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Magnesium in diet

Magnesium is an essential mineral for human nutrition.

Function

Magnesium is needed for more than 300 biochemical reactions in the body. It helps to maintain normal nerve and muscle function, supports a healthy immune system, keeps the heart beat steady, and helps bones remain strong. It also helps regulate blood glucose levels and aid in the production of energy and protein. There is ongoing research into the role of magnesium in preventing and managing disorders such as high blood pressure, heart disease, and diabetes. However, taking magnesium supplements is not currently recommended. Diets high in protein, calcium, or vitamin D will increase the need for magnesium.

Food Sources

Most dietary magnesium comes from vegetables, such as dark green, leafy vegetables. Other foods that are good sources of magnesium:

- Fruits or vegetables (such as bananas, dried apricots, and avocados)
- Nuts (such as almonds and cashews)
- Peas and beans (legumes), seeds
- Soy products (such as soy flour and tofu)
- Whole grains (such as brown rice and millet)
- Milk

Side Effects

Side effects from increased magnesium intake are not common. The body generally removes excess amounts. Magnesium excess almost always occurs only when a person is taking in too much of the mineral in supplement form.

Although you may not get enough magnesium from your diet, it is rare to be truly deficient in magnesium. The symptoms of such a deficiency include:

- Hyperexcitability
- Muscle weakness
- Sleepiness

Deficiency of magnesium can occur in people who abuse alcohol or in those who absorb less magnesium including:

- People with gastrointestinal disease or surgery causing malabsorption
- Older adults
- People with type 2 diabetes

Symptoms due to a lack of magnesium have three categories.

Early symptoms:

- Loss of appetite
- Nausea
- Vomiting
- Fatigue
- Weakness

Moderate deficiency symptoms:

- Numbness
- Tingling
- Muscle contractions and cramps
- Seizures
- Personality changes
- Abnormal heart rhythms

Severe deficiency:

- Low blood calcium level (hypocalcemia)
- Low blood potassium level (hypokalemia)

Recommendations

These are the recommended daily requirements of magnesium:

Infants

- Birth to 6 months: 30 mg/day*
- 6 months to 1 year: 75 mg/day*

*AI or Adequate Intake

Children

- 1 to 3 years old: 80 milligrams
- 4 to 8 years old: 130 milligrams
- 9 to 13 years old: 240 milligrams
- 14 to 18 years old (boys): 410 milligrams
- 14 to 18 years old (girls): 360 milligrams

Adults

- Adult males: 400 to 420 milligrams
- Adult females: 310 to 320 milligrams
- Pregnancy: 350 to 400 milligrams
- Breastfeeding women: 310 to 360 milligrams
- Adult males: 400 to 420 milligrams

Alternative Names

Diet – magnesium

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