



Glycine for Insomnia: How it Supports Better Sleep

GLYCINE HELPS SUPPORT BETTER SLEEP

Has an Inhibitory Effect on Brain Activity

Increases Daytime Alertness

Reduces Impact of Sleep Disturbances

May Help Regulate Circadian Rhythm

Glycine, a **non-essential amino acid**, plays a vital role in sleep regulation through its effects on **brain neurotransmission, thermoregulation, and circadian rhythms**.

Research suggests that **glycine supplementation can enhance sleep quality, reduce the time it takes to fall asleep, and improve overall restorative sleep**.

How Glycine Supports Sleep

✓ 1. Lowers Core Body Temperature to Initiate Sleep

- Glycine **increases peripheral blood flow**, allowing the body to **release heat** and **lower core body temperature**.
- A **drop in core temperature** is a key signal for sleep onset, aligning with the body's natural circadian rhythms.
- **Studies show that 3g of glycine before bed shortens sleep onset time and increases deep sleep stages**.

✓ 2. Acts as an Inhibitory Neurotransmitter (GABA-Like Effects)

- Glycine functions as an **inhibitory neurotransmitter** in the brainstem and spinal cord, **calming the nervous system** before sleep.
- It **reduces hyperactivity** in the brain, similar to **GABA**, helping with **racing thoughts, anxiety, and stress-related insomnia**.

✓ 3. Increases Serotonin for Melatonin Production

- Glycine **boosts serotonin**, a precursor to **melatonin**, the hormone that regulates sleep-wake cycles.
- Serotonin also **enhances relaxation and mood stability**, promoting better sleep quality.

✓ 4. Improves Sleep Architecture (More Deep Sleep, Fewer Awakenings)

- Clinical studies indicate that glycine supplementation **improves slow-wave sleep (deep sleep) and REM sleep**, making sleep more restorative.
- It also helps **reduce nighttime awakenings** and **improves morning alertness** without causing grogginess.

✓ 5. Supports Vagus Nerve Activation & Parasympathetic Function

- Glycine **reduces sympathetic nervous system activity (fight-or-flight response)** and increases **parasympathetic (rest-and-digest) dominance**, promoting relaxation.
- This may be particularly beneficial for individuals with **stress-related insomnia or autonomic imbalances**.

✓ 6. May Reduce Cortisol and Nighttime Stress Responses

- Glycine helps regulate **cortisol**, preventing nighttime spikes in stress hormones that can lead to **early waking or restless sleep**.

Scientific Evidence on Glycine and Sleep

- ◆ **A 2007 study (Neuropsychopharmacology)** found that **3g of glycine before bed** improved sleep quality, reduced sleep latency, and increased deep sleep duration.
- ◆ **A 2012 study (Sleep and Biological Rhythms)** found that glycine **enhanced sleep efficiency and reduced sleep fragmentation**.
- ◆ **A 2015 study (Frontiers in Neurology)** found that glycine supplementation **reduced morning grogginess and improved cognitive function** after sleep deprivation.

How to Use Glycine for Sleep

- ✓ **Recommended Dosage: 3 grams (3,000 mg) taken 30–60 minutes before bed.**
- ✓ **Forms:** Powder (tasteless, slightly sweet), capsules, or combined in sleep formulations.
- ✓ **Can Be Stacked With:** Magnesium, L-theanine, or GABA for enhanced relaxation.

✓ **Safe and Non-Habit Forming:** Unlike sedatives, glycine **does not cause dependence** or daytime drowsiness.

Conclusion: A Natural Sleep Aid Without Side Effects

Glycine is a **safe, effective, and natural sleep-enhancing amino acid** that works by **lowering core body temperature, increasing serotonin, promoting deep sleep, and calming the nervous system.** Whether used alone or combined with other sleep-promoting nutrients, glycine is an excellent tool for **improving sleep quality and reducing stress-related insomnia.**