

Editorial

Hair Tissue Mineral Analysis

The widespread use of Hair Tissue Mineral Analysis (HTMA) was made possible because of advanced analysis technology. The equipment now used is Inductively Coupled Argon Plasma Emission Spectroscopy. This provides heat, equal to that of the interior of the sun.

HTMA reflects mineral levels at the cellular level. The concentration in this tissue is approximately 100 times greater than in the blood. Mineral levels of calcium in the blood are almost meaningless. If calcium is below the optimum level in the blood, it is removed from the skeleton and other bones.

Zinc, selenium and manganese are important immune system enhancers. Cancer mortality has been correlated with the antioxidant selenium. Manganese activates many protective enzymes. Chromium has been shown to increase the level of High Density Lipoprotein (HDL). This mineral is easily lost in the milling and processing of grains. It is essential for the production of the Glucose Tolerance Factor (GTF), which enhances the effect of insulin. GTF is a combination of chromium, niacin and amino acids. Iron and copper are both required for the production of hemoglobin. Magnesium and zinc are needed for the production of the critical anti-inflammatory and anti-clotting Prostaglandin PGE1. Too much copper has been linked to emotional problems. Learning disabilities have been shown to result from elevated lead. Violent behaviour has been linked to certain mineral patterns.

From the analysis of many hundreds of hair samples, since 1974, it is obvious to me, that Canadians are not getting enough alkaline minerals. Many are high in toxic aluminum; this mineral may be substituting for essential minerals, such as calcium and magnesium. Acid-forming foods are

those high in phosphorus, nitrogen or sulphur.

The average diet tends to favour acid forming foods. Examples are: meat, chicken, fish, eggs, grains, soft drinks and food additives. Even bran, wheat germ, yeast and lecithin, are high in phosphorus. Highly processed white sugar, flour and fats are almost devoid of the alkaline minerals. Such foods require minerals to be metabolized. The overly promoted milk and milk products, are not without problems. The high level of phosphorus in milk neutralizes, or ties up calcium making it only a fair source of calcium. Milk fortified with synthetic Vitamin D, as well as many other processed foods and eggs, all have elevated Vitamin D. This along with excessive phosphorus, leads to hyperparathyroidism and bone loss. While the level of phosphorus and Vitamin D in our diet has increased, magnesium and potassium have gone down. This could be corrected by reducing our consumption of acid-forming foods and increasing the alkaline ones, such as vegetables, fruit and legumes. When magnesium is low, it results in excess calcium in the cells. Calcium tends to contract; magnesium to relax, making magnesium, a natural tranquilizer. Magnesium is a physiologic calcium blocker, capable of preventing vasospasm, just as with the drugs verapamil and nifedipine. It can reduce the incidence of problems involving the nervous system, hyperlipidemia, hypercalcemia, hypertension, sudden death ischemic heart disease, myocardial infarction and cardiac arrhythmias.

All these abnormal conditions and others, may be influenced by too little or too much of the essential minerals as well as an excess of toxic metals. HTMA should be a method of choice, in the prevention and treatment of disease.

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