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AS WE SEE IT

How Many Americans Are Magnesium Deficient?

I continue to be astonished by the scientific skill displayed by Life Extension members. Paul Mason is one such individual.

Paul Mason has painstakingly documented that a significant cause of cardiovascular disease is magnesium deficiency. His mission has been to persuade the world that consuming more magnesium would stave off today's leading cause of death: heart attack and stroke.



Paul Mason

Paul sued the FDA and Justice Department to mandate that all bottled water and soft drinks be fortified with magnesium.¹ His rationale is that adding magnesium to bottled drinks would provide most Americans with the government's recommended daily intake of this lifesaving mineral. This is analogous to the iodine deficiency that existed 70 years ago. After iodine was added to table salt, thyroid disease caused by iodine deficiency virtually disappeared.²⁻⁵

Paul wanted a federal court to order the FDA to inform the public about the critical need to ingest adequate magnesium, his reasoning being that the FDA is the agency with the resources and authority to get out this critically important health information.

To document his scientific position, Paul set up a website containing hundreds of published papers showing how magnesium prevents heart attack.⁶ The website also has excerpts from medical textbooks explaining why magnesium is so crucial to vascular health. Before the Internet became popular, Paul Mason compiled this data into huge books that he sent at his expense to anyone he thought was willing to spread the word about this lifesaving information.

Until now, nutritional doctors thought they understood why magnesium was so beneficial to heart health. Magnesium had been shown to help lower blood pressure, correct arrhythmia, prevent coronary atherosclerosis, inhibit arterial blood clotting, improve exercise duration, and reduce cardiac mortality.⁷⁻³⁰

A recent study demonstrates a new mechanism that further explains how magnesium could have saved millions of lives a year.³¹⁻³³ The reason I say could have saved millions of lives is that the government did everything it could to keep Americans from learning about the lifesaving properties of this virtually no-cost mineral.

AN EPIDEMIC DEFICIENCY

For decades, statisticians have demonstrated that the majority of Americans do not get the government's minimum daily requirement for magnesium.

The latest government study shows a staggering 68% of Americans do not consume the recommended daily intake of magnesium. Even more frightening are data from this study showing that 19% of Americans do not consume even half of the government's recommended daily intake of magnesium.³⁴ Is it any wonder that disability and death from heart attack and stroke are the nation's leading killers?

While the government officially refuses to recognize the effects of magnesium in preventing vascular disease, the National Institutes of Health does publish the following on its website:

"Magnesium is needed for more than 300 biochemical reactions in the body. It helps maintain normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, and keeps bones strong. Magnesium also helps regulate blood sugar levels, promotes normal blood pressure, and is known to be involved in energy metabolism and protein synthesis. There is an increased interest in the role of magnesium in preventing and managing disorders such as hypertension, cardiovascular disease, and diabetes."³⁵



by William Faloon

The nation's leading health agency acknowledges magnesium's critical role in keeping us alive, yet the FDA has done everything it could to keep this low-cost mineral out of Americans' bodies.



MAGNESIUM DEFICIENCY ELEVATES CRP

The hot new term discussed by cardiologists is C-reactive protein, an inflammatory marker in the blood that predicts who is likely to suffer a heart attack or stroke. Higher blood levels of C-reactive protein mean greater risk of cardiovascular disease.³⁶⁻⁵³

Life Extension has extensively published about the dangers of chronic inflammation.⁵⁴⁻⁵⁹ Most scientists now accept that inflammation plays a role in the development of atherosclerosis,⁶⁰⁻⁶⁹ cancer,⁷⁰⁻⁸² Alzheimer's disease,⁸³⁻⁸⁷ and other age-related disorders.⁸⁸⁻¹⁰⁴ The best way to assess whether a person suffers from chronic

inflammation is the C-reactive protein blood test.

A new study showed that adults who consume less than the recommended amount of magnesium are 1.48 to 1.75 times more likely to have elevated C-reactive protein.³⁴ This finding offers yet another reason why those who are magnesium deficient have increased rates of cardiovascular disease—their C-reactive protein levels are likely to be higher!

Life Extension members were warned about the dangers of C-reactive protein long ago and were informed how to keep this inflammatory marker as low as possible by taking the following steps:

- Consume soluble fiber before heavy meals, or eat high-fiber diets.¹⁰⁵⁻¹¹³
- Minimize consumption of pro-inflammatory foods such as saturated fats and foods cooked at high temperatures.¹¹⁴⁻¹¹⁷
- Keep DHEA levels in youthful ranges.^{118,119}
- Take supplemental carnitine,^{120,121} gamma tocopherol,^{122,123} alpha tocopherol,¹²⁴⁻¹²⁹ and fish oil.¹³⁰⁻¹³⁸
- Maintain dental hygiene to prevent pro-inflammatory gingivitis.¹³⁹
- Ingest magnesium at levels above the government's recommended daily intake.³⁴

MAGNESIUM TO TREAT STROKE VICTIMS

Stroke patients in Los Angeles County are participating in a study to determine whether magnesium can protect the brain from damage. Los Angeles County paramedics will administer intravenous magnesium sulfate to patients being transported to the hospital.

Researchers believe that magnesium infusions might slow the chemical process that kills brain cells during the time before an ischemic stroke can be treated. They aim to test whether a rapid increase in a stroke victim's magnesium level, delivered within two hours of the appearance of stroke symptoms, can reduce the disability and death that so often occur during the time when the blood supply to the brain is partially cut off.

Half of those who participate in the study will receive a placebo consisting of saline solution and the others will get the magnesium sulfate. To assess the effectiveness of the experimental treatment, researchers will compare how well participants in each group are functioning three months after their stroke.

UCLA researchers hope that if magnesium sulfate is found to help reduce the size and severity of a stroke, it could become part of an arsenal of new stroke treatments. This study is being conducted under a \$14-million grant from the National Institutes of Health. This government grant is crucial; drug companies have little interest in testing magnesium sulfate, because it cannot be patented.

The NIH agreed to fund the project in 2003 after animal studies found that magnesium sulfate proved to be a powerful protector of brain tissue under assault from stroke.¹⁴

WHICH FOODS PROVIDE MAGNESIUM?

Green vegetables such as spinach are good sources of magnesium because the center of the chlorophyll molecule (which gives these vegetables their color) contains magnesium.

Some legumes (beans and peas), nuts, seeds, and whole, unrefined grains are also good sources of magnesium. Refined grains are generally low in magnesium. When white flour is refined and processed, the magnesium-rich germ and bran are removed. Bread made from whole-grain wheat flour provides more magnesium than bread made from white refined flour. Tap water can be a source of magnesium, but the amount varies according to the water supply. Water that naturally contains more minerals is described as "hard." "Hard" water contains more magnesium than "soft" water.

PAUL MASON'S MISSION CONTINUES

After being rebuffed by the US government, Paul Mason is now working with the World Health Organization to encourage adding

magnesium to drinking water in other countries whose citizens suffer from diseases related to magnesium deficiency.

Paul has collected 80 studies showing that small amounts of magnesium in water, often just 5-20 mg/liter, lower incidences of mortality and heart disease. The reasons for such widespread magnesium deficiencies include increased consumption of processed foods, water purification that removes natural minerals, and mineral-depleted soil.

According to data compiled by Paul Mason:

“Even modest amounts of magnesium in water apparently reduce the rate of mortality (by an average of .003345). Applying that mathematical benchmark average to a world population of 6,350,000,000 suggests a possible decline in mortality of 21,240,750 per year—making magnesium deficiency a bigger cause of death than AIDS and war combined.”¹⁴¹

Paul Mason is telling the world that consuming more magnesium could save 21 million lives a year. Regrettably, only a few have bothered to pay attention.

HOW MUCH MAGNESIUM DO YOU NEED?

For magnesium, the RDI (recommended daily intake) for adult males is 420 mg a day, but the actual dietary intake is only 327 mg a day, a dietary shortfall of 93 mg a day. The RDI is considered a minimum daily intake. Many scientists believe a higher RDI would be appropriate, meaning that very few Americans obtain optimal amounts of magnesium.

Adult males generally consume at least one liter of beverages per day, which suggests that beverages should contain about 100 mg of magnesium per liter. Many natural beverages contain about 100 mg of magnesium per liter, including orange juice, grape juice, milk, some mineral spring waters, many wines, and some beers. Purified water and soft drinks should be fortified with magnesium to match the beverages humans have historically consumed. Inexpensive magnesium additives with no impacts on flavor include magnesium bicarbonate, magnesium gluconate, and magnesium lactate.

EXCERPT FROM PAUL MASON'S WEBSITE

“According to the US National Academy of Sciences (1977), there have been more than 50 studies, in nine countries, that have indicated an inverse relationship between water hardness and mortality from cardiovascular disease. That is, people who drink water that is deficient in magnesium and calcium generally appear more susceptible to this disease. The US National Academy of Sciences has estimated that a nationwide initiative to add calcium and magnesium to soft water might reduce the annual cardiovascular death rate by 150,000 in the United States.”¹⁴²



[Click to enlarge map](#)

Paul Mason encourages bottlers to fortify their products with magnesium. If bottlers prefer to market a bottled water naturally rich in magnesium, Paul will supply them with bulk water from his state-inspected Adobe Springs, which contains 110 mg of magnesium per liter.¹⁴³

Life Extension readers are invited by Paul to bring their own bottles to the “Free Spigot” at Adobe Springs (located at 19000 Del Puerto Canyon Road, Patterson CA 95363) and haul away as much free, magnesium-rich water as they want for personal use. (The map tells you how to find Paul Mason’s Free Spigot.)

DOCTORS IGNORE MAGNESIUM DEFICIENCY ISSUE

Doctors eagerly prescribe expensive patented drugs, while low-cost nutrients like magnesium remain overlooked. If the 68% of Americans who are magnesium deficient took corrective action, the need for many of these prescription drugs would be reduced.

Instead, the public is bombarded with advertisements encouraging people to ask their doctor for statin drugs such as Lipitor® and Zocor®. While growing numbers of cardiologists are recommending fish oil and coenzyme Q10, virtually no one emphasizes the critical importance of magnesium. The result is that startling numbers of aging Americans suffer the lethal consequences of magnesium deficiency.

AS WE SEE IT

How Many Americans Are Magnesium Deficient?

DEFYING THE CRITICS

Since 1981, Life Extension has recommended high-potency magnesium supplements, because magnesium is perhaps the most deficient mineral in the American diet.

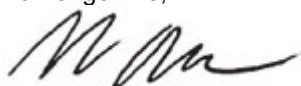
With all the research linking low magnesium intake with high cardiovascular risks, this low-cost mineral would appear to be a simple way to counter today's heart attack and stroke epidemic. Unfortunately, magnesium is so cheap that virtually no one is promoting it as a lifesaving mineral.

In the early 1980s, the Life Extension Foundation was criticized by mainstream doctors for recommending high doses of magnesium relative to calcium. We even had our magnesium supplements seized by the FDA because we presented evidence that this mineral could help prevent heart attack.

Medical ignorance continues to be the number-one cause of death. As a Life Extension member, you are regularly informed about scientific discoveries that can enable you to avoid becoming a casualty of today's broken health care system. Those who follow our basic supplement program obtain 325-665 mg of supplemental magnesium each day.

We commend Paul Mason for his meticulous compilation of data showing that millions of people are dying each year from the effects of magnesium deficiency. We view Paul as an unsung hero for his battle to enlighten the world about these startling statistics. Perhaps one day the medical community will listen.

For longer life,



William Faloon

CALCULATING AMERICAN DEATHS CAUSED BY MAGNESIUM DEFICIENCY

"Magnesium deficiency appears to have caused 8 million sudden coronary deaths in America during the period 1940-1994 . . . The needless drag on the US economy from magnesium deficiency exceeds \$86 billion per year . . . the American rate of death from magnesium deficiency is likely to be above the benchmark average because the American diet is particularly magnesium deficient; American beer contains only a fraction of the magnesium contained in European beers; American bottled water contains only 10% as much magnesium as bottled water in the rest of the world; and American processed foods and snack foods are magnesium-deficient because processing often removes magnesium.¹⁴⁵

—Paul Mason

Rate Your Bottled Water

The table below of America's 10 leading bottled waters shows how many lives might be saved if these brands either switched to springs that are naturally rich in magnesium or fortified their water with magnesium.

BEVERAGE WORLD Top 10 Bottled Waters of 1999

RANK	BRAND	SALES (millions)	MARKET SHARE	ESTIMATED GALLONS (millions)	MAGNESIUM mg/liter	COUNTRY OF ORIGIN	ESTIMATED LIVES SAVED PER YEAR if water had 90 mg/liter magnesium
1	Poland Spring	\$406.2	8.2%	278.8	2	US	1,242
2	Arrowhead	\$315.0	6.4%	217.6	5	US	937
3	Aquafina	\$285.0	5.8%	197.2	22	Canada	679
4	Sparkletts	\$246.5	5.0%	170.0	5	US	731

5	Evian	\$219.0	4.4%	149.6	24	France	500
6	Deer Park	\$167.4	3.4%	115.6	1	US	521
8	Zephyrhills	\$147.5	3.0%	102.0	7	US	428
9	Ozarka	\$144.6	2.9%	98.6	1	US	444
10	Hinckley Springs*	\$134.2	2.7%	91.8	?	US	?
	TOP 10 BRANDS	\$2,216.8	44.9%	1,526.6	8.4 mg/L	80% US	6,308
	All Brands	\$4,900.0	100.0%	3,400.0	2.7 mg/L	Mostly US	15,032

The bottled water with the highest magnesium content (110 mg/liter) is sold under the brand name "Noah's Spring Water." Unfortunately, distribution of this brand of bottled water is limited to certain parts of California.¹⁴⁴
*Formerly known as Hinckley & Schmitt. NOTE: Sales figures preliminary. SOURCE: Beverage Marketing Corporation.

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