Mag-Citrate™

Recommended Use:

- Fibromyalgia
- Smooth muscle relaxant
- High blood pressure
- Pain & muscle fatigue
- Migraine headaches
- Chronic fatigue syndrome
- Cardiovascular support

Magnesium Citrate

Magnesium plays an important role in most of the body's systems. Next to potassium, magnesium is the second most prevalent mineral in the body's cells. Magnesium is a critical co-factor in over 300 enzymatic reactions in the human body and in combination with malic acid is required for the formation of ATP (adenosine triphosphate) – the energy the body runs on. Magnesium assists with calcium and potassium metabolism and is vital in maintaining arterial health, normal blood pressure and normal heart rhythm. The recommended daily allowance of magnesium is 350 mg. Yet for a healthy adult a therapeutic dose can range between 400 and 1,000 mg, of elemental magnesium (in divided doses). For persons requiring high intakes of calcium, phosphorous, protein or Vitamin D an even higher doses of magnesium should be considered. Studies reveal that most North Americans do not get enough magnesium in the diet. Magnesium in food is lost through processing and through overcooking during preparation. High salt intake, the use of alcohol and diuretics can also cause magnesium deficiency.[1] This suggests the need for magnesium supplementation to maintain adequate levels of this essential mineral in the body.

Malic Acid

Malic acid is a natural substance found in fruits and vegetables. It supports energy production and the body is able to produce malic acid when it converts carbohydrates into energy. Insufficient malic acid levels within the body leads to fatigue, as it is an essential component of the Kreb's cycle. Malic acid increases energy and is beneficial for pain reduction, muscle soreness, mental focus and reducing fatigue after exercise. When malic acid is paired with magnesium, pronounced improvements are seen in cases of fibromyalgia and chronic fatigue syndrome.

High Blood Pressure

Studies have shown a link between increased magnesium intake and reduced high blood pressure. Persons with hypertension tend to have lower blood magnesium levels than individuals with normal blood pressure. A study at the National Cardiovascular Center in Osaka, Japan found that supplementation with magnesium, for 8-weeks, reduced average systolic and diastolic blood pressure levels by 2.5 mm Hg and 1.4 mm Hg respectively.[2] In this study the effect of magnesium supplementation on blood pressure levels was only noticeable in men and older men benefited more than younger men. Other studies have found similar results although the evidence suggests results are dosage dependent (the greater the dose the greater the effect) and severely hypertensive individuals experience greater benefit than mildly hypertensives. These studies support the idea of magnesium supplementation as a lifestyle modification to assist in managing hypertension. Although the actual mechanism by which magnesium works in the body is not fully understood, it is believed that magnesium's ability to displace calcium from smooth muscles around the blood vessels makes it a potential dilatory of blood vessels.

Cardiovascular Health

Magnesium deficiency has been identified as one of the leading causes of cardiovascular disease and stroke. Magnesium is an important mineral for cardiovascular health as it works with calcium to regulate the heart's electrical activity. When stressed the body produces substances catecholamines and corticosteroids (such as adrenalin). Under prolonged stress, these chemicals disrupt magnesium metabolism resulting in increased magnesium excretion in the urine. This reduction in magnesium levels increases the risk of cardiovascular damage through thrombosis and cardiac arrhythmias. A study of 68 hospital patients admitted with ventricular arrhythmias found hypomagnesemia, due to excess excretion of magnesium in the urine, to be an essential feature of heart failure associated with complex ventricular

Medicinal ingredients: Each caplet contains:
Magnesium (magnesium citrate) . . . . . 100 mg
Non-medicinal ingredients: DL-Malic acid, stearic acid, magnesium stearate, silicone dioxide.
Recommended dose (adults): Take 1 caplet a day with food or as directed by a health care practitioner.
Cautions/warnings: Avoid using two (2) hours prior to or until (4) hours after taking other medications.
NPN 80000275 • 120 caplets

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arrhythmias. This study further concluded that arrhythmias could be alleviated or abolished by magnesium supplementation.[3] Another study showed that a regime of magnesium supplementation in patients with coronary artery disease (CAD) for 6 months resulted in a significant improvement in exercise tolerance, exercise-induced chest pain, and quality of life. This suggests that magnesium could beneficially alter outcomes in patients with CAD.[4] These patients were given 365 mg of elemental magnesium (from magnesium citrate) daily.

Migraines

Migraines are believed to be due to an interaction of triggering chemicals; frequently present in the foods we eat, with cell receptors in the brain. This causes the blood vessels in the head to expand and contract spasmodically, giving rise to inflammation. This inflammation is accelerated by the presence of chemicals known as prostaglandins, which are present in the body in very small amounts. Migraine suffers have been found to have lower levels of magnesium in their blood and brain tissue compared to non-migraine suffers.[5] Magnesium helps to relieve migraine headaches by smoothing muscle around blood vessels and allowing skeletal muscle in the skull to relax. A double-blind study involving 81 migraines suffers, revealed that 600 mg of magnesium per day was more effective than placebo at reducing the frequency of migraines.[6]

Fibromyalgia

Fibromyalgia is a common condition primarily affecting middle-aged women. It is characterized by a general musculoskeletal pain, stiffness and aching. It is nine times more common in women than in men. Fibromyalgia is believed to result from a reduction of oxygen levels in the affected tissues. This gives rise to the breakdown of muscle proteins and associated pain. The synthesis of the proteins, fats and carbohydrates needed to maintain the normal activity and functions of the body's cells is dependent on a naturally-present chemical called ATP which provides the energy needed for these vital processes. Both magnesium and malate (from malic acid) are required to produce ATP. Evidence suggests that a deficiency of these two compounds may be a factor in the development of fibromyalgia.[7] In one clinical trial, 15 fibromyalgia sufferers were given an oral preparation of 300-600 mg magnesium and 1,200-2,400 mg malic acid daily. All patients reported significant improvement in pain within 48 hours. When after 8 weeks, six patients were switched to a placebo pain returned within 48 hours.

References:

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