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INDIANAPOLIS CHAPTER • WESTON A. PRICE FOUNDATION
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I. THE PRINCIPLE ELEMENTS, THEIR FUNCTION AND DIETARY SOURCES.

A. CALCIUM

1. Involved in a myriad of cell regulatory effects.
2. Excessive intracellular calcium is associated with the etiology of heart disease and stroke.
3. May play a role in hypertension.
4. Sources: dairy, seafood, green leafy vegetables, almonds, cruciferous vegetables.
5. Proper absorption depends on Vitamin D, parathyroid hormone, adequate hydrochloric acid in the stomach and intestinal flora.

B. CHROMIUM

1. Linked to glucose tolerance factor and insulin uptake.
2. Aids in lowering LDL cholesterol and HDL cholesterol.
3. Sources: liver, brewer's yeast, nuts, whole grains.

C. COPPER

1. Important for detoxification and protects cells from oxidative damage.
2. Prevents cellular stress, nerve degeneration and accelerated aging.
3. Sources: liver, shellfish, nuts and seeds, beans and whole grains.

D. IODINE

1. Essential for thyroid function.
2. Deficiency has been linked to breast cancer.
3. Sources: seafood, sea vegetables, NOT iodized salt.

E. MAGNESIUM

1. Involved in over 300 biochemical reactions in the body.
2. Critical for heart rhythm, energy production, and blood pressure regulation.
3. Is also involved with diabetes and PMS.
4. Some studies in areas of low magnesium levels have been linked to increased incidence of heart disease.
5. Deficiency may be subtle and manifest as loss of appetite, listlessness, nausea, hair loss or in severe cases tremors or convulsions.
6. Sources: nuts, beans and dark green vegetables.

F. MANGANESE

1. Important in metabolism and insulin production.
2. Important in fatty acid synthesis.
3. May have impaired absorption by calcium, phosphate and iron.
4. Sources: fruits, whole grains and dark green leafy vegetables.

G. POTASSIUM

1. Critical in nervous system and muscle tissue excitability.
2. Depletion can lead to heart arrhythmias, high blood pressure and muscle weakness.
3. Vagus nerve requires potassium for normal functioning.
4. Sources: vegetable and citrus juices, bananas, melons.

H. SELENIUM

1. Important for maintaining cellular glutathione levels – a major antioxidant and may be responsible for its protective effects against cancer formation.
2. Mitigates toxic effects from mercury.
3. Helps in the conversion of thyroid hormones.
4. Sources: organ meats, seafood, garlic and onions.

I. VANADIUM

1. Important for mineralization of bone and teeth. May protect against cavities.
2. Healthy blood sugar metabolism and triglyceride levels.
3. Sources: liver, unsaturated oils.

J. ZINC

1. Important for smell and taste, growth and repair via DNA/RNA function, wound healing and immune function.
2. Sources: seafood, shellfish, whole grains, nuts and seeds.

II. OPTIMAL LEVELS OF MINERALS ARE DEPENDENT ON ADEQUATE SOURCES, HEALTHY GUT FUNCTION AND INTESTINAL FLORA. SO WHY THE EPIDEMIC OF MINERAL DEFICIENCY?

- A. Antibiotic prescriptions
- B. Decreased intake of lacto-fermented foods as well as pre and probiotics.
- C. Depleted soils and imbalanced soil ph.
- D. High sugar and processed food intake.
- E. Decrease hydrochloric acid production.
- F. Prescription medications especially “antacids”.
- G. Pancreatic or biliary insufficiency.
- H. Gluten intolerance/ceeliac sprue disease.

III. MONITORING MINERAL REPLACEMENT. MAINTAINING OPTIMAL MINERALS IS CRITICAL FOR HOMEOSTASIS, CANCER PREVENTION AND OPTIMAL PHYSIOLOGIC FUNCTIONING.

- A. Monitor first morning urine ph with goal of 6.6 – 7.0.
- B. If too low then:
 1. Check ph of water.
 2. Increase lacto-fermented foods/ferment all grains consumed.
 3. Increase broth and mineral intake.
 4. Increase consumption of fruits and vegetables with known high mineral content.
 5. Do hair or blood analysis for heavy metals.
 6. Rule out celiac disease or gluten intolerance.