



Magic magnesium

It's an essential nutrient, but many of us don't even know we need it. Dr Philip Weeks shares his tricks and tips to ensure we get at least our RDA

In my clinic, most patients are short of nutrients. The UK's recommended daily allowance (RDA) is the basic nutritional requirement the body needs to function. However those of us who work in the field of nutrition know that for many, the basic nutritional intake is often not enough to prevent illness and manage pre-existing conditions. Our bodies are under increasing demands in the form of pollution, stress, or ongoing infections and imbalances. To tackle these stressors, it is understandable that we may need more than the RDA to be in healthy equilibrium. Let's explore the most common mineral deficiency I encounter in my clinic: magnesium.

At any one time the body contains about 25gms of magnesium, about 12 grams contained in the bones, the rest in the nerves, organs and blood. It is an essential mineral, and has many functions including:

- Enabling health cell replication and repair
- Essential in hormonal production
- Activating B vitamins
- Necessary for bone health

- Involved in at least 300 enzyme processes
- Transmission of nerve impulses
- Relaxing muscles
- Has a role in the production of Insulin
- Needed for production of ATP which is responsible for cellular energy.

A chronic deficiency of magnesium, where the body does not have adequate stores in the cells, is common. More and more research is revealing that having enough magnesium reserves in your body is essential for not only preventing and managing certain diseases but also for having enough physical energy.

Magnesium is absolutely essential for the human body to function. Intensive farming methods and the consumption of refined foods are resulting in a large-scale deficiency, degrading many peoples' underlying health.

Studies have shown that many people don't even meet the RDA requirement for magnesium. One study conducted on patients in intensive care units revealed that two-thirds were deficient in the mineral.

Magnesium deficiency is associated with heart disease,

arthritis, chronic fatigue and depression and many other disorders. Magnesium plays a crucial role in:

- dilating the bronchioles (useful in childhood asthma)
- preventing hardening of the arteries
- maintaining healthy cholesterol levels
- regulating the rhythm of the heart
- promoting healthy detoxification of cells
- producing serotonin, a neurotransmitter that gives us a sense of well-being
- flushing toxins such as heavy metals from cells
- enabling energy production

Magnesium researcher Paul Mason discovered that magnesium deficiency "appears to have caused eight million sudden coronary deaths in America during the period 1940-1994." He is campaigning for all bottled drinks to be supplemented with magnesium.

What are the symptoms of magnesium deficiency? They are many: ADHD, anxiety, arthritis, asthma, calcification of tissues, cold extremities, constipation, chronic fatigue, cramps, depression, headaches, high blood pressure, insomnia, kidney stones, migraines, muscle cramps, tics, twitches and tremors, and PMS. With any of these symptoms and conditions, magnesium levels should be checked to see if it has a role to play.

Magnesium is a common mineral deficiency. It affects people on all kinds of diets. However the more refined the diet, the more deficient someone tends to be.

The dynamic duo

So much is talked about calcium and it is frequently the main concern when people change their diet, especially if they are avoiding dairy. The question is never: will I get enough magnesium?

There is a careful balance between calcium and magnesium in the body. These minerals compete for absorption. It is considered our calcium/magnesium need is a ratio of 2:1. Cow dairy has a ratio of 12:1, which is why some practitioners conclude a high consumption of dairy products could result in magnesium deficiency.

Where calcium causes muscles and nerves to contract, magnesium relaxes. Magnesium allows calcium to be absorbed into the bones rather than it building up in the soft tissues of the body.

Common results of a high calcium and low magnesium intake in the diet include: kidney stones, calcium spurs and hardening of the arteries. And yet the bones may still be weak. So with osteoporosis, supplementing calcium might not always help, it could further upset the mineral balance of the body.

We need the correct amount of magnesium in order for the heart to function properly. Calcium supplementation without the intake of magnesium will upset this balance. Which could explain why a study revealed that older women who took calcium supplements were at a greater risk of heart attacks.

Research has shown that people with chronic fatigue have low levels of red blood cell magnesium. The same study showed that when levels were appropriately restored, many of those with fatigue felt an increase in energy as well as being more able to deal with their emotions. Similarly, a study in China showed that high levels of magnesium supplementation improve cognitive brain function and the brain's ability to adapt and cope with stress.

Reasons for magnesium deficiency

Low dietary magnesium: Intake is simply not enough. This is likely, especially as the soil in so many areas is depleted in minerals.

Insufficient stomach acid: Many people, especially those with chronic disease or those deficient in zinc, do not have a strong enough concentration of acid. This can result in poor protein metabolism as well as mineral deficiencies such as iron. Stomach acid concentration can decrease as we get older decreasing the absorption of minerals.

Sweating and exercise: Athletes and those doing intense exercise have a greater need for magnesium. Many believe it is magnesium deficiency that causes 'sudden death syndrome'.

Stress: At times of acute stress the need for magnesium is greater.

Diuretics: Leach magnesium from the body, this also includes non medication including tea and coffee.

Alcoholism and diabetes: Sufferers have a greater need for magnesium.

Testing for magnesium

There are different ways to test magnesium levels, including urine, sweat and blood tests. The blood serum test is the most routine method of analysing magnesium. For the body to function and for the heart to keep beating magnesium levels in the blood need to be finely balanced and within a very narrow range. This is so important that the body will pull magnesium from within the cells' reserves and also the bones will be drawn upon to keep the levels in the blood at a constant.

For our purposes, the red cell magnesium test is the most useful for analysing chronic deficiency as it measures the level of magnesium in the cells, which is indicative of your reserves. Red cell levels often come back from the laboratory as being deficient, even though the serum levels are within the normal range.

Where can I get magnesium?

Magnesium occurs naturally in many foods, but you can also take supplements.

Magnesium rich foods include seaweeds; chocolate, in my experience people who crave chocolate are almost always magnesium deficient; nuts and seeds, such as cashews, almonds, pumpkin and sesame seeds.



Tips to improve Magnesium levels

Have an Epsom salts bath once a week.

Eat chlorophyll rich food in the form of wheatgrass, spirulina, chlorella and leafy green vegetables.

If you are taking a calcium supplement make sure you also take magnesium.

Add black pepper to your meals. Studies have shown that it can massively increase the absorption of what it is eaten with.

Healthy cell membranes keep magnesium within the cells.

Make sure you are eating enough good fats and a diet high in antioxidants.

Case history

Adam (aged 52) came to my clinic complaining of cluster headaches. They were so severe that when he had an attack he would need to spend at least five days in bed. Cluster headaches are known for being one of the most painful disorders. For him they began when he was about 13 and he would have an episode every two or three months. Over the years, he tried many different diets and treatments, some helped a little bit, but nothing gave him a permanent solution.

After testing his magnesium levels, I discovered that although his serum levels were normal, his intracellular levels were very low. He embarked on supplementation of magnesium in various forms. 18 months later he hasn't had a cluster headache.

It's also at the centre of chlorophyll, hence green plants contain magnesium. The greener the plant, the better. Ideal sources are wheatgrass, kale and spinach, as well as superfoods, such as spirulina and chlorella.

Overall it is safe to supplement. Supplements come in various forms, the most common being magnesium citrate. In the European Union RDA is 375mgs a day. If a healthy person overdoses on magnesium it will result in diarrhoea. However depending on individual biochemical factors an individual might need more. Blood testing is the most reliable way to determine what you need.

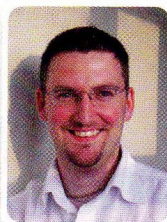
Taking homeopathic remedies can help to increase the absorption of certain minerals. The homeopathic tissue salt, Mag Phos, can be taken to increase the absorption of the mineral and is especially good if you get cramps and spasms.

Magnesium supplementation is not recommended for people with kidney disease.

Another easy and very effective way to replenish your levels of magnesium is by soaking in an Epsom salt (magnesium sulphate) bath. The magnesium is absorbed through the skin.

Although Epsom salts baths (magnesium sulphate) have been used medicinally for hundreds of years, only recently has a full

study of its properties been conducted. Researchers at Birmingham University, England measured the increase of magnesium in blood plasma after soaking in a bath of Epsom salts. They found that it is best absorbed when the solution is approximately 1% Epsom salts to water. This equates to 500-600 grams of salt for the average domestic bath, a concentration that feels slightly soapy. There were no perceived side effects in the study and two of the volunteers taking part reported that their rheumatic pains disappeared. The researchers concluded that, "bathing in Epsom salts is a safe and easy way to increase magnesium levels in the body".



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