



## Magnesium Deficiency



Magnesium is the fourth most abundant mineral in the body, accounting for approximately 0.05% of your total weight. About 54% is contained in teeth and bones, the remaining 46% in bodily fluids such as blood and saliva. It is essential for many bodily processes including energy production, tissue repair and maintenance, muscle function (including the heart), nerve impulse transmission and to ensure correct functioning of many enzymes and vitamins.

Signs of magnesium deficiency include: insomnia, nervousness, high blood pressure, muscle tremors/spasms/weakness, irregular heart beat, constipation, fits or convulsions, lack of appetite, hyperactivity, depression, PMT, involuntary eye movements, confusion, painful swallowing, tooth decay, vertigo, anorexia, low blood sugar or tiredness. There is also much research linking magnesium deficiency with migraine.

With modern life-styles, there are many possible reasons for low levels of magnesium: food processing and refining, food grown in poor quality soil, poor diet, decreased absorption from dietary sources, drug interactions or disturbed membrane transport. Females absorb less magnesium than men so are more susceptible to deficiency. The need for magnesium increases when blood cholesterol levels are high and when consumption of protein is high.

### ***Magnesium depletion***

Common causes of magnesium depletion are:

- high intake of: dairy/calcium, phosphorous, vitamin D, saturated fats, sugar or caffeine
- studies have shown that plasma magnesium levels are significantly reduced in heavy smokers and drinkers
- stress, infections, allergies, kidney disease, diabetes, cancer, Addison's disease, burns, surgery, cirrhosis, hepatitis, hyper-aldosteronism, epilepsy, eclampsia
- use of modern fertilisers – eat organic foods where possible to minimise exposure
- diuretics, antibiotics, heart drugs, the Pill, corticosteroid drugs, laxatives
- aluminium competing with magnesium – avoid using aluminium foil and utensils
- deficiency of zinc, B<sub>6</sub>, vitamin E, thiamine, EFAs
- excess zinc, copper (rarely), cobalt or iron
- lead increases magnesium requirements
- absorption is hindered by oxalates (spinach & rhubarb) and phytates (wheat bran & bread)

If calcium consumption is high, magnesium intake also needs to be high to prevent an imbalance occurring. High dairy (D and calcium) intake can upset the Ca/Mg balance.

Check your mineral balance with Hair Mineral Analysis: <http://www.4-hair-mineral-analysis.com>

Magnesium is not a difficult mineral to obtain in adequate quantities in a healthy, whole-food diet containing plenty of nuts, seeds and green leafy vegetables (where it is an essential element of chlorophyll). Particularly good sources are: wheatgerm, almonds, cashews, soybeans, whole grains, seafoods, figs, Brewer's yeast, buckwheat, Brazil nuts, peanuts, pecan nuts, cooked beans, garlic, raisins, peas, potato skin, corn, peaches, apricots.

### ***Excess magnesium***

While magnesium deficiency is not good, neither is excess. Large doses of magnesium can cause diarrhoea, nausea and headaches. Toxicity is rare because your body will normally excrete any excess. However magnesium is often used in antacids and laxatives and over-use of either preparation may cause an excess, particularly in the elderly. Certain bone tumours and cancers can raise magnesium levels. Magnesium supplements should not be taken if any of these apply – or if you have, or suspect, kidney problems.