Magnesium Deficiency Is Linked to Sudden Cardiac Death

- By P. D. Mangan
- In Heart Disease, Magnesium

Heart disease is the leading cause of death in the U.S. While coronary heart disease rates have fallen by around half in the decades from the early 1970s to today, the incidence of sudden cardiac death remains a significant fraction, nearly three quarters, of all heart disease deaths. That

fraction increases when considering men under the age of 45. Magnesium deficiency is linked to sudden cardiac death.

Sudden Cardiac Death

Sudden cardiac death (SCD) is said to occur when someone has an unexpected heart attack or arrhythmia or other heart problem and dies within one hour of the event. The truly scary thing about SCD is that the majority of victims have no prior symptoms of heart disease. While they do often have risk factors, notably obesity, hypertension, and a history of smoking cigarettes, the onset of SCD is truly sudden. Essentially what happens is that one fine day the SCD victim just collapses and dies without having any inkling of what might be wrong. By the time they get to the hospital it's usually too late.

In 1998, there were over 450,000 cases of SCD in the U.S. SCD is a major public health problem; despite all of the advances in cardiac medicine, as well as vastly increased knowledge of how to prevent heart disease, hundreds of thousands of people die from SCD annually, and this problem is particularly acute among men.

Risk Factors

As mentioned, risk factors for SCD include obesity, hypertension, diabetes, and smoking. If you're reading a health and fitness blog like this one, you likely either don't have these risk factors or are working to bring them under control. Frankly, most people who do have these risk factors don't care enough about their health to do anything about them.

But there is another risk factor that many, even the most health-conscious, are unaware of, and that is their magnesium level.

Magnesium

Magnesium is an essential element that is required for over 300 enzymatic reactions in the body, and is particularly important in energy production. Muscles function poorly when magnesium levels are low, and it will not escape notice that the heart is a muscle. Low magnesium levels can lead to arrhythmias.

Importantly, magnesium deficiency is widespread in the U.S., with up to 70% of people failing to consume the RDA. The high level of deficiency centers around two causes: one, the use of processed food, which is low in magnesium; and the abandonment of drinking hard water, which is abundant in magnesium. Locations in which people drink hard water are associated with lower rates of sudden cardiac death.

Magnesium deficiency is linked to sudden death.

(1) Sudden death is common in areas where community water supplies are Mg-deficient. (2) Myocardial Mg content is low in people who die of sudden death. (3) Cardiac arrhythmias and

coronary artery vasospasm can be caused by Mg deficiency and (4) Intravenous Mg reduces the risk of arrhythmia and death immediately after acute myocardial infarction.

Magnesium levels are strongly and negatively correlated with rates of SCD, even after adjusting for other risk factors. In a prospective study, those who were in the highest quartile of magnesium level had a nearly 40% reduced risk of SCD. What is more, the paper that found this specifically recommends looking at magnesium supplementation in order to prevent SCD.

Even if you eat a diet consisting mainly of whole foods, you're likely not drinking hard water and could very well be magnesium deficient. A serum magnesium level will tell you something about your magnesium levels, but it's not the whole story, since most magnesium is stored inside cells, little of it is in the serum, and the body strives to hold serum magnesium levels within a fairly narrow range. So a blood test for magnesium can be misleading, although low levels probably do show an overall deficiency.

Personally, I take a supplement consisting of 200 mg magnesium daily, and I've done this for the past six or seven years. I take it right before bed, since magnesium promotes relaxation and may improve sleep because of this.

Deficiency can take some time, perhaps months, to completely overcome when supplementing with magnesium, since the cells will remove it from the blood to use for their own purposes. If you're interested in the complete story on magnesium and how it affects health, I recommend the book by Carolyn Dean, M.D., The Magnesium Miracle, which tackles the subject in great detail. (And of course you might try my own book on supplements for men, which covers magnesium.) I credit magnesium with a large role in my return to health. Some of my readers have told me about their experiences with magnesium in terms that validate Dr. Dean's use of the word "miracle".

The common form of magnesium seen in drugstores and the like, magnesium oxide, is very poorly absorbed from the gut, with some reports showing *zero* change in magnesium levels after a course of it. Magnesium citrate is available at Amazon (that's an affiliate link, no extra cost), is nearly 100% absorbed, and is the kind I use.

So, don't become a victim of sudden cardiac death. Ensure that your magnesium levels are up to snuff, and that your other risk factors are under control, and you won't. If you do have these other risk factors, and are unable to get them under control, magnesium could mean the difference between life and death.

PS: Those with kidney disease should consult a doctor before supplementing with magnesium, as this could cause a potentially toxic accumulation of magnesium. For everyone else, magnesium generally has very low toxicity and no side effects. The RDA is ~400 mg for an adult man, so supplementing with 200 mg is a moderate dose.

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