



ARBOR FARMS MARKET

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Our February 2017 Newsletter for Healthy Living

Magnesium and Heart Health

Magnesium is a mineral important to the health of every cell and organ in your body, especially your heart, kidneys and muscles. Symptoms of a deficiency can include unexplained fatigue or muscle weakness, abnormal heart rhythms, eye twitches and muscle spasms. Unfortunately, determining a deficiency of magnesium from a simple blood sample isn't possible, as only 1 percent of the magnesium in your body is found in your blood stream. Instead, most of your magnesium will be found stored in your bones and organs. It is quite possible to be unaware of a deficiency, which is why it has been dubbed the "invisible deficiency." Some researchers estimate that up to 80 percent of American do not get enough magnesium from their diet to replace the magnesium lost.



Studies have also demonstrated that only 25 percent of U.S. adults are getting the recommended daily amount of 310 to 320 milligrams (mg) for women and 400 to 420 mg for men. Even more concerning to your overall health, these amounts are just enough to stop your body from experiencing the overt symptoms of a deficiency, but not enough to support optimal health. In a recent study, researchers conducted a dose-response meta-analysis of over 40 studies with over 1 million participants, published between 1999 and 2016, looking for a correlation between magnesium intake

and diabetes, cardiovascular disease (CVD) and all-cause mortality. They found no significant association between increasing the intake of magnesium above 100 mg per day and the risk of CVD or congestive heart disease (CHD).

However, the same increase in magnesium intake per day was linked with a 22 percent reduction in the potential risk of heart failure and a 7 percent

Cardiovascular diseases claim more lives than all forms of cancer combined. In the U.S., someone has a heart attack every 42 seconds and someone dies every 60 seconds from a cardiovascular disease. The combined direct and indirect costs of CVD were estimated to be \$444 billion in 2010, or \$1 of every \$6 spent on healthcare. Heart disease is the leading cause of death in women,

"...optimal magnesium status in the human body may help prevent or treat hypertension.."

decrease in the risk of stroke. The increase in magnesium was also linked to a 10 percent drop in the risk of death from all causes and a 19 percent drop in the potential risk of diabetes. While the analysis was based on observational studies and did not prove a direct link, researchers wrote that the results of their meta-analysis supported the theory that increasing your daily dietary intake of magnesium may provide you with overall health benefits.

A deficiency of magnesium at the cellular level can lead to a deterioration of metabolic and mitochondrial function at the cell level, and lead to more serious health problems. Although a mineral, magnesium also functions as an electrolyte, crucial in electrical activity throughout your body. Without healthy levels of electrolytes, such as calcium, magnesium or potassium, electrical signals throughout your body aren't sent and received properly, affecting heart, brain and muscle function.

killing more than 289,000 in 2013, or accounting for approximately 1 of every 4 deaths. Although it is sometimes thought of as a man's problem, approximately the same number of men and women die from CVD each year. Unfortunately, symptoms in women are less obvious than they are in men, with 64 percent of women who die from CVD having no previous symptoms.

One in every 3 adults in America suffers from hypertension, or high blood pressure. Having high blood pressure increases your risk of having heart disease and stroke, and only half of people with hypertension have their condition under control. Magnesium has a direct effect on the relaxation of vascular smooth muscle and the regulation of ions important to blood pressure control. Hypertension is labeled the "silent killer" as there are usually no symptoms of the condition or warning signs.

A meta-analysis funded by the

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Feeding the World (NOT!)

Industrial agriculture, characterized by concentrated animal feeding operations (CAFOs) and vast swatches of genetically engineered (GE) monocrops, claims to be the solution to ending world hunger. They downplay the fact that their version of farming is destroying the environment with excessive waste and chemical pollutants, wa-

In fact, EWG cites data from the U.N. Development Program, which found 86 percent of the value of U.S. agricultural exports in 2015 went to 20 destinations with low numbers of hungry people and high rates of human development scores. The top recipient? Canada. In addition, only 0.5 percent of the value of U.S. agricultural exports went to the

Glyphosate has made headlines recently because it's the most used agricultural chemical in history and also because the International Agency for Research on Cancer (IARC) determined it is a probable carcinogen. Seventy percent of meat worldwide, and 99 percent of meat in the U.S., comes from CAFOs, but this could soon change as investors grow increasingly weary over the industry's unsustainable practices and poor public image. CAFOs, with their strong potential for causing pandemic illness and proven track record of pollution, are considered high-risk investments, and a group of investors that collectively man-

age more than \$1 trillion have joined the Farm Animal Investment Risk and Return Initiative, to conduct negative risk screening



on the CAFO model.

The destructive nature of CAFOs to society, the environment and the animals, has become too blatant to ignore. Among the reasons investors may shy away from these high-risk investments are: antibiotics overuse and contribution to antibiotic-resistant disease; carbon emissions; ethical issues in the treatment of animals, and pollution. The absurdity of continuing to invest money in an industry that must be supported by government bailouts is not lost on investors, either. Conversely, at Arbor Farms, we are proud to partner with Lamb Farm (Manchester, MI), C. Roy Meats (Yale, MI) and Graham's Organics (Rosebush, MI) to offer you beef, pork and lamb products that are ethically-raised, pastured and sustainable.

Reference: *Environmental Working Group*, Oct. 5, 2016, *Corporate Crime Reporter* Sept. 30, 2016, *Food Navigator* Oct. 3, 2016

"...increasing access to food and ceasing conflicts could help undernourished populations better feed themselves."

ter overuse and the spread of genetically modified organisms (GMOs) on the premise that without this relatively new intensive farming, people around the world would starve. The United Nations has even declared that world food production must double by 2050 in order to feed 9 billion people, but this may only double the environmental toll such productions are already taking, while doing little to relieve world hunger.

Certainly, when GMO and pesticide makers Monsanto and DuPont make their claims of feeding the world, many people envision their crops feeding people in impoverished undeveloped countries, like Rwanda and Ethiopia. The reality is a far cry from this industry-spread ideal. A new Environmental Working Group (EWG) report clearly dispels the myth that industrial agriculture is the solution to feeding the world. "Poverty is the root cause of hunger, not too few exports of U.S. wheat, corn, soybeans and meat. American exports go to people who can afford to buy them," EWG noted. In other words, the vast majority of corn, wheat, soy and CAFO meat produced in the U.S. is going to countries with low rates of hunger.

19 countries with high or very high levels of undernourishment (such as Haiti, Yemen, Rwanda and Ethiopia). What they need is not for the U.S. to step up its production of corn, soy and CAFO meat but to be given resources to distribute and increase access to food while helping local farmers to earn a good living. EWG reported: *"Reducing poverty, increasing income for women, providing nutrition education, improving infrastructure like roads and markets to increase access to food, and ceasing conflicts could all help undernourished populations better feed themselves."*

While the (literal and proverbial) "fruits" of Big Ag's industrial labors are doing little in the way of relieving world hunger, they're serving Americans a not-so-healthy dose of weed killer in a shockingly diverse array of foods. The latest to be revealed, according to U.S. Food and Drug Administration (FDA) testing, is oat products, including oat cereals for babies. Glyphosate, the active ingredient in Monsanto's Roundup herbicide, was detected in a variety of "conventional" instant oatmeal, including strawberry, banana, cinnamon spice and maple brown sugar flavors.

Magnesium for Heart Health, continued from page 1

Indiana University School of Medicine Strategic Research Initiative made a direct link between those who were deficient in magnesium and hypertension. The researchers noted: *"With its relative safety and low cost, magnesium supplements could be considered an option for lower high blood pressure in high-risk persons or hypertension patients. Such suggestive evidence indicates that maintenance of optimal magnesium status in the human body may help prevent or treat hypertension."* Since approximately 80 percent of Americans are defi-

cient in magnesium and 33 percent suffer from hypertension, balancing your magnesium levels may be the strategy you need to prevent the development of hypertension. One of the primary reasons for a magnesium deficiency is a diet rich in processed foods. Heat and processing depletes magnesium from real foods. Experts believe low levels of magnesium may be the result of low levels found in food. To optimize your magnesium level, be sure to eat plenty of magnesium-rich foods, such as spinach, beet greens, Brussels sprouts, avocado,

broccoli, squash, greens, raw nuts, raw seeds, tomatoes, berries and wild Alaskan salmon. Since magnesium is inexpensive, safe and readily available, you may want to consider supplementation. Because real foods have most of the cofactors and other nutrients in the correct ratios, it is important when using supplements to maintain the proper balance between vitamin K2, vitamin D, magnesium and calcium.

Reference: *GreenMedInfo* May 20, 2013, *BMC Medicine* Dec. 8, 2016, *Clinical and Experimental Hypertension* 2005;27(1):95-112. *The Heart Foundation, Heart Disease. CDC Heart Disease Fact Sheet. CDC Women and Heart Disease Fact Sheet. CDC High Blood Pressure Fact Sheet. Medical News Today* July 12, 2016.

Helping That Headache

You've probably heard of studies showing how healthy it is for you to get plenty of sunlight and, in the absence of that, how using a high-quality tanning bed or taking vitamin D supplements can help supply what your

cancer, diabetes and obesity."

Headaches come in many forms, with many causes, as sufferers know well. Some are caused by tension, while others may be brought on by bright lights, poor posture, caffeine

"Scientific evidence suggests vitamin D can help prevent cancer, diabetes and obesity."

body needs. But there are just as many studies that report how extensively a vitamin D deficiency can damage your health in ways you've probably never even imagined. One of those adverse effects is an increased risk of headaches.

A study from Finland addressed this point, as it analyzed data from about 2,600 men between the ages of 42 and 60 from 1984 to 1989. According to Live Science, from the men's blood samples, 69 percent of them were found to have low vitamin D levels, which were defined as below 20 nanograms per milliliter, or ng/ml. This is actually a serious deficiency state, as optimal levels are between 40 and 60 ng/ml. The researchers wrote, "*Chronic headache occurring at least on a weekly basis was reported by 250 men, and men reporting chronic headache had lower serum vitamin D levels than others.*"

Those with the highest level of serum vitamin D had a 116 percent lower risk of chronic headaches, and men with the lowest vitamin D levels were twice as likely to have frequent headaches (defined as at least one a week) as men with the highest levels. The researchers weren't sure which came first, the low vitamin D levels or the headaches. They conjectured that if you have a headache, you're not likely to spend as much time outside, so they didn't get the sunlight they need. Beyond frequent headaches, Science Nordic offered a short list of health conditions that may occur when people don't get enough vitamin D: "Cancer, diabetes, high blood pressure, poor semen quality, depression and osteoporosis." An in-depth review of 1,706 studies published between 2000 and 2010 concluded: "*Solid evidence says optimized vitamin D levels strengthen bones and reduce overall mortality. It's likely that vitamin D also has a beneficial effect on the muscles. Scientific evidence suggests vitamin D can help prevent*

withdrawal, menstrual periods, fatigue, dehydration, loud noises, poor diet, etc. Genetics and fluctuations in hormones such as estrogen are two explanations for migraines. Research has also linked migraines to deficiencies in vitamin D, riboflavin, CoQ10 and magnesium.

Ideally, instead of opting for vitamin D supplements, sensible sun exposure is the best way to get all the vitamin D your body requires. While some foods, such as wild-caught Alaskan salmon, contain vitamin D, it's difficult to get enough from dietary sources alone. As mentioned, a vitamin D (25-hydroxyvitamin D) level between 40 and 60 ng/ml is thought to be ideal for optimal health and disease prevention. You may need to get approximately 5,000 to 6,000 I.U.'s of vitamin D per day from all sources — sun, supplements and food — in order to reach and maintain a healthy blood level of 40-60 ng/ml. Keep in mind that the specific dosage is still a very loose guideline, because people vary widely in their ability to respond to vitamin D, and your health practitioner should be consulted.

Vitamin-D deficiency is extremely common, not only in Nordic countries but also in sun-drenched areas because people spend so much time indoors. Thus, it's important to take steps to alleviate the problem, especially if low (or extremely high) temperatures make it unpleasant to expose your skin to adequate amounts of sunlight. If you aren't sure you've been getting enough vitamin D from the sun, your health practitioner can perform a simple blood test that can reveal your levels definitively (25-hydroxyvitamin D).

For people who get headaches, frequently or infrequently, discovering the cause is an important part of determining how to get rid of them. Tension headaches, migraines and cluster headaches (which are usually rare and brief, with pain around your eyes) are the three most prevalent types. The latter two are

the most intense and painful. While around 5 percent of the population has cluster headaches, about 13 percent of headache sufferers in the U.S. have migraines. Unfortunately, migraines are still largely misunderstood in the medical community, in large part because the symptoms are so diverse. Some people describe throbbing or searing pain, either on both sides of their head or on just one side. Food allergies and intolerances can also trigger headaches. Common culprits include food containing nitrites, such as hotdogs or lunch meat, and foods containing monosodium glutamate (MSG), often found in processed foods and fast foods as a flavor enhancer. Artificial sweeteners, such as aspartame, saccharine and sucralose (brand name Splenda), are also a known cause. The use of glyphosate on wheat crops has been associated with headaches, as well as celiac disease.

Adding coenzyme Q10 (CoQ10) to your supplementation regimen may have a tremendous effect on lessening the severity and frequency of your migraines. It impacts every cell in your body, but especially your brain and heart. It's important to understand that a lot of medications, including hormone replacements, antacids, birth control pills, diabetes drugs and statins to lower cholesterol, may cause a depletion of CoQ10 throughout your body. Also, magnesium is a mineral that, when lacking in your body, can set off a headache. In fact, it's estimated that around half the people with recurrent headaches are actually magnesium deficient.

So, increase your consumption of green leafy vegetables, which are rich in bioavailable magnesium. Spirulina is another good source. Be aware that, like so many other compounds your body needs, medications may block this mineral. Taking an Epsom salt bath can provide magnesium sulfate, which absorbs into your body through your skin, or consider supplementing with 400 to 600 milligrams of magnesium (magnesium threonate) per day. Other supplements that help provide what your body needs and may help prevent headaches include a B-complex, vitamin B12, B6 and folic acid.

Reference: *Scientific Reports* January 3, 2017. *Live Science* January 4, 2017. *Healthline* October 25, 2016. *European Journal of Neurology* 2004, July; 11(17):475-7. *EXPLORE: The Journal of Science and Healing*, March-April 2013; 9(2):91-99.





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