Diet, Magnesium Rich

Magnesium is a needed mineral found in the body. It is important for strong bones and a healthy heart. Magnesium also plays a role in muscle and nerve function. Certain medical conditions such as poorly controlled diabetes and gastrointestinal disease may lead to a lack of magnesium in the body (*magnesium deficiency*).

FOODS PROVIDING MAGNESIUM

- Green vegetables such as spinach are good sources of magnesium.
- Some beans and peas (*legumes*), nuts and seeds, and whole, unrefined grains are also good sources of magnesium. Refined grains are generally low in magnesium. When white flour is refined and processed, the magnesium-rich germ and bran are removed.
- Bread made from whole grain wheat flour provides more magnesium than bread made from white refined flour.
- Tap water can be a source of magnesium, but the amount varies according to the water supply. Water that naturally contains more minerals is described as "hard." "Hard" water contains more magnesium than "soft" water.

Eating a wide variety of legumes, nuts, whole grains, and green vegetables will help you meet your daily dietary need for magnesium. Selected food sources of magnesium are listed below.

SELECTED FOOD SOURCES OF MAGNESIUM.

Food

- Almonds, dry roasted, 1 ounce (80mg) - 20%DV*.
- Cashews, dry roasted, 1 ounce (75mg). - 20%DV.
- Soybeans, mature, cooked, ½ cup (75mg) - 20%DV.
- Spinach, frozen, cooked, ½ cup (75mg) - 20%DV.
- Nuts, mixed, dry roasted, 1 ounce (65mg) - 15%DV.
- Cereal, shredded wheat, 1 bowel (55mg) - 15%DV.
- Oatmeal, instant, prepared w/ water, 1 cup (55mg) - 15%DV.
- Potato, baked w/ skin, 1 medium (50mg) - 15%DV.
- Peanuts, dry roasted, 1 ounce (50mg) - 15%DV.
- Peanut butter, smooth, 2 Tablespoons (50mg) - 15%DV.
- Wheat Bran, crude, 2 Tablespoons (45mg) - 10%DV.
- Black-eyed Peas, cooked, ½ cup. (45mg) - 10%DV.
- Yogurt, plain, skim milk, 8 fluid ounces (45mg) - 10%DV.
- Bran Flakes, ¾ cup (40mg) - 10%DV.
- Vegetarian Baked Beans, ½ cup (40mg) - 10%DV.
- Rice, brown, long-grained, cooked, ½ cup (40mg) - 10%DV.
- Lentils, mature seeds, cooked, ½ cup (35mg) - 8%DV.
- Avocado, California, ½ cup pureed (35mg) - 8%DV.
- Kidney Beans, canned, ½ cup (35mg) - 8%DV.
- Pinto Beans, cooked, ½ cup (35mg) - 8%DV.
- Wheat Germ, crude, 2 Tablespoons (35mg) - 8%DV.
- Chocolate milk, 1 cup (33mg) - 8%DV.
- Banana, raw, 1 medium (30mg) - 8%DV.
- Milk Chocolate candy bar, 1.5 ounce bar (28mg) - 8%DV.
- Milk, reduced fat (2%) or fat free, 1 cup (28mg) - 8%DV.
- Bread, whole wheat, 1 slice (25mg) - 6%DV.
- Raisins, seedless, ¼ cup packed (25mg) - 6%DV.
- Whole Milk, 1 cup (24mg) - 6%DV.
- Chocolate Pudding, 4 ounce portion (24mg) - 6%DV.

*DV = Daily Value.

DIETARY REFERENCE INTAKES FOR MAGNESIUM

Recommendations for magnesium are provided in the Dietary Reference Intakes (DRI's) developed by the Institute of Medicine of the National Academy of Sciences [4]. *Dietary Reference Intakes* is the general term for

a set of reference values used for planning and assessing nutrient intake for healthy people. List 2 shows the RDA's for magnesium in milligrams, for children and adults.

LIST 2: RECOMMENDED DIETARY ALLOWANCES (RDA) FOR MAGNESIUM FOR CHILDREN AND ADULTS

AGE (YEARS): 1-3
MALE: 80 (mg/day)
FEMALE: 80 (mg/day)
PREGNANCY: N/A
LACTATION: N/A

AGE (YEARS): 4-8
MALE: 130 (mg/day)
FEMALE: 130 (mg/day)
PREGNANCY: N/A
LACTATION: N/A

AGE (YEARS): 9-13
MALE: 240 (mg/day)
FEMALE: 240 (mg/day)
PREGNANCY: N/A
LACTATION: N/A

AGE (YEARS): 14-18
MALE: 410 (mg/day)
FEMALE: 360 (mg/day)
PREGNANCY: 400 (mg/day)
LACTATION: 360 (mg/day)

AGE (YEARS): 19-30
MALE: 400 (mg/day)
FEMALE: 310 (mg/day)
PREGNANCY: 350 (mg/day)
LACTATION: 310 (mg/day)

AGE (YEARS): 31+
MALE: 420 (mg/day)
FEMALE: 320 (mg/day)
PREGNANCY: 360 (mg/day)
LACTATION: 320 (mg/day)

There is not enough information on magnesium to establish a RDA for infants. For infants 0 to 12 months, the DRI is in the form of an Adequate Intake (AI), which is the mean intake of magnesium in healthy, breast-fed infants. List 3 shows the AI's for infants in milligrams (mg).

LIST 3: RECOMMENDED ADEQUATE INTAKE FOR MAGNESIUM FOR INFANTS [4]

Age (months)	Males and Females (mg/day)
0 to 6	30
7 to 12	75

HEALTH RISKS OF TOO MUCH MAGNESIUM

Dietary magnesium does not pose a health risk, however large doses of magnesium in supplements can promote adverse effects such as diarrhea and abdominal cramping. Risk of magnesium toxicity increases with kidney failure, when the kidney loses the ability to remove excess magnesium. Very large doses of magnesium-containing laxatives and antacids also have been associated with magnesium toxicity. Signs of excess magnesium can be similar to magnesium deficiency and include changes in mental status, nausea, diarrhea, appetite loss, muscle weakness, difficulty breathing, extremely low blood pressure and irregular heartbeat.

List 5 shows the tolerable upper intake levels (UL's) for supplemental magnesium for healthy infants, children, and adults in milligrams (mg). Physicians may prescribe magnesium in higher doses for specific medical problems. There is no UL for dietary intake of magnesium; only for magnesium supplements.

LIST 5: TOLERABLE UPPER INTAKE LEVELS FOR SUPPLEMENTAL MAGNESIUM FOR CHILDREN AND ADULTS

AGE (YEARS): Infants
MALE: Undetermined
FEMALE: Undetermined
PREGNANCY: N/A
LACTATION: N/A

AGE (YEARS): 4-8
MALE: 110 (mg/day)
FEMALE: 130 (mg/day)
PREGNANCY: N/A
LACTATION: N/A

AGE (YEARS): 9-18
MALE: 240 (mg/day)
FEMALE: 240 (mg/day)
PREGNANCY: N/A
LACTATION: N/A

AGE (YEARS): 19+
MALE: 350 (mg/day)
FEMALE: 350 (mg/day)
PREGNANCY: 350 (mg/day)
LACTATION: 350 (mg/day

Most of this information is from the National Institute of Health.
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