



Magnesium and your health

Did you know that magnesium influences many bodily processes, including **digestion, energy production, muscle function, bone formation, creation of new cells, activation of B vitamins and relaxation of muscles**, as well as **assisting in the functions of the heart, kidneys, adrenals, brain and nervous system**? *The fact is that lack of sufficient available magnesium in the body can interfere with any or all of these processes.* The National Institutes of Health, Office of Dietary Supplements, reports that there is an increased interest in the role of magnesium in preventing and managing disorders such as hypertension, cardiovascular disease and diabetes.

A HEALTHY MAGNESIUM LEVEL

Magnesium is an essential mineral. This means that the body doesn't manufacture it and it must be obtained through the diet. Unfortunately, our diets today, with their processed foods, refined sugar and flour, and fruits and vegetables of questionable nutritional value (caused by mineral-deficient soil and chemical farming methods), are commonly quite low in magnesium. The result? A significant percentage of the population have below healthy magnesium levels, including many who already use magnesium. Why is this? First, the amount of magnesium required by the body is greater than people think. Second, many magnesium

capsules and tablets do not fully break down and are not completely absorbed by the body.

SYMPTOMS OF MAGNESIUM DEPLETION

Millions suffer daily from symptoms that can result from a lack of magnesium. Because magnesium is required for hundreds of enzymatic reactions (*enzymes are protein molecules that stimulate every chemical reaction in the body*), deficiency may cause a wide variety of conditions, such as

- **Stress**
- **Low energy**
- **Fatigue / weakness**
- **PMS and hormonal imbalances**
- **Inability to sleep**
- **Weakening bones**
- **Muscle tension**
- **Muscle spasms & cramps**
- **Abnormal heart rhythms**
- **Headaches**
- **Anxiousness**
- **Nervousness**
- **Irritability**
- **Constipation**

WHAT DEPLETES MAGNESIUM?

Magnesium deficiency can be caused by a number of things, including—but not limited to—lack of adequate dietary magnesium, emotional stress, some drugs (diuretics, antibiotics, birth control pills, insulin, cortisone), heavy

exercise, diabetes, gastrointestinal disorders and excessive calcium in the diet.

Let's look at some of the impacts low levels of magnesium can have on the body.

CALCIUM & MAGNESIUM

Calcium and magnesium are two different sides of a coin. Calcium excites nerves, while magnesium *calms them down*. Calcium makes muscles contract. Magnesium is necessary for muscles to *relax*. Calcium is needed for blood clotting, but magnesium *keeps the blood flowing freely*.

It is easy to see that maintaining these minerals in balance is vital and that too little magnesium to balance calcium could be both uncomfortable and unhealthy.

THE ANATOMY OF STRESS

When stress becomes constant in our lives—be it mental, emotional, environmental or physical—the continual state of hypervigilance of our bodies and cells can be detrimental to our health. This is especially true when one is low in magnesium (a condition common to the majority of Americans).

Going through a stressful period without sufficient magnesium can set up a deficit, which if not corrected, can linger, causing more stress and further health problems (see symptoms above).

Without sufficient magnesium, the nerve cells cannot give or receive messages and become excitable and reactive. This causes a person to become stressed, highly sensitive and nervous. Feelings of nervousness, irritability and being unable to relax are signs of needing magnesium.

The stress response involves the influx of calcium into cells, resulting in a drastic change in the cells' internal magnesium-to-calcium ratio.

Normal cells contain 10,000 times more magnesium than calcium. If the amount of cellular magnesium falls, however, calcium ions flow *into* the cell. With such an imbalance, calcium puts the cell into a hyperactive state. This can cause muscle contraction and lead to painful cramping. ***Muscles need magnesium in order to relax.***

A short animated video by Andrea Rosanoff, PhD, demonstrating this calcium-magnesium interaction can be seen at www.centerformaged.org.

Low magnesium/high calcium levels can cause cells to physically change. High calcium makes bones stiff and hard, which is good, but in soft tissues it becomes a problem of *calcification*. This stiffness in artery and heart cells can hamper their proper function.

Excess calcium is a very widespread problem. Too much calcium *depletes* magnesium in the body and, as a result, can bring about the symptoms of magnesium depletion mentioned on page one.

Noted author and researcher Mildred S. Seelig, MD, explains: "Calcium is an important essential nutrient, but it must be guarded and controlled and balanced by adequate magnesium if it is not to cause damage to the cells and the body as a whole."

While excess calcium can become a problem, excess magnesium is not a concern. ***Unlike calcium, magnesium does not build up in the body—excess amounts are simply eliminated.***

HEART CONNECTION

The heart and blood vessels need magnesium to stay healthy. Yet this vitally important nutrient is depleted from our soils and is inadequate in many of our processed foods and water supplies, just when our stressful lifestyles demand that we have more. The effects of a low intake of magnesium can be worsened by the high levels of fat, sugar, sodium (salt) and phosphate in our diets as well as, ironically, by the over-use of calcium supplements, which has become widespread because of our awareness of calcium's value for bone health.

FATIGUE AND ENERGY

Magnesium plays a key role in the energy process within each individual cell and in our overall energy levels. When insufficient magnesium is available, energy production is inhibited and the eventual outcome is fatigue and weakness. Magnesium is vital for the storage and transport of energy within our bodies. Magnesium is also essential for regulating potassium levels and for the functioning of the adrenal glands; both are important for maintaining high energy.

Nutritional magnesium is deeply involved in energy production, oxygen uptake, function of the central nervous system, electrolyte balance, glucose metabolism and muscle activity, including that all-important muscle—the heart.

Many studies have shown that magnesium supplementation enhances the performance and endurance of long-distance runners, cross-country skiers, cyclists and swimmers. In fact, a number of medal-winning American track-and-field athletes at the recent Summer Olympics have used magnesium to boost their performance,

prevent muscle cramping and speed recovery. For more information on this, see the article on Dr. David Pascal in the Jan–Feb 2009 issue of *Organic Connections* magazine at www.organic-connectmag.com.

THE SOLUTION

The best way to take magnesium is in a form that can be completely dissolved in water. In this state it will absorb quickly into the body, producing fast relief. Pills need to break down into liquid form before they can be absorbed and not all people, especially as they grow older, have the capacity to digest these. The result may be the absorption of little, if any, actual nutrition. *Natural Calm* was developed especially for superior absorption. *Natural Calm* is an ionic (molecular charge that allows the element to readily bond with water) magnesium powder that provides a highly absorbable, effective, fast-acting form of magnesium.

The proprietary process that resulted in *Natural Calm* was developed by nutritional researcher Peter Gillham and has made *Natural Calm* the best-selling magnesium supplement in the natural food industry.

Natural Calm can be taken safely on its own without side effects. It permits variable dosage, so you can take more or less magnesium as your body requires (see label for directions).

Natural Calm will help your body to perform its normal functions and overcome symptoms associated with low magnesium levels—all as a result of magnesium being available to do its vital job.

Millions have experienced the stress relief, health, calm energy and peace of mind that *Natural Calm* provides. You can too! Available in bottles and convenient single-serving packs in original and organic flavors with organic stevia.