Magnesium

An essential mineral sold in many forms: capsules, powders, gummies, sprays and bath salts.

Magnesium Glycinate is a highly bioavailable and well-tolerated form of magnesium, frequently utilized for sleep support, muscle relaxation, and mild anxiety/nervous system support.

Key compounds and forms: Form matters.

1. *Glycinate:* gentle on the stomach, popular for relaxation and sleep. Glycine acts as an inhibitory neurotransmitter, which enhances its calming profile.
2. *Citrate:* well absorbed, with a laxative effect at higher doses
3. *Malate:* popular for daytime use
4. *Oxide:* poorly absorbed, mostly acts as a laxative
5. *Threonate:* newer, with early research on cognition; more expensive

Research summary: *Strong evidence* that magnesium supports normal muscle and nerve function and energy metabolism, and for correcting low intake. *Moderate* for migraine prevention (higher doses, under supervision). *Emerging or mixed* for sleep quality, muscle cramps and stress. *Moderate* evidence for *small* blood pressure reductions; likely most relevant for people with low magnesium intake.

Magnesium glycinate (also known as magnesium bisglycinate) is a chelated form of magnesium bound to the inhibitory amino acid glycine. It is widely studied and utilized for its superior bioavailability and gentle gastrointestinal profile.

Key Benefits:

💤 Sleep Quality & Insomnia [1,2]

Dual Action on GABA & NMDA: Magnesium regulates the central nervous system by supporting GABA activity and modulating NMDA receptors. Combined with glycine—an amino acid that promotes lower core body temperature—it modestly improves subjective sleep latency, overall sleep efficiency, and insomnia severity.

🧠 Stress, Anxiety & Mood Support [3]

Hypothalamic-Pituitary-Adrenal (HPA) Axis: Magnesium helps regulate stress responses by moderating cortisol secretion. Some studies suggest magnesium may reduce subjective anxiety in people prone to anxiety, but the evidence is low quality and no study measured stress with a validated tool.

🩺 Muscle Comfort & Cardiometabolic Support

Cramp Prevention & Vasodilation: Helps regulate muscle contraction/relaxation, mitigating nighttime leg cramps and supporting healthy blood pressure.

A meta-analysis of 34 double-blind, placebo-controlled trials (2,028 participants) found a median of 368 mg/day for about three months lowered systolic pressure by about 2 mm Hg and diastolic by about 1.8 mm

Hg. The effect may be limited to people with deficient or insufficient magnesium.[4] An earlier meta-analysis of 22 trials reported reductions of 3–4 mm Hg systolic and 2–3 mm Hg diastolic.[5]

How Much Should You Take?

Dosage Guidelines: Standard supplemental elemental magnesium ranges from 200–350 mg daily, tailored to individual tolerance and dietary intake.

Crucial Labeling Note: Always check the Elemental Magnesium content on the product label. A capsule containing 1,000 mg of total magnesium glycinate complex usually yields around 100–150 mg of elemental magnesium.

Tolerable Upper Intake Level (UL): The official UL for supplemental magnesium (excluding food) for adults is 350 mg/day of elemental magnesium.

Good to know: High doses can cause digestive upset. Check with a doctor or pharmacist first if you have kidney disease, take medication, are pregnant or nursing.

With evening use, take it 1 to 2 hours before bed

Food first: Pumpkin seeds, almonds, spinach, black beans, whole grains and dark chocolate are rich sources, and many adults fall short of the RDA.

Cautions: Customers with kidney disease should check with a clinician first, as magnesium can build up. Loose stools are the most common side effect. Magnesium can interfere with absorption of some antibiotics (tetracyclines and quinolones), thyroid medication, and osteoporosis medication, so separate doses by several hours. Check with a clinician if on diuretics or heart medication.

References

1. Schuster, J., Cycelskij, I., Lopresti, A., & Hahn, A. (2025). Magnesium Bisglycinate Supplementation in Healthy Adults Reporting Poor Sleep: A Randomized, Placebo-Controlled Trial. Natural Science of Sleep, 17, 2027–2040. https://doi.org/10.2147/NSS.S524348
2. Abbasi, B., Kimiagar, M., Sadeghniiat, K., Shirazi, M. M., Hedayati, M., & Rashidkhani, B. (2012). The effect of magnesium supplementation on primary insomnia in elderly: A double-blind placebo-controlled clinical trial. Journal of Research in Medical Sciences, 17(12), 1161–1169.
3. Boyle, N. B., Lawton, C., & Dye, L. (2017). The effects of magnesium supplementation on subjective anxiety and stress—a systematic review. Nutrients, 9(5), 429. https://doi.org/10.3390/nu9050429

Focus: Evaluated human trials of magnesium and self-reported anxiety and stress; the authors found a suggestive benefit in people vulnerable to anxiety but rated the quality of the evidence as poor.

1. Zhang X, et al. Effects of magnesium supplementation on blood pressure: a meta-analysis of randomized double-blind placebo-controlled trials. *Hypertension.* 2016;68(2):324-333. doi:10.1161/HYPERTENSIONAHA.116.07664
2. Kass L, Weekes J, Carpenter L. Effect of magnesium supplementation on blood pressure: a meta-analysis. *Eur J Clin Nutr.* 2012;66(4):411-418.

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