

## THE MIRACLE OF MAGNESIUM

### Dr Hotze

Every day I hear another magnesium success story. My editor for the UK edition of *The Miracle of Magnesium* told me that as soon as she read my manuscript she gave magnesium to a friend who had severe muscle cramps. Her friend had visited several doctors and nobody could diagnosis her condition or offer her relief. Magnesium helped her immediately. My book agent's brother can't believe how much his energy has improved on magnesium and his wife's menopausal symptoms are lifting since she began taking supplements.

And every day I also hear distressing stories about magnesium deficiency. Just today walking along the beach near my home I met an 80-year old gentleman who asked me to sit and talk. Julius said he used to walk up and down the beach like me but now his arthritis prevented him. But he said he only began having symptoms of arthritis after taking medication for slightly elevated cholesterol. Instead of a diet and magnesium, his doctor immediately put him on a cholesterol-lowering drug. When he began developing pain, which was obviously from the drug, instead of stopping the drug and giving magnesium to lower cholesterol, to help detoxify the drug, and also lessen muscle cramps, his doctor gave him a strong pain medication. And then his ankles began to swell and Julius said his doctor gave him a diuretic!

And so the story goes, one drug causing symptoms that demand another drug. That's what doctors learn about in medical school: drugs. They don't learn about diet and nutrients, so it seems that all they know how to do is prescribe drugs. Julius said he was going to tell his doctor to change his cholesterol medication, which, by the way, in several years had only dropped his cholesterol of 205 to 185. I told him to go on a cholesterol-lowering diet and take magnesium. Even though Julius said he was mad about having to take the drugs and he wished he had been given a diet in the first place, Julius said he would have to ask his doctor before taking the magnesium. And my heart sank, because his doctor probably didn't learn about magnesium supplementation in medical school and would probably say it's unnecessary.

Doctors know potassium deficiency is a danger for people on diuretics but they don't acknowledge that magnesium is also flushed out in equal measure. Magnesium deficiency goes undiagnosed and unrecognized because until recently there was no accurate blood test for magnesium\*. Patients are warned to take potassium supplements or eat oranges and bananas, but no advice is given about magnesium. Magnesium is not as readily available as potassium; it's deficient in the soil and most fertilizers don't contain magnesium, so most foods are lacking. Also cooking and processing foods depletes magnesium. It's found in whole grains, greens, nuts and seeds, but most people don't eat much, if any, of those foods.

And yet, for some reason doctors think that we get all our nutrients in our very SAD, Standard American Diet and they don't recognize the need for nutrient supplementation. It all stems back to a medical education that is funded by drug companies that have no vested interest in promoting nutrients. Vitamins and minerals can't be patented and are relatively inexpensive. My research for *The Miracle of Magnesium* reminded me that all the metabolic processes in the body, ALL OF THEM, depend on vitamins and minerals, which act as necessary co-factors. Magnesium itself is a co-factor and responsible for the function of 325 enzymes; is an absolute requirement for calcium to be incorporated into bone; keeps toxic chemicals out of the brain; dances with calcium to create nerve impulses and muscle impulses; keeps muscles relaxed, including the heart and blood vessels, and triggers dozens of health conditions if it is deficient.

The Recommended Daily Allowance (RDA) for magnesium is between 350 and 400 milligrams per day, which is just enough to ward off outright deficiency. But for optimal health and for the twenty-two conditions that are triggered by magnesium deficiency, perhaps twice as much magnesium is needed. One of the highest sources of magnesium is kelp, but one tsp. only has about 30 milligrams. One tablespoon of almonds has 33 milligrams. Because we probably don't get nearly enough magnesium from our diet we have to investigate magnesium supplements.

I use several types of magnesium. However, I stopped using magnesium oxide in 2005 when I read a study that showed only 4 percent of the oxide form of magnesium is absorbed. That's why magnesium oxide is a great laxative but if you want to stock up on magnesium you need to use other forms. I use magnesium citrate and magnesium taurate and also spray on magnesium oil after a shower. Magnesium oil is supersaturated magnesium chloride and because it's used topically it doesn't cause a laxative effect. And I find it really does work. I seem to have a very high requirement for magnesium and to get enough by mouth I can have a laxative reaction—but if I use magnesium oil, I only need to take half the amount of magnesium by mouth and therefore avoid loose stools.

You also have read labels when you buy magnesium products. For example a label may say magnesium taurate, or magnesium citrate, or magnesium glycinate, 500 milligrams, but when you look at the fine print on the back of the bottle you will notice the actual amount of magnesium is much less. The actual amount of magnesium in 500 mg of magnesium glycinate is 50 mg. Companies that make chelated minerals like magnesium glycinate and magnesium taurate claim that chelates are more readily absorbed. That may be the case, but how you tell is if they have less of a laxative effect.

The best way to tell if you are getting enough magnesium is the "bowel test". You know when you have too much magnesium

when your stools become loose. This, in fact, may be a blessing for people with constipation and is one of the many ways magnesium deficiency manifests. But, if you are like me and still get a Charlie horse or a heart palpitation when you don't have enough magnesium, then reach for the magnesium oil.

The only contraindications to magnesium are caused in people with outright kidney failure, bowel obstruction, Myasthenia gravis, or heart block. Also, if you have a heart condition you may find that taking magnesium can lessen the need for heart medication and you should be under doctor's supervision to guide this process.

The following 22 medical areas that magnesium deficiency triggers or causes have all been scientifically proven. However, since the publication of *The Miracle of Magnesium*, people have sent me magnesium stories that go beyond the following list. I've been told that magnesium had caused skin to become smooth, gums to heal, and improvements in sexual response. If you are only able to take one supplement—make sure it's magnesium!

Magnesium deficiency triggers or causes the following conditions:

- Anxiety and Panic attacks- Magnesium (Mg) normally keeps adrenal stress hormones under control.
- Asthma- Both histamine production and bronchial spasms increase with Mg deficiency.
- Blood clots- Mg has an important role to play in preventing blood clots and keeping the blood thin-much like aspirin but without the side effects.
- Bowel disease- Mg deficiency slows down the bowel causing constipation, which could lead to toxicity and malabsorption of nutrients, as well as colitis.
- Cystitis- Bladder spasms are worsened by Mg deficiency.
- Depression-Serotonin, which elevates moods, is dependent on Mg. A Mg-deficient brain is also more susceptible to allergens, foreign substances that can cause symptoms similar to mental illness.
- Detoxification- Mg is crucial for the removal of toxic substances and heavy metals such as aluminum and lead.
- Diabetes- Mg enhances insulin secretion, facilitating sugar metabolism. Without Mg insulin is not able to transfer glucose into cells. Glucose and insulin build up in the blood causing various types of tissue damage.
- Fatigue- Mg-deficient patients commonly experience fatigue because dozens of enzyme systems are under-functioning. An early symptom of Mg deficiency is frequently fatigue.
- Heart disease- Mg deficiency is common in people with heart disease. Mg is administered in hospitals for acute myocardial infarction and cardiac arrhythmia. Like any other muscle, the heart muscle requires Mg. Mg is also used to treat angina, or chest pain.
- Hypertension- With insufficient Mg, spasm of blood vessels and high cholesterol occur, both of which lead to blood pressure problems.
- Hypoglycemia- Mg keeps insulin under control; without Mg episodes of low blood sugar can result.
- Insomnia- Sleep-regulating melatonin production is disturbed without sufficient Mg.
- Kidney Disease- Mg deficiency contributes to atherosclerotic kidney failure. Mg deficiency creates abnormal lipid levels and worsening blood sugar control in kidney transplant patients.
- Liver Disease leading to liver failure- Mg deficiency commonly occurs during liver transplantation.
- Migraine- Serotonin balance is Mg-dependent. Deficiency of serotonin can result in migraine headaches and depression.
- Musculoskeletal conditions- Fibrositis, fibromyalgia, muscle spasms, eye twitches, cramps and chronic neck and back pain may be caused by Mg deficiency and can be relieved with Mg supplements.
- Nerve problems- Mg alleviates peripheral nerve disturbances throughout the whole body, such as migraines, muscle contractions, gastrointestinal spasms, and calf, foot and toe cramps. It is also used in treating central nervous symptoms of vertigo and confusion.
- Obstetrics and Gynecology- Mg prevents Premenstrual Syndrome; prevents dysmenorrhea (cramping pain during menses); is important in the treatment of infertility; and alleviates premature contractions, preeclampsia, and eclampsia in pregnancy. Intravenous Mg is given in obstetrical wards for pregnancy-induced hypertension and to lessen the risk of cerebral palsy and Sudden Infant Death Syndrome (SIDS). Mg should be a required supplement for pregnant mothers.
- Osteoporosis- Use of calcium with Vitamin D to enhance calcium absorption without a balancing amount of Mg causes further Mg deficiency, which triggers a cascade of events leading to bone loss.
- Raynaud's Syndrome- Mg helps relax the spastic blood vessels that cause pain and numbness of the fingers.
- Tooth decay- Mg deficiency causes an unhealthy balance of phosphorus and calcium in saliva, which damages teeth.

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