Missing Magnesium

A Building Block to Better Health

LifeExtension®
Stay Healthy, Live Better

Magnesium: An Essential Nutrient

Staying energized, plus maintaining strong bones and muscles, a healthy heart and mind — magnesium is involved in hundreds of biochemical reactions every day to keep you at your best.

Why is Magnesium Missing?

We may not want to be low in magnesium . . . but we are! Magnesium is missing from our food and bodies because of three main reasons.

Magnesium: Best Food Sources

Do you know the rule of thumb for identifying food rich in magnesium? We do!

Magnesium: Supplement Forms

Different forms of magnesium can help with different issues. Don't worry, we've put together a simple table that covers them all.

A Better Way to Magnesium

Standard magnesium supplements often fall short when improving your daily magnesium levels. We think there's a better way to supplement with it, one that provides longer magnesium coverage throughout the day.

#1

Magnesium: An Essential Nutrient

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Staying energized, plus maintaining strong bones and muscles, a healthy heart and mind—magnesium is involved in hundreds of biochemical reactions every day to keep you at your best.

Although you can get magnesium from a diet rich in whole grains, nuts, and dark leafy vegetables, a 2005 U.S. Department of Agriculture (USDA) report stated that 48% of Americans had an inadequate intake of magnesium from the food they ate.[1]

Additionally, older adults or those suffering from kidney disease, digestive issues, parathyroid problems or conditions requiring antibiotics or drugs for heartburn could be more susceptible to a magnesium deficiency … something we all should definitely avoid!

Magnesium is an Essential Building Block

Like vitamins, minerals are an essential building block for good nutrition and health. Small amounts of minerals are in the food we eat, and when ingested these nutrients perform many different functions. Minerals help other nutrients such as vitamins, carbohydrates, fats, and proteins to function properly, helping to keep you healthy and strong.

Magnesium is the fourth-most-common mineral in the human body,[2] and it is a safe and required dietary nutrient. Magnesium plays an essential role in a wide range of bodily functions:

Producing energy from the food we eat by supporting metabolizing of fat and carbohydrates.

Synthesizing DNA and proteins to allow for healthy cell functions.

Contributing to strong bones.

Supporting nerve and muscle function.

#2

Why is Magnesium Missing?

Why is Magnesium Missing?

If magnesium is a common nutrient that we are supposed to receive as part of a well-balanced diet, why are so many Americans deficient in this essential mineral? Unfortunately, a diet lacking in magnesium is the norm—not the exception—and there are three main reasons for this:

Poor Soil Conditions

Even if you get your daily recommended 4 to 5 cups of fruits and vegetables, it's important to remember that a plant is only as nutritious as the soil it was grown in. If the soil is lacking nutrients, plants cannot absorb minerals like magnesium and thus the plant itself becomes nutrient-deficient.

Unfortunately, the nutrient content of our soil and thus the food we eat has been declining for decades. Many factors contribute to soil nutrient depletion including poor agricultural practices through the overuse of pesticides and herbicides, the overgrazing of livestock, and poor irrigation.

To improve our soil conditions, some steps had been taken in the past, such as crop rotation using soybeans, which helped to some extent. Today, commercial agriculture incorporates synthetic fertilizers that help crop growth but actually decrease mineral content in the soil, making plants far less nutritious.

Medication Depletion

Some medications can deplete the level of magnesium in the body, either by inhibiting absorption or by increasing how much of the nutrient is excreted through the kidneys as waste.

Some examples of common medications:

Type of Medication:	Names of Common Medications:
Acid Blockers	Famotidine (Pepcid®); Omeprazole (Prilosec OTC®); Ranitidine (Zantac®)
Antacids	Calcium Carbonate (TUMS®); Sodium Bicarbonate (Alka-Seltzer®)
Antibiotics	Amoxicillin (Amoxil®); Azithromycin (Z-Pak®); Sulfamethoxazole and Trimethoprim (Bactrim)
Asthma Medications	Epinephrine, Isoproterenol, Aminophylline
Estrogen via Birth Control Pills or Hormone Replacement Therapy	Estradiol (Estrace® and Menostar®); Conjugated Estrogens (Prempro®); Birth Control Pills (Ortho Tri-Cyclen®, Yasmin®, Yaz®, Ocella®)
Corticosteroids to Reduce Inflammation	Hydrocortisone (Cortef®); Fluticasone (Flonase®)
Diuretics	Edecrin®, Lasix®, Mannitol, Thiazides

http://umm.edu/health/medical/altmed/supplement-depletion-links/drugs-that-deplete-magnesium

Chronic Stress

Magnesium is one of the most critical minerals for help coping with stress. When you are under mental or physical stress, your cells will pull magnesium out of the blood.

Unfortunately, chronic stress depletes magnesium in your body. This creates a vicious cycle, raising the level of the stress hormones, causing a greater loss of magnesium, and making you more reactive to stressful situations.

As a result, certain chronic stress-related diseases can develop including high blood pressure and an increased risk of heart attack.

Measuring Blood Magnesium Levels

It can be difficult to adequately determine the amount of magnesium in your body because the mineral is found inside your bones, muscles, and tissues, and it is involved in so many biochemical reactions. There are two common tests:

Serum Magnesium Test

- Most common test for magnesium deficiency
- Checks the level of magnesium in your blood serum
- Negative: Most of the magnesium in our body exists in our cells, with blood serum containing less than 1% of our total magnesium.[3] Thus, it is possible to have normal serum test results but still be magnesium-deficient due to levels in other parts of your body being low.

RBC Magnesium Test

- Considered a more accurate blood test because it checks the magnesium level inside your red blood cells.
- Why is it more accurate? When you are low in magnesium, your body reallocates the mineral from cells to use elsewhere within the body. So, a low magnesium level within your red blood cells is considered an early indicator of a magnesium deficiency.
- Optimal RBC blood level is 6–7 mg/dL.

#3

Magnesium: Best Food Sources

The Best Food Sources

Magnesium can be found in much of the food that we eat daily. To find rich sources of magnesium, a good rule of thumb is to look for food that contains dietary fiber.

Food	Milligrams (mg) per Serving	% Daily Value
Almonds, dry roasted, 1 ounce	80	20%
Spinach, boiled, ½ cup	78	20%
Cashews, dry roasted, 1 ounce	74	19%
Peanuts, oil roasted, ¼ cup	63	16%
Cereal, shredded wheat, 2 large biscuits	61	15%
Soymilk, plain or vanilla, 1 cup	61	15%
Black beans, cooked, ½ cup	60	15%
Edamame, shelled, cooked, ½ cup	50	13%
Peanut butter, smooth, 2 tablespoons	49	12%
Bread, whole wheat, 2 slices	46	12%
Avocado, cubed, 1 cup	44	11%
Potato, baked with skin, 3.5 ounces	43	11%
Rice, brown, cooked, ½ cup	42	11%
Yogurt, plain, low fat, 8 ounces	42	11%
Breakfast cereals, fortified with 10% of the DV for magnesium	40	10%
Oatmeal, instant, 1 packet	36	9%
Kidney beans, canned, ½ cup	35	9%
Banana, 1 medium	32	8%
Salmon, Atlantic, farmed, cooked, 3 ounces	26	7%
Milk, 1 cup	24–27	6–7%
Halibut, cooked, 3 ounces	24	6%
Raisins, ½ cup	23	6%
Chicken breast, roasted, 3 ounces	22	6%
Beef, ground, 90% lean, pan broiled, 3 ounces	20	5%
Broccoli, chopped and cooked, ½ cup	12	3%
Rice, white, cooked, ½ cup	10	3%
Apple, 1 medium	9	2%
Carrot, raw, 1 medium	7	2%

Boiling Leaches Nutrients

Boiling vegetables was found to be the most negatively impactful cooking method, leaching the minerals from the vegetables into the water. Better methods of cooking to retain mineral values include parching, frying or stewing, and/or creating a soup so you ingest the mineral-rich water.

Unfortunately, there are some factors that limit the amount of magnesium we can get from the food we eat. For example, the body itself only absorbs 20% to 50% of the magnesium consumed within your diet.[3]

Additionally, the way we prepare and cook food can impact its level of magnesium. Researchers have discovered that the mineral content of cooked food is on average 60% to 70% less than that of raw food.[5]

As previously mentioned, the depletion of nutrients in soil has led to poor soil conditions, making plants less nutritious. As a result, all these factors make it very difficult to optimize your magnesium intake through food alone.

This means that daily magnesium supplementation is important!

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#4

Magnesium: Supplement Forms

Supplement Forms of Magnesium

Supplements are a great way to help achieve an optimal daily magnesium intake. Magnesium comes in many forms, providing different levels of absorption and aiding varying bodily functions.

The daily recommendation for magnesium is 420 mg for men and 320 mg for women.[6] However, we suggest getting at least 500 mg of magnesium per day to support optimal health.

The appropriate dose may vary from person to person, but 500–1,000 mg is the most common range of what people take. However, the dose suggestion may be higher or lower for certain health issues or concerns.

Magnesium Form	Absorption	Commonly Used For:
Magnesium Citrate	Often thought of as the superior form of magnesium, it is rapidly absorbed in the digestive tract. However, if ingested in high doses it can have a stool loosening effect.	• Bowel movements • Whole-body health benefits
Magnesium Oxide	More magnesium can be contained in a capsule compared to a capsule containing magnesium citrate.	• Bowel movements • Whole-body health benefits
Magnesium Glycinate	Contains moderate to low concentrations and higher levels of absorption within the body.	• Calming effect
Magnesium Aspartate	Increased absorption compared to other forms of magnesium.	• Not as common • May play a role in cellular function
Magnesium Malate	Highly soluble and easy to digest.	• Helps improve energy metabolism
Magnesium Orotate	Good absorption.	• Heart health
Magnesium Taurate	Contains moderate to low concentrations of magnesium with higher levels of absorption.	• Cardiovascular health • Calming effect to body and mind
Magnesium Sulfate	This form is often used as an intravenous preparation, not oral formulations.	• Commonly known as Epsom Salt, can relieve sore muscles • Laxative for bowel movements
Magnesium L-Threonate	Can increase magnesium levels in the brain and spinal fluid.	• Memory & brain function

Sources for Table:
http://www.globalhealingcenter.com/natural-health/types-of-magnesium/
https://drnibber.com/understanding-different-types-of-magnesium/
http://www.naturalnews.com/046401_magnesium_dietary_supplements_nutrient_absorption.html
http://blog.lifeextension.com/2016/05/the-forms-of-magnesium.html

Since magnesium may not be entirely absorbed, doses above 1,000 mg at once may have a laxative effect, so we suggest starting at a lower dose and working your way up (or splitting it up throughout the day).

What matters most in the end is getting magnesium in sufficient quantities — which can be done with most forms — but the form you take will determine your daily dosage.

Make sure to look at the supplement label facts and check the amount of milligrams per dose (and how many capsules or tablets are considered a "dose").

Because we are all biochemically unique, some people will absorb and utilize various forms of magnesium in different ways. It may take some experimenting to find which form and dose works best for you and your health goals.

Your Magnesium-Starved Brain

One of the key benefits of increased brain magnesium levels is improved memory, where animal models have shown improvements in short-term memory by 18% and long-term memory by 100%.[7]

Unfortunately, it's hard to maintain optimal levels of magnesium in the brain. And that's a problem since magnesium deficiency can accelerate the aging process.

But there's good news … and it's called **magnesium L-threonate.**

This unique form has superior absorption into the bloodstream and nervous system, providing the ideal form of magnesium for enhanced memory and cognitive function.

#5

A Better Way to Magnesium

Many people think they are getting their full daily dose of magnesium, but instead they are wasting their money on an ineffective product.

A Better Way to Magnesium

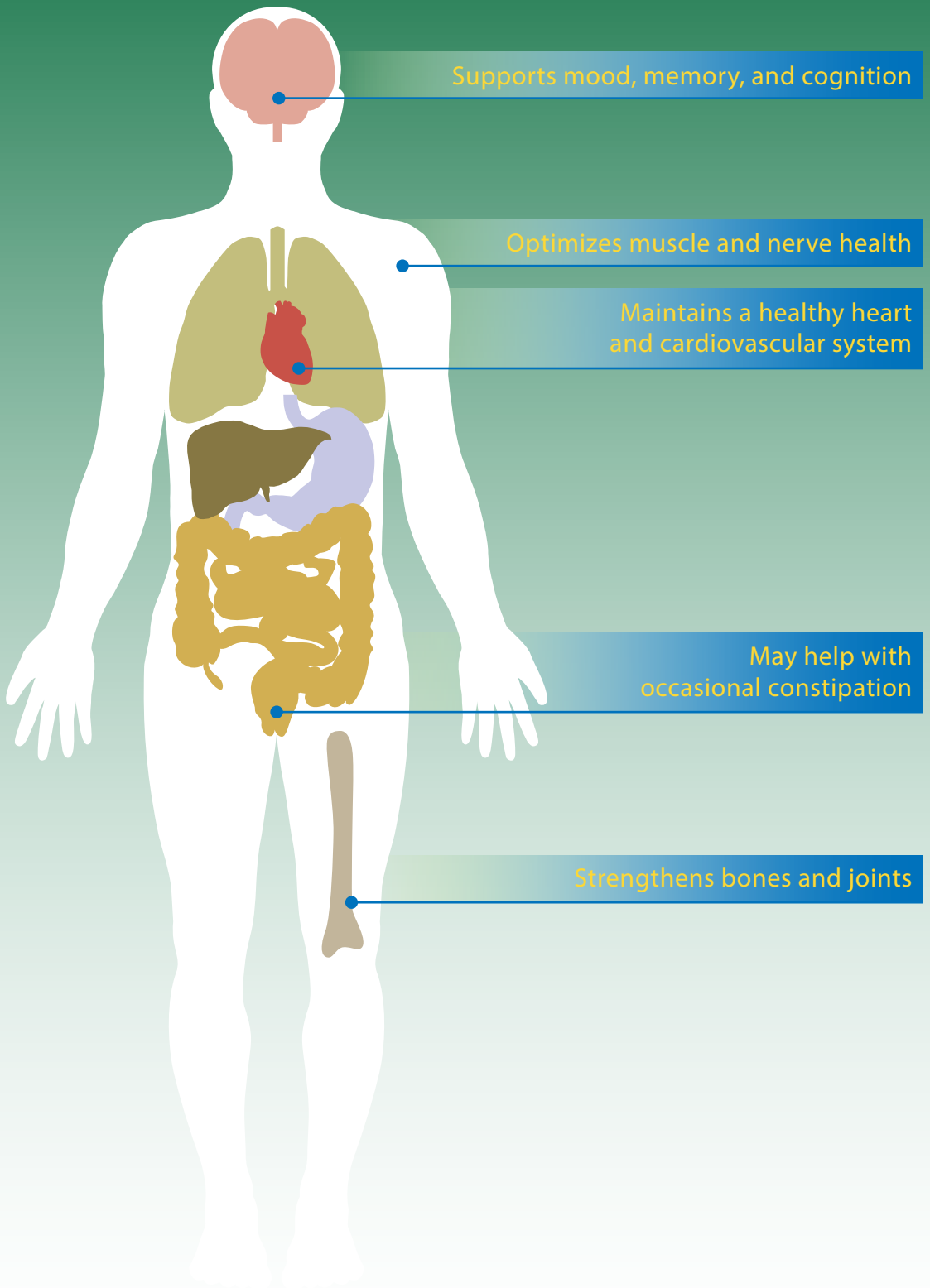
Standard magnesium supplements often fall short at providing an optimal level of this essential mineral throughout the day. We don't think that's okay. To overcome this shortcoming, it's better to use a patented, extend-release magnesium delivery system.

The formula provides magnesium citrate for immediate absorption and magnesium oxide for extended release. The longer-to-absorb magnesium oxide is encapsulated in a bead within the supplement. This bead keeps the magnesium protected until the body is ready to absorb more of the nutrient.

This advanced formula provides more consistent results by combining magnesium in this way, optimizing for immediate and prolonged uptake.

The better way to magnesium is to use a patented delivery system, formulated with magnesium citrate for immediate absorption and magnesium oxide for extended release.

Whole-body benefits of magnesium



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