

CALCIUM

Calcium is a major mineral. Major dietary sources of Calcium include milk and milk products, canned salmon and sardines (with bones), dark green leafy vegetables, calcium-precipitated tofu, legumes (dried beans) and cheese. The percentage of calcium absorption varies and is dependent on the needs of the body. Lactose (the sugar in milk) and protein aid in Calcium absorption. Calcium is deficient in most diets. The deficiency is most prevalent in women who have had children and have never supplemented their diets with calcium. Calcium consumption along with exercise is the best means to prevent calcium deficiency. When calcium is lost and signs of osteopenia develop reversing the medical problem may be difficult. Bone collapse and fractures of the pelvis may occur in such individuals. People may "shrink" with age as a result of vertebral compression fractures caused by osteopenia. This affliction is commonly referred to as osteoporosis. Bone density studies will detect patients having osteopenia. Calcium functions as a membrane stabilizer and natural tranquilizer.

Beneficial Properties

- Builds and maintains bones and teeth
- Regulates heart rhythm and muscle contractions
- Eases insomnia
- Helps regulate the passage of nutrients in and out of the cell walls
- Assists in normal blood clotting
- Helps maintain proper nerve and muscle function
- Lowers blood pressure
- Aids in regulation of water balance in cells
- Important to normal kidney function
- May reduce the incidence of colon cancer
- Reduces blood cholesterol levels

Deficiency Indicators

- May result in arm and leg muscles spasms
- Softening of bones
- Back and leg cramps
- Brittle bones
- Rickets
- Poor growth
- Osteoporosis, deterioration of the bones
- Tooth decay
- Depression
- Possibly hypertension (high blood pressure)

Excessive Intake and Toxicity Symptoms:

Calcification of bones and soft tissues
Kidney stones

RDA

Adults 800-1200 mg

SOURCES OF CALCIUM

IRON

Its primary function is to combine with protein and copper in making hemoglobin. Hemoglobin transports oxygen in the blood from the lungs to the tissues. Iron improves the quality of the blood and increases resistance to stress and disease. It is necessary for the formation of myoglobin which is found only in muscle tissue. Myoglobin supplies oxygen to muscle cells for use in the chemical reaction that results in muscle contraction. Iron also prevent fatigue and promotes good skin tone. Iron is a trace mineral. Major dietary sources of Iron include liver, kidneys, red meat, poultry, eggs, peas, legumes (dried beans), dried fruits, dark green leafy vegetables, enriched breads and cereals. Heme Iron (found in animal products) is better absorbed by the body than non-heme Iron (found in plants). To enhance non-heme Iron absorption, eat foods rich in Vitamin C during the same meal.

Beneficial Properties

- Essential in the formation of hemoglobin (carries oxygen in the blood)
- Essential in the formation of myoglobin (carries oxygen in muscle)
- Part of several enzymes and proteins
- Prevents fatigue
- Promotes good skin tone

Deficiency Indicators

- May result in weakness
- Paleness of skin
- Microcytic anemia (small cell type)
- Fatigue
- Decrease in immune function

Excessive Intake and Toxicity Symptoms:

- Hemochromatosis, an iron metabolism disorder
- Death
- Toxicity is rare from dietary sources
- Toxicity can occur from ingestion of Iron supplements

RDA

Adults 10-15 mg

SOURCES OF IRON

MAGNESIUM

Magnesium is a major mineral. Major dietary sources of Magnesium include dark green leafy vegetables, meat, milk, nuts, legumes (dried beans), bananas, wheat bran and whole grains. It is helpful in people with chronic constipation. Magnesium salts act as cathartics. During pregnancy the intake of calcium and magnesium should be increased to prevent deficiency in mother and child. Patients with potassium deficiency should be checked for magnesium deficiency. In the instance of magnesium depletion, it is difficult to replete potassium stores.

Beneficial Properties

- Vital to many basic metabolic functions
- Regulates the neuromuscular activity of the heart
- Maintains normal heart rhythm
- Necessary for proper calcium and Vitamin C metabolism
- Converts blood sugar into energy
- Aids in bone growth
- Aids in the function of nerves, bones and muscles

Deficiency Indicators

- Nausea
- Muscle weakness
- Irritability
- Abnormalities in heart rhythm
- May result in calcium depletion
- Heart spasms
- Nervousness
- Muscular excitability
- Confusion
- Kidney stones.

Excessive Intake and Toxicity Symptoms:

- No evidence of toxicity from oral intake in people with normal kidney function

RDA

Adults 280-350 mg

SOURCES OF MAGNESIUM



Major Minerals



CALCIUM



IRON



MAGNESIUM



PHOSPHORUS



POTASSIUM



SODIUM

PHOSPHORUS

Major dietary sources of Phosphorus include most foods, especially fish, meat, poultry, dairy products, eggs, peas, legumes (dried beans) and nuts. Phosphorus is measured in milligrams (mg).

Beneficial Properties

- Required for formation of healthy bones and teeth
- Necessary for energy metabolism

Deficiency Indicators

- Bone loss characterized by weakness, anorexia, fatigue and pain

Excessive Intake and Toxicity Symptoms:

Interferes with calcium and iron utilization

SOURCES OF PHOSPHORUS

SOURCES OF CALCIUM

Food	Amount	Milligrams
Milk, evaporated skim	1 cup	580
Sardines, with bones	3 ounces	372
Collard greens, cooked	1 cup	355
Yogurt	1 cup	272
Turnip greens, cooked	1 cup	252
Milk, skim or 1%	1 cup	246
Milk, whole	1 cup	238
Buttermilk	1 cup	232
Salmon, with bones	3 ounces	167
Cottage cheese	1/2 cup	160
Broccoli	1 stalk	158
Almonds	2 ounces	132
Cheese, cheddar	1 cubic inch	129
Tofu	3.5 ounces	128
Tortilla, corn	1	120
Kidney beans	1 cup	115
Black beans	1 cup	105

SOURCES OF IRON

Foods with higher contents listed first

Food	Amount	Milligrams (Mgs)
Liver, pork, cooked	3 ounces	24.7
Cereal, 100% fortified	3/4 cup	18
Cream of wheat, cooked	1/2 cup	9
Liver, chicken, cooked	3 ounces	7.2
Prune juice	1/2 cup	5.3
Navy beans, cooked	1 cup	5
Lima beans	1 cup	4.9
Black-eyed peas	1 cup	4.3
Spinach, cooked	1 cup	4.3
Oysters	4	3.6
Roast beef	3 ounces	3.1
Molasses	1 tablespoon	2.3
Watermelon	4 x 8 inch wedge	2.1
Dried apricots	12 halves	2
Dried prunes	10	2
Kale, cooked	1 cup	1.8
Collard greens, cooked	1 cup	1.5
Egg	1 whole	1.3

SOURCES OF MAGNESIUM

Foods with higher contents listed first

Food	Amount	Milligrams
Brown rice	1 cup	265
Spinach, cooked	1 cup	157
Black beans	1 cup	121
Pinto beans	1 cup	95
Halibut, broiled	3 ounces	91
Almonds	1/4 cup	85
Wheat germ	1/4 cup	69
Oatmeal, cooked	1 cup	56
Peanuts	1 ounce	53
Pistachios	1 ounce	45
Shrimp	3 ounces	35
Milk, whole	1 cup	33
Banana	1 medium	33

SOURCES OF PHOSPHORUS

Foods with higher contents listed first

Food	Amount	Milligrams (mgs)
Liver, beef	3 ounces	395
Salmon, canned with bone	3 ounces	279
Pinto beans	1 cup	273
Milk, skim	1 cup	247
Halibut	3 ounces	242
Black beans	1 cup	241
Milk, whole	1 cup	228
Tenderloin, beef	3 ounces	194
Ham	3 ounces	192
Almonds	1 ounce	148
Ground beef, lean	3 ounces	141
Peanuts	1 ounce	105
egg, hard boiled	1	86

