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## **Magnesium Deficency**

## by Raymond Francis

Magnesium deficiency is a pressing national health problem. According to the USDA, 80% of Americans are magnesium deficient, and magnesium deficiency is a major contributor to our epidemic of chronic and degenerative disease, including arrhythmia, chronic fatigue, depression, fibromyalgia, heart disease, and osteoporosis.

Magnesium is an essential component of more than 300 enzymes. These enzymes are responsible for critical metabolic functions such as conversion of carbohydrates, proteins and fats to energy; dilating blood vessels; muscle contraction and relaxation; protein formation; and removal of toxins from the body. Magnesium maintains the electrical potential across nerve and muscle cell membranes and is essential for normal heartbeat and nerve transmission. In the absence of magnesium, free radical damage is accentuated. When magnesium is lacking, critical jobs can't get done, and we suffer lower energy, endurance, stamina, and vitality, resulting in a host of diseases.

Where do we get magnesium? Magnesium is mostly found in plant foods, including greens, nuts, seeds, and whole grains. Good sources include almonds, avocadoes, broccoli, legumes, lentils, pumpkin seeds, and spinach. Supplements are another source, but most are not effective because they use the wrong forms of magnesium. Magnesium bicarbonate, carbonate, chloride, and oxide are poorly absorbed forms, but they are used extensively because they are cheap and the consumer doesn't understand the difference. Magnesium is most absorbable when combined with specific transport molecules, such as ascorbate, citrate, and glycinate, which are more costly.

Why are we so magnesium deficient? Three reasons:

**One:** Substantial reduction of magnesium in our diet through food processing, poor farming methods, and the loss of magnesium from our soils. For example, the average carrot today contains only 25% of the magnesium it contained 50 years ago!

**Two:** Increased magnesium losses due to the acid-producing diet and lifestyle of most Americans. Sugar, alcohol, allergic reactions, caffeine, cola drinks, processed foods, stress, and white flour all have an acidic effect on the body. Magnesium is a buffering mineral used to neutralize that acid. The more acid you produce, the more magnesium is lost.

**Three:** Our reduced ability to absorb magnesium due to toxicity and damaged gut tissue. The addition of toxic fluoride to the drinking water has increased fluoride in our environment. Even organically grown plants accumulate fluoride when irrigated with fluoridated water. Magnesium and fluoride interact in the intestines, decreasing magnesium absorption. Damaged gut tissue also reduces magnesium absorption, and most Americans have damaged guts, partly the result of taking prescription antibiotics, which change the balance of gut flora.

How much magnesium do we need? The RDA is 350 mg for men and 300 mg for women. However, many experts believe that the RDA should be doubled to 600-to-700 mg. Nutritional physicians often recommend 600-to-1,000 mg. Meanwhile, the average diet supplies an estimated daily intake of about 250 mg. Most people absorb only 4-to-30% of their dietary magnesium, contributing to a serious deficiency problem.

To address this widespread deficiency, supplementation is essential. Unfortunately, most magnesium supplements are ineffective. I searched for a solution, and I found a breakthrough approach in a combination of products that work synergistically to optimize magnesium absorption. These products are: Beyond Health Bone Mineral Support Formula and Choline Citrate (available from Beyond Health). When you are magnesium deficient, magnesium absorption is impaired, making a bad situation even worse. Cells need magnesium to activate the biochemical pathway that takes up magnesium. Taking ordinary magnesium supplements may not get around this problem. Many who supplement still suffer cramps, spasms, and twitches that reflect magnesium deficiency. Using Beyond Health's recommended combination of choline citrate with magnesium creates an electrically neutral compound that bypasses the normal uptake pathway, allowing the magnesium to effortlessly pass through cell membranes. It is the most effective way I know to restore magnesium balance. Because almost every American is magnesium deficient, they should be supplementing their magnesium using this protocol.

Another benefit of this combination is that it replenishes choline stores quickly and effectively. Choline helps to increase energy and is necessary for the proper transport of fats, preventing fat accumulation in the liver. Choline supports weight loss and increases bile acid production for the gall bladder. It also enhances liver detoxification and is essential for nerve impulses and memory.

To avoid magnesium deficiency, take 1 teaspoon of Choline Citrate in a glass of water along with 2 capsules of Magnesium Plus. Take as often as necessary to relieve symptoms of cramps and twitches or to restore normal pH to your first-morning urine. Magnesium supplementation should be balanced with a combination of other vitamins and minerals such as Beyond Health's Multi Vit/Min Formula and Bone Support Formula.

Raymond Francis is an MIT-trained scientist, a registered nutrition consultant, author of Never Be Sick Again, host of the Beyond Health Show, and an internationally recognized leader in optimal health maintenance.

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