

Hair Tissue Mineral Analysis



There are 38 minerals in the hair tissue and its levels are measured using a screen test called Hair Mineral Analysis. Hair is tested because it is a rapidly-growing tissue that can be sampled easily and safely. The main target is the tissues, not the blood or urine. Hair provides a unique, biopsy type of reading of metabolic activity.

The test is performed by burning samples of hair strands at a high temperature in a mass spectrometer. This technique has been used in laboratories for about 80 years.

Computercontrolled instruments have improved the accuracy and reduced the cost of mineral analysis.

Minerals tested include the electrolytes - calcium, magnesium, sodium, potassium and phosphorus. Trace minerals tested include copper, manganese, chromium, selenium, iron, molybdenum, lithium, cobalt, zinc and others. Toxic metals tested include lead, mercury, cadmium, arsenic, nickel, aluminium and others.

Nutritional Balancing

Hair mineral analysis is also used in Nutritional Balancing. It is a way of determining how the body responds to stress through constructing a biochemical picture and do some deep corrections afterwards. This analysis includes many disciplines like physiology, biochemistry, natural healing theory, metabolic typing and the stages of stress. However, many physicians test their patients just supplementing the low minerals calling it replacement therapy while others only detect toxic metals which make this analysis ineffective. Proper test interpretation takes several years to learn.

What Can A Hair Analysis Reveal?

Window Into The Cells

Hair analysis provides information directly about metabolism at the level of the cells the main site of many nutritional processes.

Glucose Tolerance

The minerals involved in the metabolism of carbohydrates including manganese, zinc, chromium and vanadium. Ratios of sodium to potassium and calcium to magnesium also provide information about glucose tolerance. Toxic metals interfere with glucose metabolism. Inefficient carbohydrate metabolism drastically reduces cellular energy production, leading to many serious health conditions.

Detecting Toxic Metals

Hair mineral analysis also detect chronic toxic metal poisoning in the body that causes heart disease, cancer, diabetes, fatigue, depression, anxiety, infections and many other conditions. Metals that are deeply buried may require a year or more before they are revealed on repeated mineral analyses.

Assessing Organ and Gland Activity

Mineral levels and ratios reflect the activity of thyroid and adrenal glands. By calculating these ratios on a tissue mineral test, organ and glandular activity can be assessed.

Measuring The Energy Level

Hair analysis helps in assessing low energy efficiency that breaks down many body systems and an improved cellular energy production for resolving many symptoms and conditions.

Identifying Disease Trends

Through proper interpretation of hair tissue mineral analysis, over thirty disease trends can be identified which can reveal tendencies long before the results comes out in x-rays and blood tests.

Reducing the Guesswork In Nutritional Therapy.

The precision nature of hair mineral analysis offers a method of reducing the guesswork in recommending diets and supplement dosages. For instance, very low hair calcium and magnesium levels indicate an alarm stage of stress in which the body excretes these minerals as part of the fight-or-flight response.

In this stage of stress, one needs more calcium, magnesium, copper, zinc, choline, inositol and vitamin A. These will help balance the body chemistry in line with the Metabolic Type program. Each different Metabolic Type will affect the significance or explanation of the nutrient levels found in the test but also which type of nutritional supplement to take. Each Metabolic Type will indicate whether to use the acidic or alkaline form of that nutrient. Excessive vitamin C, for example, can lower copper and worsen this stage. Amino acids, herbs and other nutrients may also be recommended based on the mineral ratios.

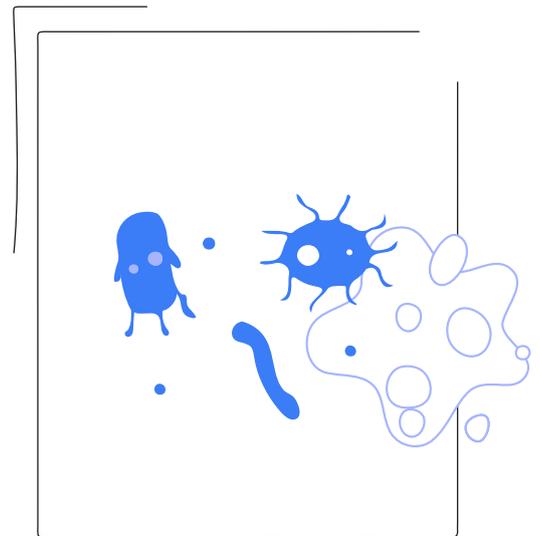
When you begin to PROPERLY balance body chemistry by addressing the needs of metabolic individuality through Metabolic Typing, the negative and health damaging process of HM accumulation is reversed in a normal, natural way. Now every cell's natural capacity to detoxify is activated, unleashed, and restored. As a result, the cells automatically begin to mobilize the HM's.

HTMA has proven to be an unparalleled tool to track this process of HM detoxification.

Htma Provides Additional Insight Into Metabolic Individuality Once The Metabolic Type Is Known

Any attempt to design a nutritional protocol from just a HTMA had serious flaws. The body is constructed in a hierarchical level in which the higher levels (organism) are complex than the lower levels which are the Systemic, then the Organ/Gland, then the Tissue, then the Cell, then the Nuclear, then the Sub-Nuclear levels.

Each higher level is protective of each lower level. Nutrients behave differently at different levels. And nutrients have specific levels of biological activity. HTMA is a useful tool if it is used in proper ways.



Monitoring Progress

Comparing the results of repeated tissue mineral tests over a period of months is an excellent way to monitor subtle changes in body chemistry, regardless of which type of therapy is used.

Understanding Behaviour

Tissue mineral analysis is a powerful tool to identify and correct biochemical causes of mental and behavioural conditions. Minerals control neurotransmitters and other neuro-active chemicals. All the toxic metals are neurotoxic. Conditions that often respond include depression, anxiety, epilepsy, phobias, insomnia, fatigue, mood swings, attention-deficit disorder and learning disorders.

Replacing Less-preferred Minerals

When mineral deficiencies occur, toxic metals replace the missing vital minerals in enzyme binding sites. This allows the body to survive in the face of nutrient deficiencies. Nutritional balancing science involves reversing this process, replacing the toxic metals with the preferred vital minerals.

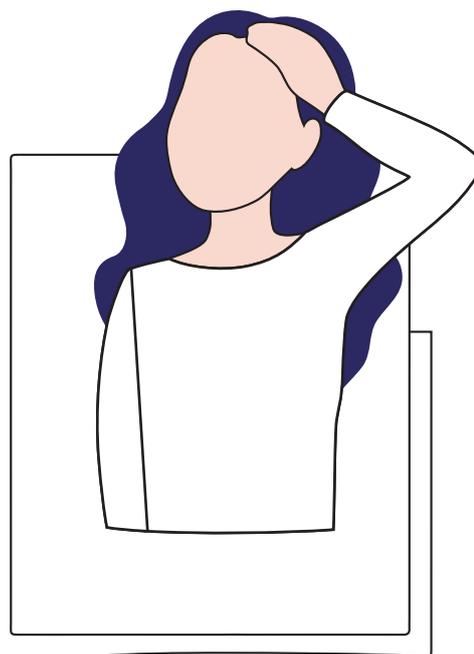
Improving Energy Efficiency

When the metabolic rate is too slow or too fast, energy efficiency declines. This is analogous to pedalling a bicycle too fast or too slow. Restoring health to the biochemical system allows thousands of chemical reactions to proceed at their optimum rate.

Hair Tests Versus Blood Tests

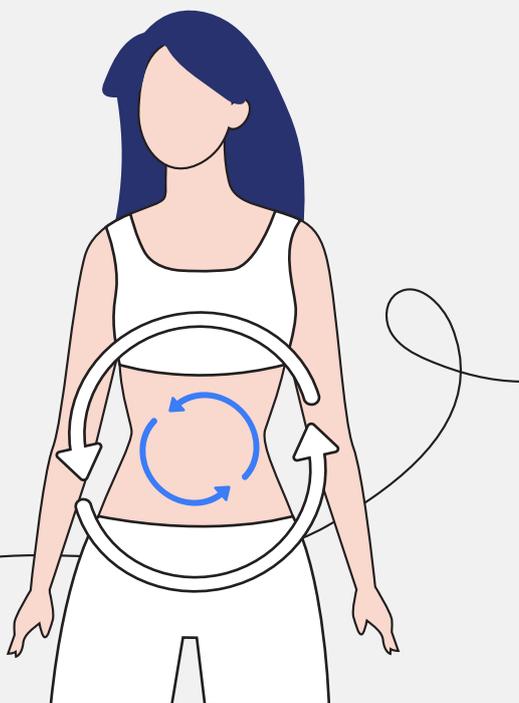
Blood tests do not provide the same information as a properly performed hair analysis. Hair analysis measures a different body compartment. Minerals are shifted from the tissues to maintain blood levels. This means that deficiencies or excesses often show up earlier in the hair than the blood.

Toxic metals rarely remain in the blood for long, but often deposit in the hair where they can be measured. Blood levels of minerals vary very little, while hair values may vary 10-fold, providing information not available from the blood. Blood tests give an instantaneous reading while hair analyses give a long-term reading unaffected by different factors.



Metabolic Typing

Macro mineral, trace mineral and toxic heavy metal analysis is an inexpensive, accurate screening method that can be of great help to understand body chemistry and design individualised diet and supplement programs that support the Metabolic Typing program. Without knowing the Metabolic Type theoretical inferences made will limit the benefit of recommendations and possibly exacerbate existing conditions, therefore it is not possible to design a nutritional supplementation program without knowing the Metabolic Type. Conversely the Metabolic Type can not be established from the knowledge of tissue levels of nutrients. Metabolic Typing indicates the optimal style of functioning of the person as a whole based on the cellular level and not the tissue level. In combination with the Metabolic Type, nutritional supplementation and natural healing therapies biochemical stress can be relieved to help restore and maintain optimum health.



By correcting tissue mineral levels and ratios with proper diet, supplementary nutrients and lifestyle modifications, many physical and behavioural health conditions, including those of long standing, will improve.

Faq's About Hair Mineral Analysis

Q. What is hair mineral analysis?

A. Hair tissue mineral analysis (HTMA) is an analytical test which measures the mineral content of the hair. The sampled hair, obtained by cutting the first inch and one-half of growth closest to the scalp at the nape of the neck, is prepared in a licensed clinical laboratory through a series of chemical and high temperature digestive procedures. Testing is then performed using highly sophisticated detection equipment and methods to achieve the most accurate and precise results.

Q. Why use the hair? Why not use the blood?

A. Hair is ideal tissue for sampling and testing. First, it can be cut easily and painlessly and can be sent to the lab without special handling requirements. Second, clinical results have shown that a properly obtained sample can give an indication of mineral status and toxic metal accumulation following long term or even acute exposure.

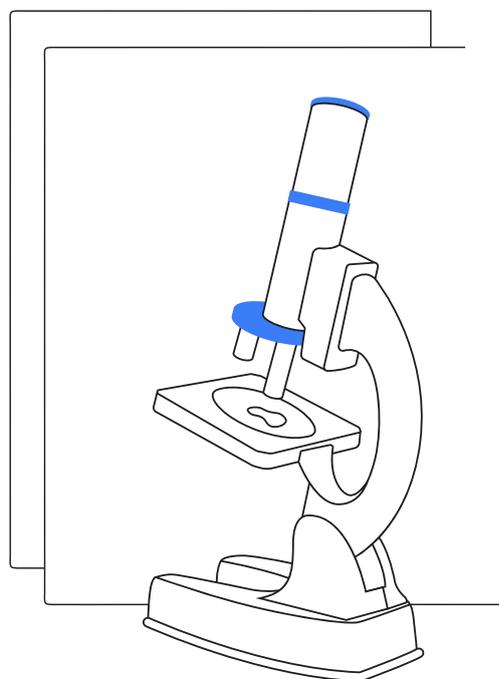
Examples:

Thirty to 40 days following an acute exposure, elevated serum levels of lead may be undetectable. This is due to the body removing the lead from the serum as a protective measure and depositing the metal into such tissues as the liver, bones, teeth and hair.

Calcium loss from the body can become so advanced that severe osteoporosis can develop without any appreciable changes noted in the calcium levels in a blood test.

Symptoms of iron deficiency can be present long before low iron levels can be detected in the serum.

Hair is used as one of the tissues of choice by the Environmental Protection Agency in determining toxic metal exposure. A 1980 report from the E.P.A. stated that human hair can be effectively used for biological monitoring of the highest priority toxic metals. This report confirmed the findings of other studies in the U.S. and abroad, which concluded that human hair may be a more appropriate tissue than blood or urine for studying community exposure to some trace elements.



Q. Why test for minerals?

A. Trace minerals are essential in countless metabolic functions in all phases of the life process.

Zinc is involved in the production, storage and secretion of insulin and is necessary for growth hormones.

Magnesium is required for normal muscular function, especially the heart. A deficiency has been associated with an increased incidence of heart attacks, anxiety and nervousness.

Potassium is critical for normal nutrient transport into the cell. A deficiency can result in muscular weakness, depression and lethargy.

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

In the words of the late author and noted researcher, Dr. Henry Schroeder, trace elements (minerals) are "...more important factors in human nutrition than vitamins. The body can manufacture many vitamins, but it cannot produce necessary trace minerals or get rid of many possible excesses."

Q. What can cause a mineral imbalance?

A. There are many factors to take into consideration, such as:

Diet: Improper diet through high intake of refined and processed foods, alcohol and fat diets can all lead to a chemical imbalance. Even the nutrient content of a "healthy" diet can be inadequate, depending upon the soil in which the food was grown or the method in which it was prepared.

Stress: Physical or emotional stress can deplete the body of many nutrients while also reducing the capability to absorb and utilize many nutrients.

Medications: Both prescription and over-the-counter medications can deplete the body stores of nutrient minerals and/or increase the levels of toxic metals. These medications include diuretics, antacids, aspirin and oral contraceptives.

Pollution: From adolescence through adulthood the average person is continually exposed to a variety of toxic metal sources such as cigarette smoke (cadmium), hair dyes (lead), hydrogenated oils (nickel), anti-perspirants (aluminium), dental amalgams (mercury and cadmium), copper and aluminium cookware and lead-based cosmetics. These are just a few of the hundreds of sources which can contribute to nutrient imbalances and adverse metabolic effects.

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Inherited Patterns: A predisposition toward certain mineral imbalances, deficiencies and excesses can be inherited from parents.

Q. Is Hair Tissue Mineral Analysis supported by research?

A. Hair tissue mineral analysis is supported by an impressive body of literature in a variety of respected national and international scientific publications. Over the past fifteen years, hair mineral testing has been extensive. Each year in the United States alone, federally licensed clinical laboratories perform over 150,000 hair mineral assays for health care professionals interested in an additional screening aid for a comprehensive patient evaluation. This does not take into consideration the thousands of subjects used in numerous continuing research studies conducted by private and government research agencies.