

**Macrominerals** balance the level of salts between cells and their environment by regulating cell pressure, and aiding electrical conductivity of ions (called *electrolytes*). Minerals help manage water pressure balance during the huge fluctuations in hydration during the day. Minerals are important to balance pH (acidity-alkalinity) in body fluids, and deposit into bone to make it strong. Minerals come from the earth, and are absorbed and stored into plants through the roots. When animals eat these plants, certain minerals become available to us when we eat them, or directly from plants. Plants with bulbous roots store minerals the best, including: celery, potato, parsnips, beets, carrots, jicama, sunchoke, and yams. “Multivitamins” are not recommended.

**Calcium** is important for bones because they are constantly breaking themselves down & re-building to adjust for changes in load usage, like during strength training. Calcium deposits form teeth, regulates blood pressure, secretion of hormones into the body and all muscle contraction. Blood-calcium balance is tightly controlled in the body.

RDA for Men\*: 1000/1200 mg                      Women\*: 1000/1200 mg

Sources: calcium citrate, spinach, peanuts, walnuts, herring, sardines, skim milk

**Phosphorus** is important in buffering body fluid acidity, renewal of tissues, DNA, energy release, and metabolism of energy nutrients. Phosphorus needs calcium and vita D.

RDA for Men: 700 mg                      Women: 700 mg

Natural sources: fish, meat, poultry, legumes, eggs, nuts, seeds

**Magnesium** is critical to many cell functions including the operation of about 300 enzymes and for the release of energy. Magnesium stimulates muscle relaxation after contraction. It binds calcium to teeth, delaying decay.

RDA for Men: 400/420 mg                      Women: 320 mg

Natural sources: greens, whole grain, seafood, figs, corn, oils, almonds, apples

**Sodium** is part of the body’s fluid and electrolyte balance. It is important for muscle contraction by facilitating electrical conductivity. Too much sodium causes high-blood pressure, hypertension, CV disease, water retention and brain damage.

Sodium: RDA less than 1500 mg either gender.

**Potassium** is part of the body’s fluid and electrolyte balance. It is important for muscle contraction by facilitating electrical conductivity, especially for the heart.

RDA for Men: 3400 mg                      Women: 2600 mg

Potassium sources: legumes, squash, beef, citrus, melon, prunes, beets, avocado

**Chloride** is part of the body’s fluid and electrolyte balance. It is important for muscle contraction by facilitating electrical conductivity, assisting in producing stomach acid, and balancing whole-body pH balance.

RDA for Men: 2300 mg                      Women: 2300 mg

Potassium sources: legumes, squash, beef, citrus, melon, prunes, beets, avocado

**Iron** is the basic component of blood. It binds oxygen in the lungs and transfers it through vessels. Iron is recycled when a blood cell dies.

RDA for Men: 8mg                      Women: 18/8 mg

Natural sources: organ meats, oysters, yolk, nuts, legumes, molasses, sardines

**Zinc** interacts with the functions of: insulin, growth hormone, testosterone, estrogen and over 200 enzymatic reactions. It blocks exercise-induced free-radicals in the bloodstream and supports immune function by preventing infection.

RDA for Men: 11mg                      Women: 8mg

Natural sources: oysters, oats, many kinds of nuts, meat, pepitas, vegetables

**Selenium** is involved with the formation of thyroid hormones (metabolic regulator) and has an antioxidant effect, slows aging, enhances male reproduction.

RDA for Men: 55mcg                      Women: 55 mcg

Natural sources: oysters, oats, many kinds of nuts, onion, tomato, low-fat dairy

**Iodine** is involved with the formation of thyroid hormones (metabolic regulator) and has an antioxidant effect, slows aging, enhances male reproduction.

RDA for Men: 150 mcg                      Women: 150 mcg

Natural sources: oysters, oats, many kinds of nuts, onion, tomato, low-fat dairy

**Manganese** is vital for bone health, metabolism, and immune response. It acts a co-Factor (helper ion) to break down nutrients, and aids cells from free radical damage.

RDA for Men: 2.3 mg                      Women: 1.8 mg

Natural sources: nuts, brown rice, spinach, chickpeas, shellfish

**Molybdenum** is a co-factor (helper ion) with enzymes that detoxify harmful substances and process proteins and genetic material.

RDA for Men: 55/55 mcg                      Women: 55/55 mcg

Natural sources: legumes, whole grains, nuts and leafy greens.

**Chromium** assists to regulate insulin, and break down nutrients.

RDA for Men: 35 mcg                      Women: 25/20 mcg

Natural sources: meat, seafood, eggs, brewer's (nutritional) yeast, broccoli

\* Men years 25-50/ 50+    Women years 25-50 (not pregnant)/ 50+ (adjust for menopausal phase, or as directed by your physician) Individuals with diagnosed health conditions should follow the advice of a physician or registered dietician.

Supplement Shopping List: *(do not substitute other forms: not 'any' calcium, only calcium citrate)*

1. Calcium Citrate 1000mg
2. Magnesium Glycinate 400mg
3. Potassium Gluconate 595mg (4-6 per day)
4. Iron (Ferrous) Sulfate 8mg
5. Zinc Glycinate 10mg
6. Selenomethionine 55mg
7. Manganese Chelate (bisglycinate) 2mg
8. Molybdenum Glycinate Chelate 55mcg
9. Chromium Picolinate 25mcg