



Magnesium: The MOST important supplement that you don't use.

Magnesium is the fourth most abundant mineral in the body and plays an important role in 300 important bio-chemical reactions that take place in the body.

Some important functions of magnesium include:

- ATP production
- Protein synthesis
- DNA manufacture
- Fatty acid synthesis
- Anaerobic glycolysis

What are the problems caused by low magnesium levels?

Low magnesium levels have been associated with high stress levels, a reduced ability for quality sleep, constipation, fatigue, hyperactivity in children, increased insulin resistance, poor memory, difficulty losing fat and reduced recovery between workouts.

Some more serious problems low magnesium levels have been correlated with include diabetes (insulin resistance), Osteoporosis, metabolic syndrome and cardio-vascular disease (decreased HDL cholesterol levels and thicker carotid artery walls)

Why do magnesium deficiencies exist?

The simple answer is the quality of the modern day diet.

“The ratio of calcium to magnesium in the diets of the Paleolithic man was 1.3 to 1, but the diet that is commonly used now has shifted that ratio to 5 to 1. The main culprit is the inclusion of dairy products in the modern diet. The calcium-to-magnesium ratios found respectively in milk, yogurt and hard

cheeses are 7:1, 11:1, and 26:1.

At the turn of the millennium most Americans were getting enough magnesium from their diets, but now the literature suggests that between 54 percent and 75 percent of the general population is magnesium deficient. Similar patterns of deficiency have been reported in the Western world. A survey conducted in France in the mid-1990s found that 72 percent of men and 77 percent of women obtained less than the RDA of magnesium from their diets.”

- Charles Poliquin (respected international strength and health coach)

Part of the problem stems from the lack of quality fresh ingredients and vegetables in the daily diet, with many “good” sources of dietary magnesium falling way short of the their indicated levels - due to soil quality, modern intensive farming methods and poor fertilization choices.

Magnesium Supplementation

The general guidelines for magnesium supplementation, from most functional medicine practitioners, is 500mg per day of supplemental magnesium to restore levels.

However both Charles Poliquin and respected functional health expert Dr Mark Houston recommend doses even higher to re-address any issues (1,200mg for adult women and 2,000mg for adult men).

With athletes and those who participate in hard, regular training these higher doses can be easily justified:

“Intense training can elevate catecholamines...”

Catecholamines are “fight-or-flight” hormones released as part of stress response to hard training.

“This elevation may increase insulin resistance, which in turn decreases magnesium absorption, which leads to further insulin resistance, creating a vicious cycle...”

“...Insulin resistance has detrimental effects on the ability to burn fat and build muscle.”

“Beyond improving insulin sensitivity, certain forms of magnesium, namely magnesium orotate, may improve anabolism by reducing cortisol. High cortisol levels can exert a catabolic effect and hamper training adaptations. Athletes desiring to build lean muscle mass and avoid muscle breakdown will

benefit from reducing high cortisol levels. ” - PPC Centre Chicago

As we can see, magnesium levels are extremely important both in terms of health and performance!

Recommended Supplements

Topical magnesium (magnesium Spray)

This is a great, easy way to start balancing your magnesium levels. Use 5 sprays behind each knee cap (or on the feet for children) 30 mins before bed, this can DRASTICALLY improve the quality of your sleep.

In fact if you experience vivid dreams during your sleep, it can indicate a magnesium deficiency is present.

You may also find you get a slight itching or warm sensation on the skin when first using it – but this just indicates that it is being absorbed.



[Magnesium Oil at Holland and Barrett](#)

Oral magnesium

The best oral supplement for magnesium I have found so far is [Ubermag](#) by Charles Poliquin.

Without going into too much detail and sounding like a sales advert, this supplement contains superior levels of easily absorbed magnesium.

I use this supplement myself – both post-workout and 30 mins before bed (along with Zinc and Tribulus) to promote recovery between workouts.



Combining both topical and oral magnesium is the fastest way to restore levels, but even just doing one will greatly improve the quality of your health and well-being.

If you experience an INCREASE in energy levels when taking prior to bed, this indicates a SEVERE deficiency is present. You can overcome this by taking your supplementation earlier in the day.

References and information sources:

http://en.wikipedia.org/wiki/Magnesium#Biological_role

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http://www.charlespoliquin.com/ArticlesMultimedia/Articles/Article/208/Magnesium_Deficiency_A_Growing_Health_Crisis.aspx

<http://www.mikemahler.com/articles/magnesium1.html>

<http://en.wikipedia.org/wiki/Catecholamines>

About Brian

Brian is an aspiring strength and health coach, having worked as a fitness instructor and personal trainer since 2006.

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