



Magnesium for Stress Relief

BY JULIE DANILUK, RHN



Magnesium is widely considered to be the “anti-stress” mineral. Like calcium, it’s a macromineral, meaning it makes up more than 0.01% of our body weight, and it originates from the Earth, from soil, water, and the like, not plants or animals. Indeed, the word magnesium comes for the name of a city in Greece called Magnesia, where large deposits of magnesium carbonate was found.

The Role of Magnesium in Humans

Magnesium plays critical roles in hundreds of enzymatic reactions involved in metabolism and cardiovascular health, acting as a cofactor or helper molecule. It aids in 600 reactions in your body, including:

- **Energy creation:** Helps convert food into energy, improving performance. Athletes need up to 20% more magnesium because it is used during sport. It also helps reduce the lactate in the muscles that causes pain after workouts. Studies also show improvement in running, swimming, jumping and cycling!
- **Gene maintenance:** Helps create and repair DNA and RNA, reducing the signs of aging.
- **Protein formation:** Helps create new proteins from amino acids, increasing muscle strength.
- **Muscle movements:** Is part of the contraction and relaxation of muscles, reducing painful cramps.
- **Nervous system regulation:** Helps regulate neurotransmitters, which send messages throughout your brain and nervous system, reducing depression. A study of 8,800 people found that people with the lowest magnesium intake had a 22% greater risk of depression.

Magnesium Deficiency

Studies show that up to 50% of people in the North America and Europe get less than the required amount of magnesium for optimum health. Conditions that have been linked to magnesium include osteoporosis, PMS, diabetes muscle cramps, atherosclerosis and angina, hypertension and asthma, to name a few. A study of 4,000 people over 20 years found that those with the highest magnesium intake were 47% less likely to develop diabetes.

Like calcium, magnesium is an alkaline mineral involved in the formation of strong bones and teeth. In fact, about 65 percent of the in our body is found in our bones and teeth. The rest of it is in our blood, fluids and organ tissues, particularly the brain and heart.



In the smooth muscle cells of our blood vessels and digestive tract, magnesium acts as a natural tranquilizer, relaxing muscles that have been contracted by calcium. As you can imagine, this effect is very significant if you are experiencing a coronary artery spasm which could lead to a heart attack. Tightly constricted blood vessels that have a tendency to spasm need a constant supply of magnesium to prevent high blood pressure, pain and injury to the tissue that is having blood restricted. In times of stress, our bodies excrete more magnesium, further increasing the need for high dietary intake. Just think about the last time you were really tired and got a painful leg cramp. This is related to magnesium imbalance.

It is most important to remember that magnesium is powerfully anti-inflammatory. It is shown to reduce highly sensitive C- Reactive Protein and other markers of inflammation in older adults, overweight people and those with prediabetes.

Increase your magnesium for optimal health

The best food sources of magnesium are naturally from plant foods that contain chlorophyll, such as kale, spinach, Swiss chard, and Romaine lettuce. Seafood is also a good source, as are nuts, seeds and legumes. Dark chocolate and avocado also sport good amounts.

The following foods are good to excellent sources of magnesium:

- **Hemp Hearts:** 80% of the RDI in 3 tbsp (30 grams)
- **Pumpkin seeds:** 46% of the RDI in a quarter cup (16 grams)
- **Spinach, boiled:** 39% of the RDI in a cup (180 grams)
- **Swiss chard, boiled:** 38% of the RDI in a cup (175 grams)
- **Dark chocolate (70–85% cocoa):** 33% of the RDI in 3.5 ounces (100 grams)
- **Black beans:** 30% of the RDI in a cup (172 grams)
- **Quinoa, cooked:** 33% of the RDI the in a cup (185 grams)
- **Halibut:** 27% of the RDI in 3.5 ounces (100 grams)
- **Almonds:** 25% of the RDI in a quarter cup (24 grams)
- **Cashews:** 25% of the RDI in a quarter cup (30 grams)
- **Mackerel:** 19% of the RDI in 3.5 ounces (100 grams)
- **Avocado:** 15% of the RDI in one medium avocado (200 grams)
- **Salmon:** 9% of the RDI in 3.5 ounces (100 grams)

If you are under stress or at risk for developing a magnesium-related condition, you may want to consider supplementing with a high-quality brand.



One of my favourite magnesium supplements is [Natural Calm](#) as it is a better-tasting, better-absorbing and one of the best-loved magnesium drinks. The proprietary magnesium citrate formula is fast-acting, to relieve stress, improve sleep, reduce pain, promote heart health and more.

It comes in a variety of flavours and sizes which makes it easy to take. I tend to mix the powder from the bulk containers, but you can find them single serve envelopes as well, which is very convenient for travel.

Its primary ingredient is magnesium carbonate bound to citrate molecule in a 1:1 ratio to become magnesium citrate, one of the most absorbable forms of magnesium available. Citric acid, natural flavours and organic stevia round out the remaining ingredients and the product is free from animal products, sugar, artificial sweeteners, flavours or colours, gluten-free, sugar-free and Non-GMO. Just 2 teaspoons (5 grams) provides 100% of the daily requirement of magnesium for most men and women.



Presently, I have been enjoying [Calm Balance](#), also made by Natural Calm Canada as a delicious warm tea. I add 2 tsp of Calm Balance to 1 cup (250 mL) of hot water and stir until completely dissolved. Take a look at the impressive formula:

- Magnesium glycinate (75 mg),
- Vitamin C /ascorbic acid (30 mg),
- Vitamin D /cholecalciferol (2.5 mcg),
- Vitamin B6/pyridoxal 5'-phosphate (7.5 mg),
- Choline/choline bitartrate (100 mg),
- Suntheanine® a premium, patented form of L-theanine (50 mg),
- Vitamin B12/methylcobalamin (5 mcg)



If you use Calm Balance during the day but also need help relaxing and sleeping at night, try taking regular [Natural Calm Magnesium Citrate](#) and/or [Calmful Sleep](#) before bed. Simply adjust your dose of each product to suit your total daily magnesium requirements.

Recommended Dose:

- Adults, up to 2 tsp daily
- Adolescents 9-18 years, 1 tsp daily
- Children 4-8 years, 1/2 tsp daily

Each 113 g bottle contains 31 teaspoons.

Cautions: Anyone with a known medical condition or using prescribed medication should consult a healthcare practitioner before trying a new supplement. If you have a kidney disorder, in particular, consult your doctor before taking oral magnesium. In the healthy population, magnesium excess can cause a laxative effect. Should this occur, take smaller doses, dividing your daily amount into two or three servings.

Recipes

Berry Cheesecake Smoothie Bowl

- 1/4 cup coconut yogurt or whipping cream
- 1 tsp raspberry-flavour Natural Calm Magnesium powder
- 2 tbsp unsweetened collagen based protein powder, plain or vanilla
- 5 drops pure monk fruit extract (optional)

1. Mix everything together in a bowl and enjoy!

Key Lime Pie Low-Carb Shake

- 1/2 cup coconut milk
- 1/2 avocado
- 1 cup water
- 1 tsp lemon-flavour Natural Calm Magnesium powder
- 2 tbsp collagen powder
- 3 drops pure monk fruit extract (optional)

1. Combine all ingredients in a blender and enjoy!

Keto Electrolyte Drink

- 5 cups water or herbal tea of choice
- 1/4 cup lemon or lime juice
- 1/8 to 1/4 tsp unrefined salt
- 2 1/5 tbsp Natural Calm Magnesium plus Calcium powder
- 20 drops liquid stevia or 10 drops pure monk fruit extract

1. Combine all ingredients in a blender and enjoy!

NOTE: Start with one cup per day and increase to no more than 2 cups per day to avoid excess digestive movements. You can use coconut water instead of water for extra electrolyte boost, especially potassium and sodium. Coconut water is not Keto so this version is best for athletes or people who follow a paleo or vegan menu. There are about 6 grams of net carbs, 600 mg potassium, 252 g sodium and 60 mg magnesium per cup of coconut water.

References:

de Baaij JH, Hoenderop JG, Bindels RJ. Magnesium in man: implications for health and disease. *Physiol Rev.* 2015;95(1):1–46. doi:10.1152/physrev.00012.2014

Gröber U, Schmidt J, Kisters K. Magnesium in Prevention and Therapy. *Nutrients.* 2015;7(9):8199–8226. Published 2015 Sep 23. doi:10.3390/nu7095388

Rosanoff A, Weaver CM, Rude RK. Suboptimal magnesium status in the United States: are the health consequences underestimated?. *Nutr Rev.* 2012;70(3):153–164. doi:10.1111/j.1753-4887.2011.00465.x

Nielsen FH, Lukaski HC. Update on the relationship between magnesium and exercise. *Magnes Res.* 2006;19(3):180–189.

Golf SW, Bender S, Grüttner J. On the significance of magnesium in extreme physical stress. *Cardiovasc Drugs Ther.* 1998;12 Suppl 2:197–202. doi:10.1023/a:1007708918683

Tarleton EK, Littenberg B. Magnesium intake and depression in adults. *J Am Board Fam Med.* 2015;28(2):249–256. doi:10.3122/jabfm.2015.02.140176

Rodríguez-Morán M, Guerrero-Romero F. Oral magnesium supplementation improves insulin sensitivity and metabolic control in type 2 diabetic subjects: a randomized double-blind controlled trial. *Diabetes Care.* 2003;26(4):1147–1152. doi:10.2337/diacare.26.4.1147

Nielsen FH, Johnson LK, Zeng H. Magnesium supplementation improves indicators of low magnesium status and inflammatory stress in adults older than 51 years with poor quality sleep. *Magnes Res.* 2010;23(4):158–168. doi:10.1684/mrh.2010.0220