

# MAGNESIUM

Magnesium is vital to all living organisms. It has electrochemical, structural and catalytic functions, activates many enzymes and is a constituent of all chlorophyll's. Over 300 essential metabolic reactions require the presence of magnesium ions for their catalytic action.

Magnesium plays a structural role in bone, cell membranes and chromosomes. In our body, it is needed for the active transport of ions like potassium and calcium across cell membranes, the phosphorylation of proteins, the formation of fatty acid, the clotting of blood and activating B group vitamins. It also acts as muscle relaxer in the body and plays an important part in the excitability of nerves.

Magnesium is widely distributed in the food, including most green vegetables, legumes, peas, beans, nuts and unrefined cereals. Meats and milk have intermediate magnesium content. Water is a variable source of intake.

Because magnesium has so many differing actions in the body, the reasons for some of its clinical effects are hard to determine. For example, magnesium has been found to improve vision in people with glaucoma. In related ways, it has the ability to reduce blood pressure. Further to this, in preliminary research it has reduced hyperactivity in children. Some studies also indicate improvement in the symptoms of chronic fatigue syndrome.

## ***Nutrient Interactions***

### **Fiber**

High fiber intake has been found to decrease magnesium utilization, probably because of the magnesium-binding action of the phytate phosphorus associated with the fiber.

### **Zinc**

One study reported that high intake of zinc supplements of 142mg/day in healthy adult makes significantly decreased magnesium absorption and disrupted magnesium balance.

### **Protein**

Protein may also affect magnesium absorption. When protein intake is less than 30mg/day, magnesium is lower, when protein intake is greater than 94mg/day, magnesium absorption may increase.

## **Vitamin D and Calcium**

Inadequate blood magnesium levels are known to result in low blood calcium levels, resistance to parathyroid hormone action, and resistance to some of the effects of vitamin D.

## ***Magnesium deficiency***

Magnesium deficiency diseases include:

- Asthma
- Anorexia
- Menstrual migraines
- Growth failure
- ECG changes (electrocardiogram)
- Neuromuscular problems
- Tetany (convulsion)
- Depression
- Muscle "ties"
- Tremors
- Vertigo
- Calcification of small arteries

**Considerable amount of magnesium can be lost in sweat and the current recommended daily intake is 5mg/kg of body weight a day. We may need extra magnesium to obtain enough quantity of recommended daily intake.**

There are more information on

<http://www.nrv.gov.au/nutrients/magnesium>

<http://lpi.oregonstate.edu/infocenter/minerals/magnesium/>

<http://www.healthdimensions.com.au/a/125.html>

It does not in any way purport to give medical advice or recommendations.  
Remember that nothing will replace a good diet and regular exercise.