

food Synergy

Whole Food & Nutrient Synergy Profiles

Magnesium, Mg

Minerals

Population RDI's

Men 31-50 Years	420.00	mg/day
Men 51-70 Years	420.00	mg/day
Men 70 over Years	420.00	mg/day
Boys 14-18 Years	410.00	mg/day
Men 19-30 Years	400.00	mg/day
Pregnancy 14-18 Years	400.00	mg/day
Girls 14-18 Years	360.00	mg/day
Pregnancy 31-50 Years	360.00	mg/day
Lactation 14-18 Years	360.00	mg/day
Pregnancy 19-30 Years	350.00	mg/day
Women 31-50 Years	320.00	mg/day
Women 51-70 Years	320.00	mg/day
Women 70 over Years	320.00	mg/day
Lactation 31-50 Years	320.00	mg/day
Women 19-30 Years	310.00	mg/day
Lactation 19-30 Years	310.00	mg/day
Boys 9-13 Years	240.00	mg/day
Girls 9-13 Years	240.00	mg/day
Children 4-8 Years	130.00	mg/day
Children 1-3 Years	80.00	mg/day
Infants 7-12 Months	75.00	mg/day
Infants 0-6 Months	30.00	mg/day

Why do I need it?

Magnesium is needed in over 300 enzymes reaction in the body. In energy requiring reactions, magnesium is often associated with ATP (the bodies energy currency). Mg is used in the breakdown of glucose and fats for energy. It is used for nucleic acid synthesis along with DNA and RNA transcription. Needed for protein synthesis. Important for heart and gastrointestinal muscle contraction. Helps regulate influx and outflow of other ions and minerals within the cell. Calcium and magnesium can mimic and antagonise each other and the ratio of these two nutrients is of importance in muscle contraction and coagulation.

Important considerations

Approximately 50% of the population is at risk of being magnesium (Mg) deficient. Why? When bread is milled and the germ and bran removed, nearly 90% of all Mg is lost. Concurrent intake of calcium and phosphorous (i.e from milk or softdrinks), can reduce magnesium absorption. People with poor bile production or reduced pancreatic lipase activity (fat digesting enzyme) or high levels of fat intake, also risk magnesium deficiency, as Mg becomes incorporated into indigestible "soaps" in the gut.

To a SMALL extent Mg absorption is limited by phytates and non-fermentable fibre (ironically also found in the rich Mg sources like legumes, grains, nuts and seeds). Presence of Lactobacilli bacteria in the colon however can reverse this. On the other hand, fructose (high in many fruits) enhances magnesium uptake as may protein.

About 60% of Mg is stored in bone while only about 1% is found in the fluid outside of cells. Like potassium, it is found mostly WITHIN cells.

Hemoglobin (red) from blood and chlorophyll (green) from plants are nearly identical as molecules except plants contain magnesium while the hemoglobin molecule contains iron.

Spinach and kale (green) are great sources of magnesium (PLUS iron curiously enough). Once again the legumes feature strongly as great sources as do many seeds and brazil nuts. Indulgences like stout, coffee and chocolate provide moderate magnesium.

Magnesium, Mg

Whole Food – Nutrient Synergy Profile

Food name, Serving Size (Amount of Magnesium, Mg in this serving size) % of RDI

Cereal Grains (Grasses) Containing GLUTEN PEPTIDES

Oats	0.50 cup = 78.00 gr (138.06 mg)	43.14%
Wheat bran, crude	3.00 tbsp = 10.87 gr (66.42 mg)	20.75%
Barley, hulled	0.25 cup = 46.00 gr (61.18 mg)	19.12%
Wheat germ, crude	3.00 tbsp = 21.50 gr (51.39 mg)	16.06%
Oat bran, raw	3.00 tbsp = 17.60 gr (41.36 mg)	12.93%
Barley, pearled, raw	4.00 tbsp = 50.00 gr (39.50 mg)	12.34%
Wheat flour, whole-grain	3.00 tbsp = 22.50 gr (30.83 mg)	9.63%
Wheat, sprouted	0.30 cup = 36.00 gr (29.52 mg)	9.23%
Bulgur, cooked	0.30 cup = 60.00 gr (19.20 mg)	6.00%
Kamut, cooked	3.00 tbsp = 32.25 gr (18.06 mg)	5.64%
Barley, pearled, cooked	0.50 cup = 78.00 gr (17.16 mg)	5.36%

Cereal Grains (Grasses) NO GLUTEN

Rice, brown, medium-grain, cooked	1.00 cup = 195.00 gr (85.80 mg)	26.81%
Rice, brown, long-grain, cooked	1.00 cup = 195.00 gr (83.85 mg)	26.20%
Amaranth grain, cooked	0.50 cup = 122.00 gr (79.30 mg)	24.78%
Cornmeal, whole-grain, yellow	0.50 cup = 61.00 gr (77.47 mg)	24.21%
Buckwheat flour, whole-groat	0.25 cup = 30.00 gr (75.30 mg)	23.53%
Teff, cooked	0.50 cup = 126.00 gr (63.00 mg)	19.69%
Quinoa, cooked	0.50 cup = 92.00 gr (58.88 mg)	18.40%
Millet, cooked	0.50 cup = 87.00 gr (38.28 mg)	11.96%
Wild rice, cooked	0.50 cup = 82.00 gr (26.24 mg)	8.20%

Dairy Milk and Cream

Milk, sheep, fluid	1.00 cup = 245.00 gr (44.10 mg)	13.78%
Milk, fluid, 1% fat, without added vitamin A and vitamin D	1.00 cup = 225.00 gr (24.75 mg)	7.73%
Milk, whole, 3.25% milkfat, without added vitamin A and vitamin D	1.00 cup = 244.00 gr (24.40 mg)	7.63%
Milk, human, mature, fluid	1.00 cup = 246.00 gr (7.38 mg)	2.31%

Drinks

Coffee, brewed, espresso, restaurant-prepared	1.00 fluid ounce = 30.00 gr (24.00 mg)	7.50%
Alcoholic beverage, beer, regular, all	1.00 can = 356.00 gr (21.36 mg)	6.68%

Fish

Fish, mackerel, Atlantic, raw	1.00 Serve the size of deck of a cards = 86.00 gr (65.36 mg)	20.43%
Fish, anchovy, european, canned in oil, drained solids	1.00 Serve the size of deck of a cards = 86.00 gr (59.34 mg)	18.54%
Fish, ling, raw	1.00 Serve the size of deck of a cards = 86.00 gr (54.18 mg)	16.93%
Fish, tuna, fresh, bluefin, raw	1.00 Serve the size of deck of a cards = 86.00 gr (43.00 mg)	13.44%
Fish, herring, Atlantic, kippered	1.00 Serve the size of deck of a cards = 86.00 gr (39.56 mg)	12.36%
Fish, sea bass, mixed species, raw	1.00 Serve the size of deck of a cards = 86.00 gr (35.26 mg)	11.02%
Fish, bass, striped, raw	1.00 Serve the size of deck of a cards = 86.00 gr (34.40 mg)	10.75%

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Fish, sardine, Atlantic, canned in oil, drained solids with bone 1.00 Serve the size of deck of a cards = 86.00 gr (33.54 mg)	10.48%
Fish, whitefish, mixed species, raw 1.00 Serve the size of deck of a cards = 86.00 gr (28.38 mg)	8.87%
Fish Crustaceans	
Crustaceans, crab, queen, raw 1.00 Serve = 86.00 gr (42.14 mg)	13.17%
Fish Mollusks - Class Bivalvia	
Mollusks, oyster, Pacific, raw 2.00 medium = 100.00 gr (22.00 mg)	6.88%
Mollusks, scallop, mixed species, raw 3.00 units - 6 large or 15 small = 90.00 gr (19.80 mg)	6.19%
Fish Mollusks - Class Cephalopoda	
Mollusks, squid, mixed species, raw 1.00 serve = 86.00 gr (28.38 mg)	8.87%
Mollusks, cuttlefish, mixed species, raw 1.00 Serve = 86.00 gr (25.80 mg)	8.06%
Mollusks, octopus, common, raw 1.00 Serve = 86.00 gr (25.80 mg)	8.06%
Fish Mollusks - Class Gastropoda	
Mollusks, snail, raw 1.00 serve = 86.00 gr (215.00 mg)	67.19%
Mollusks, whelk, unspecified, raw 1.00 Serve = 86.00 gr (73.96 mg)	23.11%
Mollusks, abalone, mixed species, raw 1.00 Serve = 86.00 gr (41.28 mg)	12.90%
Fruits	
Prickly pears, raw 1.00 fruit without refuse = 103.00 gr (87.55 mg)	27.36%
Plantains, raw 1.00 medium = 179.00 gr (66.23 mg)	20.70%
Prunes, dehydrated (low-moisture), uncooked 0.50 cup = 66.00 gr (42.24 mg)	13.20%
Durian, raw or frozen 0.50 cup, chopped or diced = 122.00 gr (36.60 mg)	11.44%
Rowal, raw 0.50 cup = 114.00 gr (36.48 mg)	11.40%
Roselle, raw 1.00 cup, without refuse = 57.00 gr (29.07 mg)	9.08%
Orange juice, raw 1.00 cup = 248.00 gr (27.28 mg)	8.53%
Dates, medjool 2.00 date, pitted = 48.00 gr (25.92 mg)	8.10%
Breadfruit, raw 0.25 fruit, small = 96.00 gr (24.00 mg)	7.50%
Figs, dried, uncooked 4.00 fig = 33.00 gr (22.44 mg)	7.01%
Avocados, raw, all commercial varieties 0.50 avacado = 68.00 gr (19.72 mg)	6.16%
Pomegranates, raw 0.50 pomegranate (4" dia) = 141.00 gr (16.92 mg)	5.29%
Mangos, raw 1.00 cup pieces = 165.00 gr (16.50 mg)	5.16%
Papayas, raw 0.50 cup 1" pieces = 77.00 gr (16.17 mg)	5.05%
Raisins, seedless 0.30 cup (not packed) = 48.00 gr (15.36 mg)	4.80%
Watermelon, raw 1.00 cup, diced = 152.00 gr (15.20 mg)	4.75%
Blackberries, raw 0.50 cup = 72.00 gr (14.40 mg)	4.50%
Legumes/Beans	
Mothbeans, mature seeds, cooked, boiled, without salt 1.00 cup = 177.00 gr (184.08 mg)	57.53%
Yardlong beans, mature seeds, cooked, boiled, without salt 1.00 cup = 171.00 gr (167.58 mg)	52.37%
Hyacinth beans, mature seeds, cooked, boiled, without salt 1.00 cup = 194.00 gr (159.08 mg)	49.71%

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Tempeh 1.00 cup = 166.00 gr (134.46 mg)	42.02%
Beans, yellow, mature seeds, cooked, boiled, without salt 1.00 cup = 177.00 gr (130.98 mg)	40.93%
Beans, small white, mature seeds, cooked, boiled, without salt 1.00 cup = 179.00 gr (121.72 mg)	38.04%
Beans, black, mature seeds, cooked, boiled, without salt 1.00 cup = 172.00 gr (120.40 mg)	37.63%
Beans, adzuki, mature seeds, cooked, boiled, without salt 1.00 cup = 230.00 gr (119.60 mg)	37.38%
Beans, french, mature seeds, cooked, boiled, without salt 1.00 cup = 177.00 gr (99.12 mg)	30.98%
Mung beans, mature seeds, cooked, boiled, without salt 1.00 cup = 202.00 gr (96.96 mg)	30.30%
Beans, navy, mature seeds, cooked, boiled, without salt 1.00 cup = 182.00 gr (96.46 mg)	30.14%
Winged beans, mature seeds, cooked, boiled, without salt 1.00 cup = 172.00 gr (92.88 mg)	29.03%
Lupins, mature seeds, cooked, boiled, without salt 1.00 cup = 166.00 gr (89.64 mg)	28.01%
Beans, great northern, mature seeds, cooked, boiled, without salt 1.00 cup = 177.00 gr (88.50 mg)	27.66%
Beans, pinto, mature seeds, cooked, boiled, without salt 1.00 cup = 171.00 gr (85.50 mg)	26.72%
Chickpeas (garbanzo beans, bengal gram), mature seeds, cooked, boiled, without salt 1.00 cup = 164.00 gr (78.72 mg)	24.60%
Lentils, mature seeds, cooked, boiled, without salt 1.00 cup = 198.00 gr (71.28 mg)	22.28%
Beans, kidney, all types, mature seeds, canned 1.00 cup = 256.00 gr (69.12 mg)	21.60%
Beans, baked, canned, plain or vegetarian 1.00 cup = 254.00 gr (68.58 mg)	21.43%
Peanut butter, chunk style, without salt 2.00 tbsp = 32.00 gr (51.20 mg)	16.00%
Peanuts, all types, raw 30.00 peanuts = 30.00 gr (50.40 mg)	15.75%

Nuts

Nuts, brazilnuts, dried, unblanched 3.00 kernel = 15.00 gr (56.40 mg)	17.63%
Nuts, pine nuts, dried 2.00 tbsp = 16.87 gr (42.34 mg)	13.23%
Nuts, cashew nuts, raw 0.50 oz = 14.17 gr (41.38 mg)	12.93%
Nuts, almonds 12.00 almond = 14.40 gr (38.59 mg)	12.06%
Nuts, walnuts, black, dried 2.00 tbsp = 15.60 gr (31.36 mg)	9.80%
Nuts, hickorynuts, dried 5.00 nut = 15.00 gr (25.95 mg)	8.11%
Nuts, hazelnuts or filberts 10.00 nuts = 14.00 gr (22.82 mg)	7.13%
Nuts, walnuts, english 7.00 halves = 14.17 gr (22.39 mg)	7.00%

Processed Foods - Sweets

Chocolate, dark, 70-85% cacao solids 1.00 serve = 50.00 gr (114.00 mg)	35.63%
Chocolate, dark, 60-69% cacao solids 1.00 serve = 50.00 gr (88.00 mg)	27.50%
Chocolate, dark, 45- 59% cacao solids 1.00 serve = 50.00 gr (73.00 mg)	22.81%
Molasses 1.00 serving 1 tbsp = 20.00 gr (48.40 mg)	15.13%

Seeds

Seeds, pumpkin and squash seed kernels, dried 2.00 tbsp = 16.13 gr (95.49 mg)	29.84%
Seeds, watermelon seed kernels, dried 2.00 tbsp = 13.50 gr (69.53 mg)	21.73%
Seeds, sesame seeds, whole, dried 2.00 tbsp = 18.00 gr (63.18 mg)	19.74%
Seeds, flaxseed 1.50 tbsp, whole = 15.20 gr (59.58 mg)	18.62%
Seeds, safflower seed kernels, dried 4.00 tbsp = 16.00 gr (56.48 mg)	17.65%
Seeds, sunflower seed kernels, dried 6.00 tbsp = 17.25 gr (56.06 mg)	17.52%

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Vegetables	
Beans, navy, mature seeds, sprouted, cooked, boiled, drained, without salt 1.00 serve = 100.00 gr (111.00 mg)	34.69%
Spinach, cooked, boiled, drained, without salt 0.50 cup = 90.00 gr (78.30 mg)	24.47%
Purslane, cooked, boiled, drained, without salt 1.00 cup = 115.00 gr (77.05 mg)	24.08%
Artichokes, (globe or french), raw 1.00 artichoke, medium = 128.00 gr (76.80 mg)	24.00%
Dock, raw 0.50 cup, chopped = 67.00 gr (69.01 mg)	21.57%
Kale, scotch, raw 1.00 cup, chopped = 67.00 gr (58.96 mg)	18.43%
Beans, pinto, mature seeds, sprouted, raw 2.00 serve = 100.00 gr (53.00 mg)	16.56%
Potato flour 0.50 cup = 80.00 gr (52.00 mg)	16.25%
Borage, raw 1.00 cup (1" pieces) = 89.00 gr (46.28 mg)	14.46%
Borage, cooked, boiled, drained, without salt 1.00 serve = 80.00 gr (45.60 mg)	14.25%
Potato, flesh and skin, raw 1.00 Potato small (1-3/4" to 2-1/2" dia) = 170.00 gr (39.10 mg)	12.22%
Potato, baked, flesh and skin, without salt 1.00 potato small = 138.00 gr (38.64 mg)	12.08%
Edamame, frozen, unprepared 0.50 cup = 59.00 gr (35.99 mg)	11.25%
Artichokes, (globe or french), cooked, boiled, drained, without salt 0.50 cup hearts = 84.00 gr (35.28 mg)	11.03%
Corn, sweet, white, raw 1.00 ear, medium (6-3/4" to 7-1/2" long) = 90.00 gr (33.30 mg)	10.41%
Peas, green, cooked, boiled, drained, without salt 0.50 cup = 80.00 gr (31.20 mg)	9.75%
Purslane, raw 1.00 cup = 43.00 gr (29.24 mg)	9.14%
Chard, swiss, raw 1.00 cup = 36.00 gr (29.16 mg)	9.11%
Okra, cooked, boiled, drained, without salt 0.50 cup slices = 80.00 gr (28.80 mg)	9.00%
Burdock root, cooked, boiled, drained, without salt 0.50 cup (1" pieces) = 63.00 gr (24.57 mg)	7.68%
Tomatoes, sun-dried, packed in oil, drained 0.25 cup = 27.50 gr (22.28 mg)	6.96%
Sweet potato leaves, raw 1.00 cup, chopped = 35.00 gr (21.35 mg)	6.67%
Broadbeans, immature seeds, raw 0.50 cup = 54.00 gr (20.52 mg)	6.41%
Parsnips, raw 0.50 cup slices = 67.00 gr (19.43 mg)	6.07%
Broccoli, raw 1.00 cup chopped = 91.00 gr (19.11 mg)	5.97%
Squash, zucchini, baby, raw 5.00 medium = 55.00 gr (18.15 mg)	5.67%
Cabbage, savoy, cooked, boiled, drained, without salt 0.50 cup, shredded = 73.00 gr (17.52 mg)	5.48%
Cauliflower, raw 1.00 cup chopped (1/2" pieces) = 107.00 gr (16.05 mg)	5.02%