

The Critical Role of Magnesium in Supporting Health and Brain Function

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/EINPresswire.com/ -- Magnesium, after potassium, is the second most abundant mineral ion in the body's cells and plays a pivotal role in over 300 cellular functions. These functions include cell signaling, ATP (energy) production, muscle function, neuron function, protein synthesis, and glucose regulation.

Despite its importance, many individuals, particularly the elderly, do not consume enough magnesium. [Dr.](#)

[Arwen Podesta](#), owner of [Podesta Wellness](#) in New Orleans, Louisiana, provides insights into the significance of magnesium and its impact on overall health, particularly brain health.



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The Prevalence of Magnesium Deficiency

"[Research indicates](#) that at least 50% of Americans consume less than the required intake of magnesium, with close to 80% of the elderly being deficient. Foods rich in magnesium, such as spinach, chard, nuts, and seeds, are often underutilized in diets," Dr. Arwen Podesta stated.

Even when these foods are consumed, they are frequently cooked or processed in ways that reduce magnesium availability. Furthermore, studies have shown that some

crops and soils have declining mineral content, exacerbating the issue of magnesium deficiency.

Magnesium's Role in Overall Health

Magnesium is essential for various bodily functions. It supports muscle function, bone health, blood pressure regulation, and blood glucose levels, and reduces the risk of type 2 diabetes and heart disease.

There is ample evidence that low magnesium levels are associated with an increased risk of dementia. By increasing magnesium intake, individuals can improve their profiles for these disease states.



Magnesium and Brain Health

Magnesium is particularly important for brain health, influencing learning, memory formation, mood stabilization, and anxiety pathways. Lower levels of magnesium can negatively impact cognitive health in several ways:

Neuroplasticity: Magnesium supports the brain's ability to form new connections between cells, enhancing cognitive function and learning.

Memory and Learning: Magnesium is crucial for the function of NMDA receptors, which are involved in learning and memory.

Mood and Anxiety: Magnesium significantly impacts mood and anxiety by regulating the release of stress hormones.

Brain-Derived Neurotrophic Factor (BDNF): Magnesium has been shown to increase BDNF, a key contributor to neuroplasticity and cognitive function. Low BDNF levels are linked to several brain-related disorders, including Alzheimer's disease, Parkinson's disease, and depression.

Age-Related Cognitive Decline: Magnesium is associated with a reduced risk of cognitive decline and Alzheimer's disease, potentially due to its anti-inflammatory properties.

Types of Magnesium Supplementation

Various forms of magnesium differ in their bioavailability, which is the amount that enters the bloodstream and exerts an effect on the body. High bioavailability is not always better, as certain forms are beneficial for specific purposes:

Magnesium Oxide: Commonly used for digestive purposes due to its laxative effect. It has low bioavailability and is not recommended for increasing brain magnesium levels.

Magnesium Citrate: Also used as a laxative, it increases water in the intestines. Its low bioavailability is advantageous for digestive effects.

Magnesium Bisglycinate/Glycinate: Highly bioavailable and can cross the blood-brain barrier, increasing brain magnesium levels without causing gastrointestinal issues. This form is effective for brain health.

Magnesium L-Threonate: Designed specifically for brain benefits, this form crosses the blood-brain barrier and supports neuroplasticity, particularly in the hippocampus, which is involved in memory formation.

Magnesium Chloride: Better bioavailability than oxide and citrate, with antioxidant properties. It supports muscle and joint health.

Magnesium Malate: High bioavailability, used to improve mood, enhance exercise performance, and relieve chronic pain.

Magnesium Taurate: High bioavailability, supports blood sugar regulation and cardiovascular health.

Magnesium Sulfate: Commonly used in Epsom salts for muscle aches and pains, absorbed through the skin.

Recommended Forms for Brain Health

For brain health, magnesium bisglycinate and magnesium L-threonate are recommended. Magnesium bisglycinate supports outcomes related to anxiety, insomnia, and cognitive health by crossing the blood-brain barrier and increasing magnesium levels. Glycine, a neurotransmitter in magnesium bisglycinate, aids in information transfer between brain cells and supports sleep and memory. Magnesium L-threonate has high brain absorption and may improve cognitive function by increasing brain magnesium levels.

Dosing Recommendations

Typical recommendations for magnesium dosage range from 50-500 mg/day, depending on dietary intake and individual magnesium levels. Too much magnesium can cause diarrhea, while too little will not address symptoms. The "bowel tolerance" method can help determine the appropriate dose. Increase the dose gradually until bowel movements become too loose, then reduce the dose by 75% to find the optimal level.

Conclusion

Magnesium is crucial for supporting overall health and brain health. Whether through diet or supplementation, ensuring adequate magnesium intake is essential. Magnesium bisglycinate and magnesium L-threonate are particularly effective for brain health, offering benefits for anxiety, insomnia, and cognitive function. Magnesium's role in neurotransmitter regulation and neuroplasticity underscores its importance in maintaining mental health and reducing the risk of

cognitive decline.

Dr. Arwen Podesta emphasizes the significance of magnesium in promoting overall well-being and brain health, advocating for increased awareness and consumption of this vital mineral.

About Podesta Wellness

Podesta Wellness, led by Dr. Arwen Podesta, is a premier wellness center based in New Orleans, Louisiana. The center specializes in integrative and holistic approaches to mental health and well-being, offering a range of services to support clients in achieving optimal health. For more information, visit Podesta Wellness.

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