The 7 Potential Physical and Mental Health Benefits of Magnesium Glycinate

By Allison Forsyth • Updated Jun 7, 2023 • Reviewed by Claudia Thompson, PhD, RD

Bedtime Trick For Neck Pain

If You Suffer from Neck & Back Pain While Sleeping Try This (Genius)

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Magnesium glycinate comes in pill and powder form.
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In This Article

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Approximately half of all Americans do not get enough magnesium in their diets (per the USDA), but getting more magnesium through food or magnesium glycinate supplements can help.

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What is magnesium good for, in general? According to a 2017 clinical review in *Scientifica*, this mineral plays a vital role in 300 processes in the human body. There are also 11 different forms of magnesium available, which serve different roles in the body.

That said, you can maintain your magnesium levels primarily through food, but supplements can help if you're deficient.

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Magnesium glycinate, in particular, is a well-tolerated way to increase the amount of magnesium in your body and address several health issues.



Here, learn the benefits of magnesium glycinate and whether or not you need a supplement.

Tip

Magnesium supplements aren't right for everyone. Talk to your doctor before trying a magnesium supplement to make sure it's safe for you based on your health status, medications and medical history.

What Is Magnesium Glycinate?

To start, it may be important to know the difference between magnesium citrate vs. glycinate.

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Magnesium *citrate* is the main type of magnesium supplement sold over the counter. It's made from magnesium salt and citric acid, and it creates the most bioavailable amount of magnesium in the body. Plus, it's typically more affordable than other types. But sometimes it can cause unwanted side effects in certain people, like diarrhea, per the Mayo Clinic.

On the other hand, magnesium *glycinate* is a type of magnesium salt mixed with glycine — an amino acid known to produce a calming effect. This is why many people take magnesium glycinate to sleep, per the National Library of Medicine (NLM). It's also highly bioavailable in the body, which means it's absorbed well by the small intestine.

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This type of supplement is harder to come by in stores, but it typically has fewer side effects than magnesium citrate.

While eating foods high in magnesium (think: spinach, black beans, quinoa) will naturally increase your levels, you can find magnesium glycinate in pill or powder form, the latter of which people often mix into hot tea or drinks before bed.

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Keep in mind, too, that magnesium glycinate is different from *gluconate,* which is often prescribed to people with low blood magnesium, per the NLM.

Tip

For maximum absorption, avoid taking magnesium alongside large doses of zinc.

What Causes a Magnesium Deficiency?

Magnesium supplements are typically only recommended by doctors if you have an underlying condition causing a deficiency.

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There are several things that can cause a magnesium deficiency, including the following, per the NLM:

- Malnutrition
- Malabsorption
- Alcohol use
- Chronic diarrhea
- Excessive urination
- Kidney disorders
- Certain medications (e.g. diuretics and proton pump inhibitors)
- Pancreatitis
- Excessive sweating

Symptoms of a Magnesium Deficiency

Low magnesium symptoms will vary depending on how severe your deficiency is. Some common symptoms of a magnesium deficiency include the following, per the NLM:

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- Fatigue
- Muscle weakness
- Muscle spasms or cramps
- Numbness
- Convulsions (in severe cases)
- Abnormal eye movements (in severe cases)

Foods High in Magnesium

Before turning to a supplement, keep in mind there are plenty of foods high in magnesium that can naturally restore your magnesium levels without causing any unwanted side effects.

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These foods include the following, per the Cleveland Clinic:

- Pumpkin seeds
- Almonds

- Peanuts (and peanut butter)
- Spinach
- Cashews
- Cereal fortified with magnesium
- Whole grains (brown rice, whole-wheat pasta)
- Soymilk
- Yogurt
- Broccoli
- Bananas
- Beef
- Kidney beans

How Much Magnesium Glycinate Can You Take per Day?

Adults shouldn't take more than 350 milligrams of supplemental magnesium per day, according to the National Institutes of Health's Office of Dietary Supplements.

Physical Benefits of Magnesium Glycinate

While magnesium itself has several physical benefits (when you get the nutrient naturally through food), there's no clear evidence that magnesium supplements are actually beneficial to healthy adults who aren't deficient, per Houston Methodist.

There are some conditions (like fibromyalgia, chronic fatigue syndrome and heart failure) where magnesium supplementation has been thought to relieve physical symptoms. However, more research needs to be done.

Some possible benefits of magnesium glycinate supplements include the following, according to research:

1. May Lower Blood Pressure ■ Good Evidence

A July 2017 review in the *The American Journal of Clinical Nutrition* found that magnesium supplementation was associated with significantly lower blood pressure levels in adults with insulin resistance, prediabetes and other noncommunicable chronic diseases.

Another July 2016 review in *Hypertension*, which gathered information from 34 clinical trials, found that magnesium supplementation of 368 milligrams per day for three months led to overall reduction in systolic and diastolic blood pressure.

Tip

If you want to take magnesium glycinate to lower your blood pressure, consider it as just one tool in the box. Getting plenty of potassium, magnesium and calcium in your diet may help more than increasing just one of these micronutrients.

2. Might Increase Bone Mineral Density ■ Good Evidence

Some findings show that people with osteoporosis tend to have lower levels of magnesium.

For example, a May 2021 review in *Biometals* concluded that, out of numerous studies since 2009, lower values of magnesium were associated with the presence of osteoporosis, and that about 30 to 40 percent of people studied (mostly people going through menopause) had a magnesium deficiency.

Another January 2022 systemic review in *Bone* (which considered 12 studies) found that higher daily magnesium intake may be associated with an increase in bone mineral density in the hip and femoral neck.

3. May Decrease the Risk of Insulin Resistance and Type 2 Diabetes ■ Some Evidence

While there is not much research confirming this connection, there are a few small studies that have found a possible link between magnesium supplementation and increased insulin sensitivity.

A March 2021 study in *Public Health Nutrition* found that higher dietary magnesium intake was associated with better insulin sensitivity in the 345 Iranian females studied. (Note: This study is small and more research needs to be done to support this claim.)

Another small April 2003 double-blind study in *Diabetes Care* found that of 63 participants with type 2 diabetes (and low magnesium) studied, those who received magnesium supplements had reduced insulin resistance and fasting glucose levels. (Keep in mind, this is an older study.)

4. Might Improve Sleep ■ Limited Evidence

Magnesium glycinate in particular is touted as a sleep aid because of the effect that glycine has on neurotransmitters. It inhibits neurotransmitter activity, which can slow down the brain and cause a calming effect, per UC San Diego Health.

A small April 2021 review in *BMC Complementary Medicine and Therapies* found that total sleep time improved by about 16 minutes in those who took magnesium before bed, which is a statistically insignificant amount, per the study.

That said, it is still safe to try magnesium glycinate powder to improve sleep, as some anecdotal evidence shows it could help some people, per UC San Diego Health.

Psychological Benefits of Magnesium Glycinate

Beyond the physical benefits, there are some purported mental health benefits of taking magnesium glycinate. They include the following:

1. May Help Ease Depression ■ Some Evidence

Depression affects about 17.3 million adults in the U.S. every year, per the NIH. That said, there have been some studies on the use of magnesium glycinate to relieve depression symptoms.

For example, one March 2006 review in *Medical Hypotheses* mentions that several case studies have shown patients who found relief from depression symptoms by taking 125 to 300 milligrams of magnesium glycinate with each meal and at bedtime. (Note: This is an old study and more research needs to be done to confirm this connection.)

Another March 2017 study in *Nutrition* included 60 people who had depression and a magnesium deficiency. They were given 500 milligrams of magnesium oxide per day for eight weeks and experienced improvement in their depression symptoms and magnesium levels.

There are some studies that mention taking magnesium in conjunction with antidepressant medication (prescribed by your doctor) to improve depression symptoms, however, results have been inconclusive.

What About Postpartum Depression?

While there are no studies that show a connection between managing postpartum depression and magnesium glycinate in particular, there is one small September 2021 study in the *American Journal of Obstetrics & Gynecology* that studied 342 pregnant people with a hypertensive disorder — some of whom were given magnesium sulfate at 34 weeks pregnant.

Those who consistently took magnesium sulfate scored lower on a depression symptom test and were less likely to have depression symptoms up to two weeks after birth.

Keep in mind, more studies need to be conducted to determine this connection. And you should always talk to your doctor before taking magnesium or any other supplement while pregnant or breastfeeding.

2. Might Help Manage Pre-Menstrual Syndrome (PMS) Symptoms ■ Limited Evidence

There aren't many studies that explore the connection between magnesium deficiency and/or supplementation and PMS symptoms. But some studies have suggested magnesium (and sometimes magnesium combined with vitamin B6) can help ease the *physical* symptoms of PMS, including breast tenderness, bloating, migraine and fluid retention, per Mount Sinai.

As far as mental symptoms (like mood swings, irritability and anxiety) go, one small 2021 randomized controlled trial in the *International Journal of Women's Health and Reproduction Sciences* found that people who took 150 to 300 milligrams of magnesium stearate had a reduction in symptoms like irritability and depression associated with PMS.

It's important to note, however, the study authors conclude more research needs to be done to support this connection.

3. Could Possibly Ease Mild Anxiety ■ Limited Evidence

Many studies that explore the connection between magnesium and depression also take a look at anxiety symptoms and relief, as the two conditions often occur together.

One June 2017 study in *PLOS One* found that participants who took 248 milligrams of magnesium daily for six weeks had a slight improvement in anxiety symptoms along with an improvement in depression symptoms.

That said, there is not enough evidence to support a positive correlation between magnesium supplementation and anxiety relief.

Tip

If you experience symptoms of depression, anxiety, PMS or postpartum depression, do not try to self-medicate. Although some research is promising, you should seek professional help for these disorders. A doctor may recommend magnesium as part of a comprehensive care plan.

Are There Risks of Taking Too Much Magnesium?

It's not really possible to get too much magnesium through your diet, but there is a risk of taking too much magnesium supplements.

High doses of magnesium (particularly those that create a laxative effect like magnesium sulfate, chloride, gluconate and oxide) can cause nausea, diarrhea and abdominal cramping, per the NIH. Magnesium can also negatively interact with certain antibiotics, blood pressure medications and other medications, so talk to your doctor before trying one out.

Excessive amounts of magnesium can also lead to magnesium toxicity, with symptoms including the following, per the NIH:

- Hypotension (low blood pressure)
- Fatigue
- Facial flushing
- Retention of urine
- Muscle weakness
- Difficulty breathing
- Irregular heartbeat
- Cardiac arrest

Call your doctor or visit the nearest emergency room if you experience any of these symptoms after taking too much magnesium.

Tip

Always check to see if your magnesium supplements are third-party tested or doctor-approved. This will ensure you are taking the highest quality supplement without unwanted additives.

When to See Your Doctor

If you're considering taking magnesium glycinate for any one of the above potential physical or psychological benefits, you should speak with your doctor. They can recommend the proper dose depending on your ailment, or suggest alternative medications/treatments if magnesium glycinate is not right for you.

If you're taking magnesium supplements and experience any of the symptoms of toxicity, like vomiting, rapid heartbeat, inability to urinate or chest pain, call 911 or go to the nearest emergency room to receive care.

The bottom line? You really only need magnesium supplements if you have a certain medical condition or are deficient in magnesium, which can be determined through a blood test given by your doctor. Otherwise, you're likely to get enough magnesium through diet alone.

FAQ

1. Does Magnesium Make You Poop?

Some versions of magnesium supplements have a natural laxative effect and can even be taken in small doses to help relieve occasional constipation (if recommended by your doctor). These types of magnesium include magnesium oxide, magnesium sulfate and magnesium citrate.

2. Is Magnesium Glycinate Safe to Take Every Day?

While magnesium supplements in any form aren't really necessary unless you have a true magnesium deficiency, they are safe to take every day, per Houston Methodist Hospital.

That said, make sure you're checking the recommended dosage on the label and not exceeding that amount unless recommended by your doctor.

3. When Is the Best Time of Day to Take Magnesium Glycinate?

Considering magnesium glycinate's potential calming effects on the brain, it's best to take the supplements at night before bed, per the Cleveland Clinic.

If you take magnesium glycinate during the day, you could run the risk of feeling drowsy, which could be dangerous if you're trying to drive or distracting if you need to complete daily tasks.

References

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