

MAGNESIUM

HEALTHY HEART, IDEAL BLOOD PRESSURE, LESS STRESS

MAGNESIUM IS NECESSARY FOR EVERY CELL OF YOUR BODY AND HELPS TO PROTECT YOUR DNA TO STAND THE TEST OF TIME. HIGH AMOUNTS OF COFFEE AND STRESS INCREASE THE CHANCE THAT YOUR BODY WILL NOT HOLD ON TO ENOUGH OF THIS IMPORTANT MINERAL.

text Daan de Wit

“Part of the population consumes less magnesium than is recommended”, writes the Netherlands National Institute for Public Health and the Environment (RIVM), in which they mainly refer to adolescents and the elderly. At the same time, experts, such as the ones in this article, warn that the recommended amount is very low already. According to Italian Professor Mario Barbagallo, the fact that we are receiving so little magnesium is not good news. His research shows that a magnesium deficiency can accelerate the aging process. Conversely, a sufficient amount of magnesium contributes to the prevention of low-grade inflammation, which is a phenomenon attacking the good intentions of anyone who wants to age healthily.

In a scientific article significantly titled “Magnesium and aging”, Barbagallo writes with the typical tone of a nuanced, yet enthusiastic researcher. He states that an optimal magnesium level “could contribute to the prevention of, or otherwise considerably delay, some age-related diseases”. For those who wonder what kind of diseases to think of, the French doctor and magnesium expert Dr. Marianne Mousain-Bosc writes about one example in her book *Magnesium*, the solution: “Alzheimer’s patients almost always show a magnesium deficiency”.

The damage to our DNA, which slowly increases over time, also plays a harmful role in the aging process, partly because it increases the risk of developing cancer. The body takes countermeasures with enzymes specialized in repairing DNA damage. In the book, American scientist Bruce Ames explains that all DNA repair enzymes need magnesium to do their important work.

PROMISING STRATEGY

Besides this, there are hundreds of other reasons for your body to require a sufficient amount of magnesium. It is, to name but a few, involved in

about three hundred enzyme processes that are at the basis of our metabolism: the transformation of food into life. Magnesium is needed to generate energy in the cells, for electronic cell communication, for chemical reporting in the brain, but also for strong tooth enamel, muscle endurance, supporting the fight against free radicals, and much more.

The American physician and magnesium expert Dr. Carolyn Dean points out another important function of magnesium: its influence on proteins, the building blocks of the human body. Magnesium, for example, can activate the production of myocardial protein, meaning that your heart muscle can weaken if you have a magnesium deficiency.

The importance of a sufficient amount of magnesium is also evidenced by the work of French scientists, who warn of the consequences of shortages at a later age. They have strong suspicions that higher levels of magnesium in the brains of the elderly “can be a promising strategy for minimizing, or even preventing, cognitive deficits that arise as a result of old age”. According to them, it is possible to achieve this by means of supplementation.

MONITOR YOUR CALCIUM–MAGNESIUM BALANCE

In our body, magnesium and calcium work closely together. All cells need calcium to be able to function, but an excess amount of calcium constantly threatens to enter the cells. Magnesium is ever so busy with removing this calcium surplus from the cells. If this is not possible because too little magnesium is available in the body, muscles, for example, will not be able to relax sufficiently. In the case of the heart, our most important muscle, this can lead to serious problems, even up to a heart attack.

You can create a magnesium deficiency by over-consuming calcium, since an overdose of calcium depletes the magnesium supply. The calcium will then enter the soft tissues of the body, resulting in atherosclerosis among other conditions. It is therefore best to consume equal amounts of calcium and magnesium. Most people, however, consume five to fifteen times more calcium than magnesium. Increasing the magnesium intake is a good remedy, and is good advice for Dutch people especially, as they have a relatively high amount of calcium in their bodies because of all the milk they drink.

TEST YOUR MAGNESIUM CONTENT

Your body should contain about 25 grams of magnesium, of which about 60% is found in your bones. The rest is mostly found in the soft tissues and muscles, mainly in the heart. Only 1% circulates in your blood, but it does play a very important role there. The body does everything in its power to keep the blood magnesium levels up, and will go as far as robbing and plundering magnesium from muscles and bone tissue. Not without good reason either: in that way it helps to prevent heart attacks, for example, something that was recently confirmed by the American Harvard University after extensive research. Because of this, it is possible that someone who wants to know if they have enough magnesium in their body scores well on their blood test even while suffering from a deficiency in other places where magnesium is desperately needed, such as the heart muscle cells. A blood test, therefore, has its limitations. What now? You can simply either take enough magnesium or have advanced tests performed, such as the Red Blood Cell Count (RBC) or the EXA test, which deliberately does not look at the blood, but concentrates on magnesium in the soft tissues, such as the heart.

*“For the body,
magnesium is
as indispensable
as oxygen and
water”*

ADVANTAGEOUS EFFECT

The Dutch doctor Richard Danel is enthusiastic about magnesium as well. His enthusiasm began when he realized that he lived on top of the world's purest source of magnesium. Roughly

250 million years ago, beneath his estate in Veendam in the northeastern Netherlands, there used to be a sea called the Zechstein Sea. What has remained of this sea over time is magnesium of the purest kind. Nowadays, Danel is a kind of magnesium ambassador who travels all around the world to advocate for magnesium awareness. At the moment, he lives and works in Canada. In a Skype conversation, he explains that magnesium is just as indispensable to the body as oxygen and water, as it is used just as extensively. More from Danel later, but back to Dean for now. She says that the popularity of magnesium in the body indicates that it is logical for a sufficient amount of this mineral to have a beneficial effect on many conditions, such as anxiety, fatigue, high blood pressure, type 2 diabetes, insomnia, kidney stones, osteoporosis, high cholesterol, and depression. The fact that doctors do not generally associate these conditions, which can seriously disturb you in living a healthy life in your golden years, with a magnesium deficiency, is due to the fact that nutrients only play a minor role in medical education.

8 REASONS WHY YOU COULD USE SOME EXTRA MAGNESIUM

- > **You are getting up there in age:** As you grow older, the body's capacity for the absorption of magnesium deteriorates.
- > **You do sports:** During physical exertion, your muscles use up a lot of magnesium. You also excrete extra magnesium when you sweat.
- > **You are stressed:** Stress sends your consumption of magnesium through the roof, while a magnesium deficiency can make you nervous and stressed. Beware of this vicious circle.
- > **You drink too much:** When drinking too much alcohol, the kidneys excrete a higher amount of magnesium. Alcohol can also disturb the absorption of vitamin D, a vitamin that can be useful in absorbing magnesium.
- > **You take certain medications:** You lose magnesium by using gastric acid inhibitors or diuretics.
- > **You are a sweet tooth:** Magnesium is used up by sugar to a strong degree.
- > **You eat processed meat:** Magnesium binds itself to the phosphates in carbonated drinks and processed meats and becomes useless for the body in the process.
- > **You heat or cool your food:** The magnesium content in food decreases by cooling and heating.

“Eating loads of green vegetables is the first step to an ideal level of magnesium”

> How do you get enough magnesium from your diet?

Magnesium owes its name to the Greek region of Magnesia, historically known for the high contents of magnesium in its soil. That was a long time ago and far away. Nowadays, we eat from farmlands that are no longer as rich in magnesium, which is one of the reasons why many people today suffer from a magnesium deficiency. The problem is worsened further by all kinds of operations in the food production process where magnesium is lost, such as transportation and cooling. The generally agreed upon Recommended Dietary Allowance (RDA) is between 280 mg for women and 350 mg for males. Just a hundred years ago, people consumed 500 mg of magnesium a day through their daily diets without even trying, but nowadays, according to Dr. Mousain-Bosc, you are lucky to receive just 240 mg of magnesium from your diet. What further increases the risk of a deficiency is the fact that our intestines only absorb one third of the magnesium that we ingest from food. The rest is not used and leaves the body as human waste. But do not let this discourage you. Eating lots of green vegetables is the first step towards an ideal magnesium level. All green foods contain chlorophyll, and chlorophyll contains magnesium. Examples include seaweed, such as kelp (760 mg per 100 grams), common nettles (860 mg), and spirulina (195 mg). Other magnesium sources are Celtic sea salt (400 mg per 100 grams), chocolate (300 mg), cocoa powder (420 mg), almonds (255 mg), and oatmeal (130 mg). Mineral water also contains magnesium, although the quantity differs between each mineral spring.

“Magnesium is best absorbed when ingested in small amounts throughout the day”

> How do you recognize a mild deficiency?

The Dutch Nutrition Centre writes: “A magnesium deficiency can be identified by symptoms such as general lethargy or fatigue, muscle cramps, and in extreme cases, heart rhythm disorders”. The UN Food and Agriculture Organisation (FAO) is a little more specific and talks about anorexia, nausea, muscle weakening, and both weight loss and uncontrolled muscle contractions if deficiencies persist.

> Can a magnesium supplement harm you?

Excess amounts of magnesium are skilfully disposed of by the body through human waste. When this happens, you can notice it from the watery quality of your stool, possibly accompanied by some nausea. It is a fairly innocent discomfort, although persistent diarrhea, naturally, cannot be considered good. Different kinds of magnesium are available. According to the American National Institutes of Health, the most common kinds to cause intestinal distress are magnesium carbonate, magnesium chloride, magnesium gluconate, and magnesium oxide.

> Dosage and method of use

“For people with a disturbed magnesium balance, it is impossible to recover without supplements”, states Dr. Danel. He therefore argues in favor of a daily magnesium supplement of 350 mg for women and 400 mg for men, but does not shy away from supplements as high as 400 mg and 500 mg respectively either. Dr. Dean even goes one step further. In her opinion, the RDA of 280 mg for women and 350 mg for men is too

low, and she recommends taking a double dose every day: 560 mg for women and 700 mg for men. Magnesium is best absorbed when ingested in small amounts throughout the day. If this is too much of an effort for you, you can take your dose in one go, just before bedtime. This method of taking magnesium is preferred by the German professor and former chairman of the German Society for Magnesium Research,

Jürgen Vormann. The reasoning behind this is that magnesium levels drop during sleep, and that by taking a magnesium supplement you can avoid any muscle cramps. While many different kinds of magnesium are available, all experts agree on one thing: avoid magnesium oxide, because your body will not be able to absorb most of it. Good absorbable forms are magnesium chloride, magnesium glycinate, magnesium citrate, and liquid ionic magnesium.

MAGNESIUM THROUGH THE SKIN?

Some therapists swear by the beneficial effect of baths or foot baths in which magnesium is dissolved, or by rubbing magnesium oil on your skin. The advantage of this would be that by absorbing magnesium through the skin instead of orally, you avoid the troublesome passage of the mineral through the gastrointestinal tract. However, not all experts are in agreement about whether or not you can actually absorb magnesium through the skin, a process known as transdermal absorption. Good studies on the subject are lacking. A warm magnesium bath, however, is definitely relaxing!