

This is actually "bad news" if you already have anxiety and panic disorder.

Related: [Relaxing and Focusing: GABA and Glutamate in the Human Brain](#)