

Healthwatch

by Steven Bailey N.D.

How your body uses minerals

In my last article, I wrote about vitamins in general and what constitutes an optimum level of daily intake. The focus of today's article are the needs and uses of essential minerals.

Minerals are inorganic substances that are neither plant nor animal. Those substances that are essential to life include calcium, chlorine, chromium, copper, cobalt, fluorine, iodine, iron, magnesium, manganese, molybdenum, nickel, phosphorus, potassium, selenium, sodium, sulfur, vanadium and zinc. Some of these minerals are so abundant in nature (food) that there are no RDA's (recommended daily allowances) for them. These include chlorine (found in salt), cobalt (found in red meat, fish and dairy), manganese, molybdenum (common in U.S. diet), sodium (salt), sulfur (protein) and vanadium (sea foods). These minerals with no RDA's rarely exhibit deficiency symptoms with cobalt intake in strict vegetarians being the one major exception. Digestive problems may result in inadequate absorption of these minerals and therefore result in deficiency symptoms.

The minerals that are designated with federal RDA's are: calcium 800-1,400 mg, copper 2 mg (adult), iodine 100 mcg women, 130 mcg men, iron 10 mg men, 18 mg women, magnesium 350 mg men, 300 mg women, phosphorus 800 mg, sodium 3-7 g, zinc 15 mg. While it is possible to attain these levels in whole foods, many individuals find improved health with supplementation in some or many of these substances.

Calcium and magnesium are related with muscle activity as well as bone development. Many people who have symptoms of cramping, muscle twitching and/or nervousness find relief with additional calcium/magnesium intake at a 2:1 ratio: i.e. 1,000 mg calcium and 500 mg magnesium. Phosphorus intake normally exceeds the individual needs, and may act to decrease usable calcium levels as phosphorus excretion via the parathyroid hormone (PTH) involves joint excretion of calcium (so those individuals with high phosphorus intake (especially red meat and carbonated beverages) may need supplemental calcium even though their diet contains adequate calcium intake.)

Copper has many functions in the human system. Its role in red blood cell formation leads to its deficiency symptom of general weakness. It also plays an important role in immune function and healing of skin sores. The RDA of 2 mg should be an adequate level of supplementation (40 mg for extended time may be toxic in some individuals). Iodine has a primary function in the production of the thyroid hormone. Iodine deficiency may result in an enlarged thyroid

gland (goiter), decreased energy, dry skin and hair and mental fatigue. Up to 1,000 mcg per day produces no toxicity in individuals with a normal thyroid. Iron is necessary for the formation of hemoglobin so its deficiency conditions include weakness, fatigue and anemia. Iron is probably less often needed as a supplement than is generally assumed by public and advertising communities. Zinc has numerous functions and these include insulin production, prostatic secretions, immune activity, wound healing, digestion, and inflammation (arthritis). The RDA is 15 mg but zinc

is relatively non-toxic and levels of 50 to 100 mg are easily tolerated.

Two minerals that are becoming more generally accepted as important and often are inadequate in the diet are selenium and chromium. While neither of these have an RDA, their roles in human function and their common low levels in soil and therefore diet have provided ample reason to use supplementation of these minerals. Selenium has been widely accepted as a protectant from the development of many cancers. This would logically be associated in its role with Vitamin E in removing free radi-

cals via the glutathion reductase enzyme activity. The soil in the Pacific Northwest is quite low in selenium due to our high rainfall and a supplementation of 150 mcg with 200 I.U. of Vitamin E would be suggested. Chromium is important in energy production and vital for the effectiveness of insulin via the glucose tolerance factor which requires a chromium core. People with sugar imbalances should consider chromium supplementation prior to drug therapies as insulin can only function properly with adequate chromium intake.

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OHSU studies high blood pressure

People with high blood pressure, between the ages of 20 to 80, are needed for a hypertension study at the Oregon Health Sciences University.

Volunteers should be in fairly good health and will receive free nutritional counseling, physical exams, blood pressure checks and laboratory tests. There is a greater need for persons over the age of 50.

The University's Nephrology Department in the School of Medicine is continuing its studies of calcium nutrition in hypertension. Both studies monitor increased calcium intake over an approximate 20 week period.

For more information or to sign up for the studies, call the OHSU Nephrology Department at 225-7647.

Zoo elephant museum opens

Washington Park Zoo's long-awaited Elephant Museum will soon be under construction due to a \$100,000 donation in the name of Lilah Callen Holden, a long-time Oregon resident and elephant lover who died in 1983. The \$100,000 check was presented by her son, Glen A. Holden, of Los Angeles, California, who wanted to do something to commemorate his mother's love of Washington Park Zoo's elephants.