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Balancing body chemistry with
hair tissue mineral analysis

**7 MOST COMMON HEALTH PROBLEMS
AND THEIR ROOT CAUSE DIAGNOSED BY
HAIR TISSUE MINERAL ANALYSIS**

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WHAT IS HAIR TISSUE MINERAL ANALYSIS?

In our fast-paced world the balance of our body chemistry often upset and health problems occur. In this case we try to find the reason and the solution. Unfortunately, the standard blood and urine tests do not always produce real results.

HTMA is a painless, easily feasible, discrete complementary diagnostic and disease prevention method for all ages. This simple, gentle and comprehensive laboratory test method has been used in clinical practice for more than 30 years, helping hundreds of thousands of patients every year.

Hair tissue mineral analysis is a safe and non-invasive pathology test, a complementary diagnostic and alternative therapeutic method, which provides essential information on

- the deficit or surplus of minerals and microelements,
- the body chemical imbalances and
- the exposure to toxic substances.

Through this information the diseases that can be traced back to the mineral deficits and surpluses.

Minerals are essential for growth, healing, vitality and wellbeing. They provide structural support in bones and teeth, and they maintain the body's pH and water balance, nerve activity, muscle contractions, energy production and enzyme reactions. They are the basic 'spark plugs' of life.

Ideally we should get all the minerals we need from a balanced diet. Unfortunately today this is rarely possible. Modern farming techniques, fertilisers and depleted soils reduce the mineral content of foods. Environmental pollutants, chemical food additives and stressful lifestyles also have a detrimental effect on our nutritional status.

“YOU CAN TRACE EVERY SICKNESS, EVERY DISEASE, AND EVERY AILMENT TO A MINERAL DEFICIENCY” – (Linus Pauling, Ph. D. twice Nobel Laureate)

HTMA is regarded by many doctors, naturopaths and nutritional therapists as one of the most valuable screening tools available in everyday and preventative health care.

Some Facts about Minerals

Did you know?

- The body can manufacture many vitamins, it cannot manufacture minerals.
- Calcium loss from the body can become so advanced that severe osteoporosis can develop without noticeable changes in blood calcium levels.
- Low in Zinc can cause weak immunity, poor digestion, slow growth, poor wound healing and can impede left brain development.
- Magnesium is required for normal muscular function especially for the heart. A deficiency has been associated with increased incidence of heart attack, anxiety, and nervousness.

- Excess Sodium is associated with hypertension, but adequate amounts are required for normal health.

Excessive Mineral Intake and Toxic Elements

Excessive mineral intake can also negate the benefits of vitamins and vice versa.

- Zinc can reduce the beneficial effect of Vitamin D.
- Calcium can reduce the beneficial effect of Vitamin A.
- Vitamin C can reduce the beneficial effect of Copper.
- Vitamin D can cause deficiency in Magnesium.
- Too much Iron can contribute to symptoms like arthritis, high blood pressure and tension headaches with dizziness.
- Too much Copper is associated with frontal headaches (behind eyes)
- Too much Calcium can contribute to osteoporosis, weight gain and fatigue.
- Toxic metals can contribute to learning difficulties in children.

When should you have a HTMA?

Many health conditions are aggravated by mineral imbalances and toxic metal excesses. If you have one of the conditions listed here, you should ask for our help:

CONDITIONS AFFECTED BY MINERAL IMBALANCES:

Acne	Fatigue	Macular degeneration
Allergies	Hair loss and poor nails	Memory problems
Alzheimer’s disease	Headaches	Migraines
Anaemia	High blood pressure	Mood swings
Anxiety	Hormone imbalance	Muscle cramps
Arthritis	Hyperactivity	Osteoporosis
Atherosclerosis	Hypercholesterolaemia	PMS
Cardiac conditions	Hypoglycaemia	Prostate disorders
Dental problems	Immune impairment	Skin problems
Depression	Infertility	Stress
Diabetes	Insomnia	Thyroid disorders
Digestive problems	Learning difficulties	Wounds healing poorly

7 MOST COMMON HEALTH PROBLEMS AND THEIR ROOT CAUSE DIAGNOSED BY HAIR TISSUE MINERAL ANALYSIS

1) DERMATITIS

DERMATITIS AND ZINC:

Much of the mineral zinc in the body is stored in the skin, and is necessary in sufficient quantities to maintain the normal integrity of the skin. Many types of dermatological problems have been associated with zinc deficiency and often respond favorably to zinc supplementation.

DERMATOSIS AND COPPER:

Copper is known to antagonize the metabolic activity of zinc as well as decrease its absorption. This may be a contributing factor to copper-induced dermatitis. Copper toxicity often produces skin rashes that are characterized by red itchy areas occurring on the face, neck, and lower back, on the thighs, and behind the knees.

DERMATITIS AND MERCURY:

High mercury levels have been implicated in causing dermatitis, which may affect the arms and legs. High mercury levels have also been associated with hair loss.

DERMATITIS AND ARSENIC:

Arsenic has been associated with dermatological conditions, including dermatitis, keratosis, peripheral neuropathy, and hyperpigmentation of the skin and fingernails.

DERMATITIS AND NICKEL:

Excess nickel has been reported to produce more instances of dermatitis than any other metal. Dermatitis most often occurs after ear piercing when nickel-plated earrings are inserted. The nickel is then absorbed, triggering dermatological conditions.

DERMATITIS AND COBALT:

Excessive cobalt is known to produce skin reactions and dermatitis.

2) THYROID DYSFUNCTION

HIGH CALCIUM/POTASSIUM (Ca/K) RATIO

High calcium relative to potassium will frequently indicate a trend toward hypothyroidism (underactive thyroid). The mineral calcium antagonizes the retention of potassium within the cell. Since potassium is necessary in sufficient quantity to sensitize the tissues to the effects of thyroid hormones, a high Ca/K ratio would suggest reduced thyroid function and/or cellular response to thyroxine. It has been found that an elevated TSH, even when circulating T-3 and T-4 are normal, is an early indication of hypothyroidism.

If this imbalance has been present for an extended period of time, the following symptoms associated with low thyroid function may occur: fatigue, depression, dry skin, over-weight tendencies, constipation, cold sensitivity.

SELENIUM AND THE THYROID

Selenium has been found to be important in thyroid hormone production. Selenium is involved in the conversion of T4 to active T3, therefore a deficiency of selenium may contribute indirectly to a hypothyroid condition.

LITHIUM

Lithium accumulates primarily in the pituitary and thyroid glands, and where if excessive will interfere with iodine uptake by the thyroid gland, possibly blocking thyroxine release or thyroid-stimulating hormone (TSH). Therefore, long-term lithium excess can contribute to decreased thyroid activity, fatigue, and weight gain.

HYPOTHYROIDISM AND COPPER:

The mineral copper appears to have a suppressing effect upon the thyroid gland. Excess copper can cause a potassium loss and elevation of tissue calcium.

MAGNESIUM AND PARATHYROID HORMONE

Magnesium, along with calcium regulates the synthesis and/or release of parathyroid hormone. Together, low tissue levels of magnesium and calcium may be indicative of decreased parathyroid activity, which can result in decreased calcium and magnesium absorption from the diet.

3) ALLERGY

ALLERGY TREND

Calcium is necessary in neutralizing excessive serum histamines. Excess levels of lead may contribute to histamine type allergies by interfering with calcium metabolism and specifically, calcium's role in regulating serum histamines. If the lead value is elevated, and the calcium-to-lead ratio is low, and this imbalance has been present for an extended period of time, it would be reflective of a trend toward histamine type allergies.

ALLERGIES AND COPPER:

The mineral copper is a constituent of the enzyme histaminase and the protein ceruloplasmin, both of which have the ability to destroy histamine. Zinc is required for the storage of histamine. If the patient's zinc level is low to copper, or the tissue copper level is elevated, a low serum histamine may be present. This may result in histamine depletion if chronic. Low histamine levels have been found in the serum of patients who suffer from allergies to foods and inhalants.

FOOD ALLERGIES

In some individuals, certain foods can produce a maladaptive or "allergic-like" reaction commonly called "food allergies". Consumption of foods that one is sensitive to can bring about reactions ranging from fatigue or drowsiness to rashes, migraine headaches and arthritic pain. Sensitivity to foods can develop due to biochemical (nutritional) imbalances, and which can be aggravated by stress, pollution and medications. Nutritional imbalance can further be contributed to by restricting food variety, such as eating only a small group of foods on a daily basis. Often a person will develop a craving for the food they are most sensitive to and may eat the same food or food group more than once a day.

4) DEPRESSION

DEPRESSION AND HYPOTHYROIDISM:

An elevation of calcium relative to potassium is associated with hypothyroidism. Depression is often seen when a concomitant hypothyroid condition exists.

IRON AND DEPRESSION

A link has been associated between iron deficiency and emotional disturbances; such as depression and anxiety states. The mineral iron is important for amino acid metabolism, and is involved in the formation of monoamine oxidase (MAO), dopamine, serotonin, and other neurotransmitters.

DEPRESSION, SODIUM AND POTASSIUM:

A low tissue sodium to potassium ratio is related to many emotional changes including depression. A low sodium to potassium ratio may also be related to phobias, withdrawal, repression and indecision.

DEPRESSION AND LOW COPPER:

The mineral copper is involved in the production of neurotransmitters in the brain. A deficiency of copper can lead to depression.

DEPRESSION AND HIGH COPPER:

High tissue copper has been associated with an increased incidence of depression, especially in women, often occurring near their menstrual period. The causative role of excess copper in depression may be due to its producing neurotransmitter imbalances in the brain, or its interfering with other nutrient minerals such as iron, zinc and manganese.

5) FATIGUE

HIGH CA/K RATIO:

High calcium to potassium is associated with an underactive thyroid. Fatigue is often a common complaint associated with low thyroid function.

FATIGUE AND LOW IRON:

Low tissue iron is associated with a tendency toward anemia. Iron deficiency anemia is a contributing factor to fatigue and shortness of breath.

6) INFECTIONS, LOWERD RESISTANCE

MAGNESIUM (Mg) AND ANTIBODY FORMATION

Magnesium deficiency has been shown to be associated with decreased antibody production. Published studies have revealed that the lymphocytes, which are the body's defense against foreign invaders, are inhibited when there is a deficiency of magnesium.

ZINC AND LOWERED RESISTANCE

Zinc is required in sufficient amount to aid in resistance to infections and enhance immunity. Low zinc can contribute to lowered resistance and slow wound healing.

VIRUSES AND COPPER:

Elevated tissue copper is associated with increased susceptibility to viral manifestation, such as EBV and CMV viruses. HTMA copper is frequently elevated following bouts of mononucleosis, hepatitis and flu.

VIRUSES AND CALCIUM:

Calcium is known to increase the proliferation of dormant viruses. Recent studies have shown that cAMP, which is calcium activated, is increased in the cells along with calcium when viruses are replicating.

INFECTIONS:

When the ratio of iron to copper is greater than two to one and a low sodium to potassium ratio exists, an active infectious process may be present. If the condition is chronic, the only serum indications that may be present, are an elevated white cell count (high normal) and an elevated sedimentation rate. A chronic infection can cause iron to accumulate in the tissues resulting in infectious anemia. Iron supplementation should be avoided in this type of anemia.

7) HYPERTENSION

HYPERTENSION AND SODIUM:

High sodium relative to potassium has been associated with hypertension, or a transient high blood pressure. Some diuretics such as Lasix produce a potassium loss as well as

sodium. If potassium is lost in greater amounts than sodium, the blood pressure may remain elevated even while under medication and potassium supplementation. Sufficient amounts of zinc are necessary for the retention of potassium due to its sodium lowering effects.

HYPERTENSION AND LEAD:

Lead has been associated with essential hypertension due to its adverse impact upon normal kidney function, producing renal insufficiency.

RENAL HYPERTENSION:

High blood pressure is often seen when a low sodium to potassium ratio exists. This is especially true when magnesium is low to calcium and is related to renal hypertension.

HYPERTENSION AND CALCIUM:

Low dietary calcium intake has been linked to high blood pressure. Studies involving groups of individuals with normal and high blood pressure found that those individuals with high blood pressure consumed less dietary calcium than those with normal blood pressure. Controlled studies have also shown that increasing dietary calcium intake will result in an improvement in hypertension.

DIURETICS:

Some diuretics such as diazide and thiazide may produce a magnesium loss along with sodium. If body stores of magnesium are lost in greater quantities than sodium, the patient's blood pressure may remain elevated even while on the medication. If this is the case, another type of diuretic may be more appropriate for the patient in order to reduce magnesium loss.

ABOUT US

Since 1984 Trace Elements has been recognized internationally as a leading provider of HTMA laboratory services and nutritional metabolic products for doctors and health professionals of all specialties worldwide. Through exclusive distribution agreements and direct-client associations, Trace Elements serves health professionals exclusively in over 46 countries. Budalab, LLC is one of the hundreds of distributors who provide this unique analytical service.

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