

Magnesium (Mg)

Dr. med. Heinz Lüscher

Magnesium is an essential mineral which is required for with numerous functions in the human body. Blood tests in doctors' surgeries and hospitals almost always measure the minerals calcium, potassium, sodium and chloride, whereas magnesium, which is probably more important, is practically never measured. Unfortunately, conventional medicine has not yet recognized the importance of magnesium.



Fundamental statements in this article are based on the publications of the two magnesium specialists Dr. Carolyn Dean and Dr. Mark Sircus.

Dean, Carolyn (2017): «The Magnesium Miracle (Second Edition) Paperback – August 15, 2017

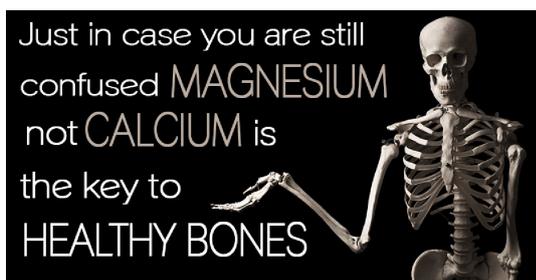
Sircus, Mark (2018): Various Articles about Magnesium. Can be viewed at <http://drsircus.com/magnesium/> (January 2018).

Magnesium (Mg) is a crucial mineral in our body. However, an estimated 80% of all people in our latitudes (Switzerland) have a Mg deficiency, with corresponding medical complaints. Mg deficiency plays a significant role in about 100+ diseases.

The 5 most crucial functions of Magnesium

1. Catalyses approx. 800 chemical reactions in the body as a co-factor
2. produces and transports energy
3. synthesizes proteins
4. transmits nerve signals
5. relaxes the muscles

The body always keeps the magnesium level in the blood constant because magnesium is essential for the heart function (the heart is a muscle). In order to keep blood levels constant when there is a deficiency, magnesium can be stripped from bone and muscles. So even if one has a normal magnesium blood level, the cells and tissues may still suffer from a severe deficiency.



Mg and osteoporosis

Mg plays just as an important a role in bone health as does calcium. The preparations prescribed by many doctors for osteoporosis with calcium and little vitamin D are therefore more or less useless. Anyone who ignores magnesium in osteoporosis will never be able to treat this disease successfully. Osteoporosis has no hormonal cause, but is a consequence of the lack of Mg, vitamin D and vitamin K2. In a study of post-menopausal women, osteoporosis could be stopped by solely administering magnesium.

Sojka, J. E. und Weaver, C.M.: «Magnesium supplementation and osteoporosis». Nutrition Reviews, March 1995, 53 (3) 71-74.

My suggested treatment of osteoporosis: Magnesium: 800-1000 mg / day
 Vitamin D3: 4000 I.E. / day
 Vitamin K2: ca. 200 µg / day

No additional calcium is needed. This treatment lasts 1-2 years and can be carried out at any age.



Mg und Migraine

Migraine can have several causes, which are usually not ever discovered, but magnesium deficiency is definitely a compelling cause. Magnesium can prevent spasms of small blood vessels in the brain as well as relieve tension in head and neck muscles. Both of these factors work against migraines. In a study of 3,000 migraine patients who received 200 mg magnesium daily, migraine symptoms were reduced by 80%.

Mauskop, A. und Fox, B.: «What your doctor may not tell you about migraines». Warner Books, New York, 2001.



Mg and Depression

Magnesium is needed for the release of the "feel-good hormone" serotonin! Antidepressants, known as selective serotonin re-uptake inhibitors (SSRIs), can relieve depression in some cases, but not always. With magnesium, the serotonin levels in the brain can be increased in a natural way without artificially interfering with brains chemistry.

Cox, R.H., Shealy, C.N. et al : «significant magnesium deficiency in depression». The journal of Neurological and Orthopaedic Medicine and Surgery, 1996, 17: 7-9.



Mg und Heart Disease

The positive influence of magnesium on the heart has been known since the 1930s. Magnesium researcher Dr. Michael Shechter has been able to demonstrate the benefits of magnesium in heart disease since 2000. The so-called LIMIT studies (Leicester Intravenous Magnesium Intervention Trial), published in the renowned journal "The Lancet" in 1992 and 1994, described a massive improvement in the chances of survival after a heart attack, if magnesium is administered early on. Below are two of several studies by Dr. Shechter:

Shechter, M. und Shechter, A.: «Magnesium and myocardial infarction». Clinical Calcium, November 2005, 15 (11): 111-115.

Shechter, M. et al: «Oral magnesium therapy improves endothelial function in patients with coronary artery disease». Circulation, 7. November 2000, 102(19) 2553-2558.



Mg and cholesterol / high blood pressure

Eating habits that increase cholesterol are always accompanied by a magnesium deficiency. Magnesium lowers the cholesterol level in the same way as the drug class of statins. Both reduce the formation of HMG-CoA reductase, an enzyme required for the formation of cholesterol. The two physicians Dr. Andrea Rosanoff and Dr. Mildred Seelig report in their book of 18 human studies in which the total cholesterol level could be reduced by 6-23% and the LDL level by 10-18% through sole treatment with magnesium and the HDL level ("good cholesterol") could be raised by 4-11%.

Rosanoff, A. und Seelig, M.S.: «Comparison of mechanism and functional effects of magnesium and statin pharmaceuticals». Journal of the American College of Nutrition, 2004, 23(5): 501S-505S.

High blood pressure (hypertension) often has to do with the fact that many people drink too little water, which leads to dehydration. If diuretics are now prescribed against high blood pressure, not only is the lack of water in the body intensified, but magnesium and potassium are also flushed out, which further increases blood pressure. Hypertension should therefore always be treated with consuming lots of water and taking magnesium before taking any other medication.

Other diseases in which magnesium deficiency plays a role

- heartburn
- adrenal fatigue
- Alzheimer's disease
- Arthritis and other inflammations
- asthma
- intestinal diseases
- arteriosclerosis
- cystitis
- Diabetes
- CFS (Chronic fatigue)
- Premenstrual syndrome
- Parkinson's disease
- caries
- Raynaud phenomenon (A condition in which some areas of the body feel numb and cool in certain circumstances)



Mg requirements and dosage

The magnesium content in many fruits and vegetables is too low due to our exhausted soils. Only 70-80% of our magnesium requirement is derived from food. The minimum magnesium requirement is (always per kg body weight per day):

Healthy adult: 6 mg
Children: 7-10 mg
Athletes: 7-10 mg
Pregnancy: 10-15 mg

The daily requirement for an adult is therefore 400-800 mg per day. It takes at least 1 year with this dosage until a deficiency in bones and muscles is replenished. The first effects are expected at the earliest after about four weeks, because the body has to get used to the increased Magnesium supply and all the necessary carrier molecules first have to be formed.

Magnesium is not toxic. If someone takes too much magnesium, the intestine reacts with diarrhoea and excretes the excess magnesium.

There are approx. 20 different Magnesium salts with completely different properties in the medical trade, especially with regard to bio-availability (absorption by the intestine). Also, the content of pure magnesium is different in each salt (between 6 and 50%). The above information on daily requirements therefore always refer to pure, elementary magnesium and not to a specific magnesium salt. The best-selling magnesium salt is magnesium citrate, but I do not recommend it because it has a strong laxative effect and binds iron. A preparation containing several different Mg salts is recommended as the ideal.

Magnesium and Calcium

Occasionally we can read that magnesium and calcium should not be taken together because the two minerals interfere with each other's absorption by the intestine. It is true that both magnesium and calcium are essential for the smooth running of certain bio-chemical processes in the body. Even though the two minerals perform partially opposite tasks (e. g. in the muscle cells), it is important that we take both of them with our food in sufficient quantities and in a ratio of about 1:2 to 2:1. The problem arises when you take a lot of minerals from one mineral and very little from another. In this case, an undersupply of the latter can occur. Most people in the West get more than enough calcium in their diet, even if they only take in a small amount of dairy products, for example. Supplementation with calcium is therefore not necessary. It is rather the magnesium that is in danger of being deficient.

Calcium is important for healthy bones and teeth. However, if too much of it circulates in the bloodstream, dangerous deposits can build up in the blood vessels (arteriosclerosis), which can lead to a heart attack or stroke (cerebral infarction). That is why you also need to make sure that you have an adequate supply of vitamin K2. This has the task of removing excess calcium from the bloodstream and ensuring that it is incorporated into the bones.



Studies on magnesium:

Effects of magnesium supplementation on subjective anxiety:

<https://www.ncbi.nlm.nih.gov/pubmed/27869100>

Magnesium for migraine: <https://www.ncbi.nlm.nih.gov/pubmed/22426836>

Magnesium and depression: <https://www.ncbi.nlm.nih.gov/pubmed/23950577>

Effect of magnesium supplementation on cardiovascular risk factors associated with type 2 diabetes:

<https://www.ncbi.nlm.nih.gov/pubmed/28150351>