3-2013

Mighty Magnesium

Winston J. Craig
Andrews University, wcraig@andrews.edu

Organic foods tend to have more disease-preventing phytochemicals.

Organic farming is more eco-friendly.

Mighty Magnesium

BY WINSTON J. CRAIG

Magnesium is the fourth most abundant mineral in the human body. About 50 to 60 percent of magnesium in the body is found in bone. In addition, our bodies utilize magnesium for more than 300 different biochemical reactions. Magnesium is important for synthesizing DNA and important proteins, regulating blood pressure and blood sugar, for energy metabolism, keeping your immune system healthy, and assisting with muscle function, nerve function and insulin action.

Sadly, many Americans fall short in getting adequate dietary levels of magnesium. The recommended dietary allowance for a male adult is 420 mg a day and for a female adult 320 mg. A typical man gets 335 mg of magnesium a day while a woman gets about 250 mg. It's no wonder that some food companies are now adding magnesium to their products.

Older persons tend to consume less magnesium in their diet, and their ability to absorb magnesium diminishes with age. In addition, they are more likely to use medications, such as diuretics and antibiotics, which interfere with magnesium absorption, increasing the likelihood of a magnesium deficiency.

Higher magnesium intakes have been associated with a significantly lower incidence of stroke and heart failure, and a 50 percent reduced mortality from heart disease. Magnesium also may protect against abnormal heart rhythms and lowers the risk of high blood pressure. A Swedish study found that for every 100 mg of additional magnesium ingested per day, risk of stroke decreased eight percent.

Lower magnesium intakes are associated with a higher risk of Type 2 diabetes. Tracking large population groups for many years, it was found that risk of diabetes was lowered 15 percent for each 100 mg of magnesium ingested daily. An increased consumption of magnesium-rich foods were suggested to lower the risk of Type 2 diabetes. In a German clinical trial, overweight people with insulin resistance developed lower fasting blood sugar levels and improved insulin sensitivity after a magnesium supplement was consumed daily for six months.

In a study of young adults, those who consumed the highest level of magnesium were 31 percent less likely to develop metabolic syndrome (a cluster of symptoms that can lead to heart disease) than those with the lowest magnesium intake. Along with calcium and vitamins D and K, magnesium is important for maintaining bone density. Magnesium also helps prevent gallstones. Higher levels of magnesium may alleviate the symptoms of PMS.

Magnesium is obtained from a variety of foods such as peas, beans, lentils, nuts, peanut butter, seeds (sunflower, flax, sesame, pumpkin), raisins, berries, bananas, avocados, molasses, low-fat milk and yogurt, and baked potato. Whole grain breads and cereals (especially oatmeal, barley, corn and rice) are important sources since magnesium is largely located in the bran and germ of the kernel, and these get removed in the refining process. Leafy greens, rich in the green pigment chlorophyll, are also a good source of magnesium.

A healthy diet containing whole grains, beans, nuts and green leafy vegetables can provide adequate levels of magnesium for its many important body functions.

Winston J. Craig, Ph.D., RD, is chair of the Department of Nutrition at Andrews University.