

# Are You Deficient in This Important Mineral?

Written by Paula Owens, MS

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**Magnesium is a vital mineral involved in over 300 enzymatic reactions in the body. It's important for heart and brain health, hormone production, hypertension, stabilizing blood sugar, digestion of protein, carbs and fats, and many other functions. Magnesium is found in all bodily tissues, but mainly in the bones, muscles and brain. It's considered the anti-stress and relaxation mineral.**



Magnesium takes part in the transmission of hormones such as insulin, thyroid, estrogen, testosterone, and DHEA, and neurotransmitters such as dopamine, serotonin, catecholamines, GABA, and minerals and electrolytes.

An estimated 80 percent of the population is deficient in magnesium. Magnesium deficiency is an epidemic in men, women and children and especially in the elderly. Diabetics and those who use alcohol, caffeine, blood pressure drugs, diuretics, antibiotics, oral contraceptives and sleep meds are highly susceptible to magnesium deficiency.

Magnesium depletion is very common due to diets high in carbohydrates, sugar, soda and processed, packaged foods. Individuals who sweat excessively, drink fluoridated water, use fluoridated toothpaste, take medications, experience high stress lifestyles and have depleted adrenals suffer from magnesium insufficiency. On top of that, food levels of magnesium have declined drastically in recent years due to mineral depleted soils, GMOs and consuming conventionally-grown foods.

Many individuals often think they're deficient in calcium, when in reality they're actually magnesium deficient. Magnesium is a synergist for calcium and vitamin D absorption. No matter how much vitamin D one takes it cannot be used properly if one is deficient in magnesium. Without adequate magnesium, excess calcium collects in the soft tissues instead of bone causing calcium deposits, and increased risk of osteoporosis, kidney stone and arthritis. Magnesium is critical for heart health. Excessive amounts of calcium without the counterbalance of magnesium can lead to a heart attack and sudden death.

Magnesium deficiency is responsible for many chronic health problems and diseases including [osteoporosis](#) and metabolic syndrome, a combination of different metabolic disorders that increase the risk of developing cardiovascular diseases and diabetes. In two separate studies published in the *American Journal of Clinical Nutrition*, magnesium deficiency was found to be associated with abnormal bone calcification. Both studies conveyed that the higher the intake of magnesium, the greater the level of bone mineral density.

Insufficient levels of magnesium increase inflammation and exacerbate age-related diseases such as cardiovascular disease, diabetes and hypertension. Low levels of magnesium can contribute to a heavy metal deposition in the brain that may be responsible for Alzheimer's, Parkinson's and MS.

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## Common Symptoms and Conditions Related to Magnesium Deficiencies

Abnormal heart rhythms;  
Anxiety, irritability & agitation;  
[Alcoholism](#); [Chocolate cravings](#)  
; Chronic fatigue; Asthma;  
[Diabetes & insulin resistance](#);  
Fibromyalgia; ADHD and ADD;  
Irritable bowel syndrome (IBS);  
[Inflammation](#); [Tissue injury](#);  
[Insomnia](#); [Hypertension](#); Muscle  
cramps, spasms & weakness;  
Panic attacks; Psychological  
stress; Kidney stones & [gall  
stones](#); PMS; Restless leg  
syndrome; persistent  
eye-twitching; Vertigo;  
Sensitivity to noises; Tension &  
migraine [headaches](#); Numbness  
& tingling

**Testing.** Routine blood testing *is not* an accurate or effective marker to detect magnesium levels since less than two percent of magnesium is in the blood. The majority of magnesium (99%) is in the cells and the fluid around cells, in muscle and bone. Lab values that are within normal limits give a false sense of security of actual magnesium status.

**Magnesium is beneficial  
for** Adrenal dysfunction;  
[Depression](#); [Headaches](#); Brain

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function; Calming the nervous system; Atherosclerosis; Healthy telomeres; Cell protection from toxic metals; [Chronic stress](#); [Type 2 diabetes](#); [Insomnia](#); Kidney stones; Arterial fibrillation; [Hypertension](#); Cardiovascular function; Osteoporosis; [Constipation](#); Reducing risk of colon cancer; PMS; Fibromyalgia; Chronic fatigue; Healthy aging; Detoxification; GI dysfunction; muscle cramps and spasms

**Food sources of magnesium.** The highest source of magnesium is found in chlorophyll-rich organic leafy greens. Other food sources of magnesium include seaweed, [unsweetened cacao](#), nuts, seeds, parsley, cilantro, avocado, and smaller amounts of magnesium is found in fish, shrimp and wild salmon.

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**Magnesium supplementation** is an inexpensive and worthwhile investment to include in your supplemental arsenal. A highly-absorbed, bioavailable, chelated form of magnesium is important. These include magnesium taurate, citrate, [aspartate](#), orotate, fumarate, [threonate](#), malate and [glycinate](#). Magnesium oxide is a non-chelated, lower quality form of magnesium that is poorly absorbed.

Although the RDA recommends 300-400mg/day, most individuals benefit from 400-1000mg/daily or up to bowel tolerance. A side effect of too much magnesium is loose stools, which can be alleviated by supplementing with [magnesium glycinate](#).

A [phosphorylated form of B-6](#) taken with magnesium can be helpful since the level of vitamin B6 in the body determines how much magnesium will be absorbed into the cells.

Supplementing with magnesium is best taken between meals, after exercising or before bedtime when little or no fat is present in the gut (fat binds to magnesium and prevents absorption). Individuals with kidney disease or heart disease should consult with their doctor prior to supplementing with magnesium.

Also beneficial is soaking in a tub with 4-6 cups of Epsom salts (magnesium sulfate). The magnesium is absorbed through the skin and it's great for relaxation before bedtime.

Alternatively, magnesium chloride, a [topical transdermal form of magnesium oil](#) is easily assimilated and metabolized by the body. Apply behind the knees or the inner arms before bedtime or apply directly to inflamed areas.

**My favorite before bedtime magnesium cocktail:** 450mg [magnesium glycinate](#), one teaspoon [magnesium threonate](#) and 3 pumps of [topical magnesium oil applied behind the knees](#).

Read more about the importance of magnesium in my books, [The Power of 4](#) and [Fat Loss Revolution](#).

Paula Owens, M.S., is the bestselling author of *The Power of 4* and *Fat Loss Revolution*. She is a Nutritionist and Fitness & Fat Loss Expert with over 20 years of experience. More at [www.PaulaOwens.com](http://www.PaulaOwens.com)

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