Magnesium Deficiency in Autoimmune Disease

By Elaine Moore, MT

Magnesium deficiency can trigger disease development and worsen symptoms in hyperthyroidism, fibromyalgia, Raynaud's and other autoimmune disorders.

Magnesium is a mineral essential for life. Magnesium is found in our blood cells and in our muscles, including heart muscle. Magnesium is also found in the central nervous system and in blood vessels. Magnesium facilitates the transmission of electrical impulses. Magnesium is needed for the proper calcium balance and it plays a key role in numerous metabolic functions including the activity of enzymes and bone formation. Without sufficient magnesium, bone isn't formed properly and lacks the sound structure needed to withstand falls and bumps. Magnesium deficiency is associated with osteoporosis and a high incidence of fractures.

Symptoms of Magnesium Deficiency

A long list of symptoms and behaviors suggest magnesium deficiency. These include: alcohol, caffeine, chocolate, salt, nicotine, and sugar cravings; anger; angina; anxiety; arrhythmia of the heart; asthma; inflammatory bowel disorders such as malabsorption, colitis and Crohn's disease; brain trauma; chronic fatigue syndrome; concentration and cognitive difficulties; confusion; convulsions; depression; diabetes; fibromyalgia; headaches; heart disease; hypertension; hyperactivity; kidney stones; insomnia; premenstrual syndrome; mitral valve prolapse; muscle cramps, twitching or tics; polycystic ovarian syndrome,; restless leg syndrome; diminished sexual energy; startled easily by noise; Raynaud's syndrome; hyperthyroidism; metabolic syndrome; postpartum depression; stroke; shortness of breath; hyperparathyroidism; tingling of hands or feet; wheezing; and tremor.

Causes of Magnesium Deficiency

Magnesium deficiency can be caused by increased amounts of fluoride, chlorine and calcium; depleted soil and magnesium deficient produce; poor diets especially ingestion of processed foods; stress; insufficient stomach acid; reduced level of transport proteins; low water consumption; diseased intestines for instance Candida albicans overgrowth; increased phosphorus in diet sodas or increased potassium or sodium; supplemental iron, which can impede magnesium absorption; high consumption of tea, spinach, soy powders, soy milk, and chard, which have ingredients that interfere with magnesium absorption, many different medications, and insufficient vitamin D, which is necessary for the body's utilization of magnesium. Rarely, people have conditions of magnesium wasting where too much of this mineral is lost through the kidneys.

Magnesium Deficiency in Raynaud's Syndrome

Magnesium deficiency contributes to the muscle spasms and vascular constriction seen in Raynaud's syndrome. Increasing magnesium levels improves circulation, stops muscle spasms and minimizes stress reactions. Dr. Carolyn Dean, in The Magnesium Miracle, describes a patient who had marked improvement within 3 months of supplementing with 300 mg magnesium taken twice daily. After two months of magnesium the patient was also given 500 mg calcium twice daily. Although calcium is often combined with magnesium in supplements it is best to take these compounds separately.

Fibromyalgia and Chronic Fatigue Syndrome

Magnesium is an important therapy for patients with fibromyalgia and chronic fatigue syndrome. In both of these conditions, magnesium deficiency is common. Magnesium supplements reduce fatigue, muscle pain, chemical sensitivity and sleep disturbances in these conditions.

Graves' disease

Hyperthyroidism is another condition associated with low magnesium levels. Magnesium supplements reduce symptoms of anxiety, irritability, nervousness, panic disorder, hyperactivity, tremor, muscle spasms and muscle fatigue.

Dosage

Magnesium is available in powders, pills, capsules, sprays, oils and gels. Magnesium is also found in Epsom salts used for bathing and soaking muscles. Tablets are not as well absorbed as powders or capsules. For people who have trouble with absorption, sprays, oils and gels are a good solution. Magnesium can have laxative effects when high doses are used. Supplements should be added slowly and taken 2-3 times daily rather than at once. The usual dose is 200-400 mg taken twice daily although in some cases higher doses may be needed.

Sources:

Carolyn Dean, The Magnesium Miracle, Ballantine Books, 2007.

Nutritional Magnesium Association, assessed April 1, 2009.

A. Rosanoff, The Important Role of Nutritional Magnesium and Calcium Balance in Humans Living with Stress, A Continuing Education Study from The Nutritional Magnesium Report.