

Non-Habitual Phytonutrient Handbook for Sleep

Evidence-Based Natural Compounds That Support Sleep Without Dependency

For educational purposes only. Not medical advice. Consult a qualified sleep specialist or physician for your individual needs.

"Non-habitual" means these compounds support healthy sleep through nutritional and adaptogenic mechanisms — NOT through receptor down-regulation, rebound insomnia, or physical dependency. This handbook reviews the seven most evidence-supported phytonutrients for sleep, including dosing, timing, mechanism, and interaction considerations.

- Mechanism: Magnesium acts as an NMDA receptor antagonist and activates GABA-A receptors — the same pathway as sleep medications, but with far gentler, non-habituating effects.
- Evidence: A 2022 meta-analysis (Sleep Medicine Reviews) found magnesium supplementation significantly improved subjective sleep quality in older adults and in those with suboptimal dietary intake.
- Dosing: 300–400 mg elemental magnesium as glycinate (higher bioavailability than oxide) taken 45–60 minutes before sleep.
- Safety: Well tolerated. Very high doses (>600 mg/day) may cause loose stools. Not for severe kidney disease.
- Interaction: May reduce absorption of antibiotics (take 2 hours apart). Enhance efficacy by pairing with L-theanine.
- Mechanism: Promotes alpha brainwave activity (alert relaxation) and modulates GABA, dopamine, and serotonin pathways without causing sedation or morning grogginess.
- Evidence: A 2019 randomised trial (Nutrients) found 400 mg L-theanine significantly improved sleep quality, sleep latency, and sleep efficiency in healthy adults under stress.
- Dosing: 200–400 mg, 30–60 minutes before sleep. Safe to use nightly.
- Safety: Excellent safety profile. No habituation or withdrawal documented.
- Synergy: Pairs exceptionally well with magnesium glycinate and ashwagandha for a compounding effect.
- Mechanism: Adaptogen that down-regulates HPA axis hyperactivity (reduces cortisol), reducing stress-driven arousal that prevents sleep onset.
- Evidence: A 2019 double-blind RCT (Medicine) found KSM-66 ashwagandha (300 mg twice daily) significantly improved sleep quality, sleep onset, total sleep time, and morning alertness.
- Dosing: 300 mg of KSM-66 or 125 mg of Sensoril with dinner or 1 hour before bed.
- Safety: Generally well-tolerated. Avoid in pregnancy and thyroid disorders without medical supervision.
- Duration: Full effects typically emerge after 4–8 weeks of consistent daily use.

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- Mechanism: Contains valerenic acid, which inhibits GABA breakdown (similar to how benzodiazepines work, but far more mildly and without dependency).
- Evidence: A 2006 meta-analysis (American Journal of Medicine, 16 RCTs) found valerian significantly improved sleep quality without producing side effects.
- Dosing: 300–600 mg standardised extract (0.8% valerenic acid), 1–2 hours before bed.
- Safety: Not for use with benzodiazepines, alcohol, or hepatotoxic medications. Not for children under 12.
- Note: Paradoxically stimulating in ~5% of users — if this occurs, switch to daytime use or discontinue.

- Mechanism: Chrysin and other flavonoids bind to GABA-A receptors and inhibit the enzyme MAO, modulating anxiety-driven sleep disruption.

- Evidence: A 2011 RCT (Phytotherapy Research) found a single cup of passionflower tea significantly improved sleep quality versus placebo over one week.
- Dosing: 300–400 mg standardised extract, or 1 cup of prepared passionflower herbal tea 30–60 min before bed.
- Safety: Generally safe. May interact with sedative medications — consult pharmacist if on prescriptions.

- Mechanism: Glycine lowers core body temperature via peripheral vasodilation — the same thermoregulatory mechanism triggered by a hot bath. This is a powerful N3 slow-wave sleep inducer.

- Evidence: A 2012 study (Sleep and Biological Rhythms) found 3g glycine before sleep improved sleep quality and reduced daytime fatigue and sleepiness in people with chronic sleep restriction.
- Dosing: 3 grams (3000 mg), taken 30–60 minutes before bed. Glycine is sweet-tasting and dissolves easily in water.
- Safety: Excellent safety profile. One of the most well-tolerated sleep-supporting compounds.

& Melatonin is NOT a sleep drug — it is a timing signal. The common mistake is using 5–10 mg doses. Research shows 0.5 mg is as effective and avoids next-morning grogginess and receptor desensitisation.

- Use case: Jet lag, shift work adjustment, and circadian phase delay — NOT general insomnia.
- Dosing: 0.5 mg (500 mcg) taken 1–2 hours before target sleep time. Use the smallest effective dose.
- Avoid: High-dose (5–10 mg) melatonin nightly — this suppresses endogenous melatonin production over time.
- Duration: Use for 3–7 days to reset circadian phase, then taper and stop.

Combination	Synergy	Safety Notes
Magnesium + L-Theanine	High — complementary GABA/relaxation	Safe to combine nightly
Ashwagandha + Glycine	High — cortisol + temperature dual action	Safe long-term
Valerian + Passionflower	Moderate — additive GABA support	Avoid with benzos/alcohol
Melatonin alone	Low for insomnia, high for jet lag	Use lowest dose possible
All 7 simultaneously	Not recommended — start one at a time	Assess tolerance first