



Hair Tissue Mineral Analysis

What is Hair Tissue Mineral Analysis?

Hair tissue mineral analysis (HTMA) is a test that examines the mineral composition of hair. Hair tissue analyses provide information about:

HTMA can help assess a patient's nutritional status and form a more personalized and effective nutrition therapy. The mineral levels within the hair closely match mineral levels inside the body. There is a significant connection between mineral levels in hair and levels in the organs. An accurate assessment of internal mineral levels and exposure to toxic metals can be made from hair analysis.

Why Test for Minerals?

Minerals are essential nutrients, meaning they cannot be made by the body. Every process that occurs in the body requires minerals for proper functioning.

- Essential for the digestion and absorption of nutrients.
- Maintaining fluid balance
- Digestion
- Building and maintenance of tissues
- Optimal production and balance of hormones.
- Maintaining a healthy immune system.

Tissue vs Blood Tests

The mineral levels in the blood may not represent accurate levels of the body's mineral storage. In many cases, the body maintains serum mineral levels by removing minerals from the blood and depositing them in tissue like hair, skin, nails, and muscle. The minerals that are stored in the tissue may not be excreted by the body.



“There exists a unique ability to recognize abnormal processes from trace minerals found in the hair and other tissues. With specific dietary modifications, restoration of a more normal biochemical balance can be achieved, thereby eliminating many nutritionally related endocrine, neurological and even emotional disturbances.”

-David L. Watts, Ph.D.

Why Test Hair?

During formation, the hair is exposed to internal fluids. As the hair grows and passes the skin's surface, it hardens and preserves the levels of minerals inside the body from that time. Hair can be used to access an individual's metabolic records. HTMA is a means to access these records, both past and current trace mineral levels and exposure to toxic metals.

Hair Tests Are:

- Noninvasive, painless process.
- A simple and easy process.
- Accurate, mineral levels in hair are ten times more than that of blood.

The Environmental Protection Agency uses HTMA when testing toxic metal exposure. A report released by the E.P.A in the year 1980 confirmed that tissue samples may be more appropriate than blood or urine samples when analyzing toxic metal exposure.

HTMA Can Provide Indicators of:

- Mineral imbalances
- Mineral deficiencies
- Excesses of both essential and toxic minerals
- Energy levels
- Metabolic type

What is an Imbalance?

Although individual mineral levels may fall within the normal ranges, a deficiency or excess may still be present. The body requires the balance of certain minerals in order to function properly. When one mineral is out of balance, all other minerals can be affected, potentially resulting in disruptions of normal body functions.

What Can Cause Mineral Imbalances?

- Diet
- Stress
- Medication
- Pollution
- Nutritional Supplements
- Genetics

Conditions Related to Mineral Imbalances:

- Hardening of the arteries
- Chronic fatigue
- High cholesterol
- High blood pressure
- Learning disabilities

Minerals and Energy.

Mineral status and energy levels are very closely linked together. If a person is experiencing anything from decreased energy levels to chronic fatigue, a mineral imbalance is more than likely present.

Minerals Regulate the Production of Energy.

The thyroid and adrenal glands work together and play a major role in the production of energy. In general terms, the adrenal glands allow for the release of sugars, and the thyroid gland then allows the sugars to be utilized for energy. These glands produce hormones that are necessary to make energy from food.

+ *"Nutrition no longer deals with fully reversible single deficiencies but with imbalances, faulty regulation of metabolic events, which may or may not have a dietary etiology."*

- Executive Summary. Conference highlights, conclusions, and recommendations. Am. J. Clin. Nutr. 1987

How Can an HTMA Test Help You?

Dietitians can order a HTMA test to help interpret the results and make applicable diet changes and targeted nutritional supplementation.

Stop maintaining the mundane.
Start **living** with

Superior
Sustenance 