THE OHIO STATE UNIVERSITY
WEXNER MEDICAL CENTER

Herbs and Dietary Supplements
Across the Lifespan

Center For Integrative
Health and Wellness

TOPIC SUMMARY for Healthcare Professionals

Magnesium

Overview

Magnesium is an essential mineral which is necessary for optimal function of muscles, metabolism and nerves. Magnesium deficiency is associated with irritability, muscle weakness, fatigue, poor appetite, muscle twitching, rapid heartbeat, and increased risk of asthma, constipation, migraine headaches and menstrual pain (PMS). Very low levels can cause muscle spasms, irregular heartbeats, and seizures. Magnesium intake from food is linked to a lower risk of stroke and diabetes, and better bone mineral content (stronger bones). Magnesium-containing laxatives are used to treat constipation. Magnesium is sometimes given intravenously to help patients with asthma, seizures, or pre-eclampsia.

Some **diseases can increase the need for magnesium**: alcohol abuse, digestive/malabsorption problems (ulcerative colitis, Crohn's disease, celiac disease), and large burns.

Certain **medications can deplete magnesium**: diuretic medications, acid blocking drugs like proton pump inhibitors, and the chemotherapy drug, cisplatin.

Sources of Magnesium

Dietary sources of magnesium include: dark green leafy vegetables, beans and bean products (such as soybeans, black beans, and tofu), seeds, soybeans, nuts, whole grains (such as brown rice and millet), shellfish, and citrus fruits. In general, human beings absorb nutrients more easily from food than from supplements. See the US National Library of Medicine site for more information.

Intake Recommendations

US Recommended Daily Allowance (RDA) or Adequate Intake (AI for infants) for magnesium for

Who	Daily Allowance
Children 1-3 years:	80 milligrams
Children 4-8 years:	130 milligrams
Children ages 9-13 years:	240 milligrams
Females ages 14-18 years:	360 milligrams
Males ages 14-18:	410 milligrams
Adult Females:	310 milligrams
Adult Males:	400 milligrams
Pregnant of breastfeeding women:	320-400 milligrams

Safety

Magnesium supplements are generally considered safe, but they can cause diarrhea and cramping. Patients with kidney disease and severe heart disease should be cautious in taking magnesium supplements because they may have trouble managing balance of salts, minerals and electrolytes. Magnesium may interfere with absorption of tetracycline and related antibiotics.

Product Information

Magnesium supplements come in many different forms. These include magnesium oxide, magnesium hydroxide (Milk of Magnesia), magnesium gluconate, and magnesium citrate. Magnesium oxide is not as well absorbed as the citrate or L-lactate dihydrate forms, but it is often less expensive. The products listed below are a *selection* of some that have met quality testing standards set by ConsumerLab. Different types vary in ease of absorption.

Product Information	Capsule/Tablet Strength
*CVS pharmacy Magnesium (Mg oxide)	500 mg
*Finest Natural Magnesium (Mg oxide)	250 mg
Floradix® Magnesium Liquid Mineral Supplement	250 mg per capful
GNC Magnesium (Mg oxide)	500 mg
KAL® Magnesium Glycinate 400	200 mg
*Life Extension (Mg citrate)	160 mg
Nature's Bounty High Potency Magnesium 500	500 mg
Nature Made High Potency 400 (Mg oxide)	400 mg
NOW® Magnesium Caps (Mg citrate)	400 mg
Puritan's Pride Chelated Magnesium 30	30 mg
Solaray Mg Asporotate 400 (MG aspartate, citrate, orotate, and oxide)	400 mg
Solgar Magnesium Citrate 400 – vegetarian, kosher	200 mg
Sundown® Essential Magnesium 250 mg	250 mg
*Target Up and Up (Mg oxide)	250 mg
*Twinlab Magnesium caps	400 mg
*Vitamin Shoppe Minerals Magnesium Citrate	200 mg
Vitamin World® Naturally Inspired™ Mag Citrate	100 mg
Whole Foods™ Chelated Magnesium 200 mg	200 mg

*Among the lowest cost (as of December 2013).

See ConsumerLab.com for more details about combination products.

Disclaimer: The *Herbs and Dietary Supplements Across the Lifespan Program* does not endorse products or the efficacy or safety of mentioned products.