

To your health

Magnesium: The Magic Mineral from the Sea

W

e all know that wonderful feeling of summer... the utter calm and relaxation that comes with long days at the beach. But it's not just the holiday that makes us feel

great – it's also the magnesium!

One of the four most abundant minerals in the body, magnesium (Mg) is exceptionally important for optimal health and well-being. An estimated 68% of the population are deficient in Mg, yet sea water can provide this basic nutrient in the form of "magnesium chloride." By simply taking a dip in the sea, every cell in the body is nourished in the most natural way – via skin absorption.

Adults need a minimum of 300 - 400 mg of elemental Mg per day. However, the World Health Organisation (WHO) estimates 60% of the population is not meeting their daily requirement. Approximately 30 - 40% of dietary Mg is absorbed from food, yet the body stores only 25-30g. Bones store 50 - 60% of it, 25% is stored in muscle cells and only 1% in the fluids outside of cells, which can make testing Mg serum levels unreliable.

This essential mineral is one of the most abundant electrolytes in the body and is required for proper hydration. In warmer climates, Mg loss and dehydration is more probable. It is estimated that roughly 10 - 15% of Mg is lost via sweat. This happens easily in the summer months and even during sleep. Exercise and alcohol consumption are also responsible for increased depletion.

Mg deficiency can lead to potential health issues such as hypertension, Type-II diabetes, osteoporosis and more due to its involvement in more than 300 biochemical reactions in the body. Those with gastrointestinal diseases such as Crohn's and coeliac disease have a higher risk of low Mg since it is mainly absorbed via the gut. As we age, gut absorption reduces so older adults may also be prone to deficiency.

Symptoms of Mg deficiency:

- ▶ Dehydration
- ▶ Loss of appetite
- ▶ Fatigue
- ▶ Nausea and vomiting
- ▶ Muscle weakness

Why aren't we getting enough?

In addition to our soils being low in Mg, other factors can impact the body's absorption of the mineral. These include a diet high in salt and sugar, food preparation such as boiling and frying, carbonated drinks which are high in phosphoric acid, and non-organic foods because pesticides bind to minerals and reduce absorption. Lifestyle factors such as stress, the oral contraceptive pill, and alcohol consumption also affect Mg levels.



Magnesium's main functions

Energy: Mg's most recognised role is energy production. It is involved in turning one molecule of glucose (simple sugar) into adenosine triphosphate (ATP) which is the usable form of energy created by cells. Simply put, it plays a role in converting carbohydrates, proteins and fat into cellular energy – It is important for vegans as is it helps convert the short-chain omega-3 fatty acids obtained from plant foods, to the long-chain omega-3 fatty acids EPA and DHA (found naturally in oily fish) that are required for optimal health.

Bones & Teeth: Since the pandemic there has been a big focus on Vitamin D and yet Mg is essential for the conversion of Vitamin D to its active form: in turn, supporting calcium absorption. So, Vitamin D production will be hindered with Mg deficiency. Mg can be considered the scaffolding into which nutrients such as calcium slot into. Without sufficient Mg, calcium metabolism will be compromised which will lead to calcium moving away from the bones and towards areas of the body it shouldn't be, causing weak bones.

Blood Sugar Regulation: Mg regulates glucose metabolism and studies show that there is an association between Mg intake and risk of insulin resistance and Type-II diabetes. This may also be related to the synergistic effect with Vitamin D.

Neurotransmitter production: Mg works alongside zinc and Vitamin B6, to produce and regulate neurotransmitters such as serotonin with Mg deficiency associated with anxiety and depression.

Muscle function: Mg transports chemicals called ions to enable contraction and relaxation of muscles, nerve impulses, as well as supporting the muscles of the heart and regulating the heartbeat.

The best sources:

>Food: pumpkin & chia seeds, almonds, cashews, peanuts, black beans, brown rice, oats, lentils, dark green leafy veggies and dark chocolate.

>Sea water: We are lucky to have the Mediterranean at our door and swimming in the sea may support your Mg levels. Sea water contains every essential and trace mineral in its organic form and in the correct ratios needed by human tissues, easily absorbed through the skin. ▀

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