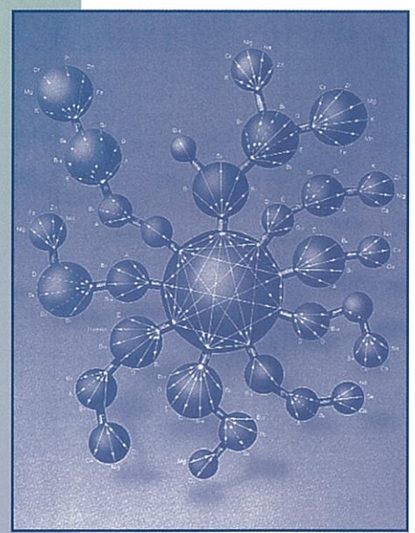
Trace minerals are essential in countless metabolic functions in all phases of the life process.



Why Test for Minerals?

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."

What Can Cause a Mineral Imbalance?

Diet

Improper diet through high intake of refined and processed foods, alcohol and fad 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 store of nutrient minerals and/or increase the levels of toxic metals — for example: 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), antiperspirants (aluminum), lead based cosmetics, copper and aluminum cookware, and dental amalgams (mercury and cadmium). These are just a few of the hundreds of sources which can contribute to nutrient imbalances and adverse metabolic effects.

Nutritional Supplements

Taking the incorrect type of supplements or improper amounts of nutritional supplements can produce many mineral excesses and/or deficiencies contributing to an overall biochemical imbalance.

Inherited Patterns

A predisposition toward mineral imbalances, deficiencies and excesses can be inherited from parents.

Did You Know?

Excessive mineral intake can negate the beneficial effects of vitamins, for example:

- Zinc can reduce the beneficial effect of vitamin D.
- Calcium can reduce the beneficial effect of vitamin A.

Excessive vitamin intake can negate the beneficial effects of minerals, for example:

- Vitamin C can reduce the beneficial effect of copper.
- Vitamin D can cause a deficiency of magnesium.

Taking too much iron can contribute to such symptoms as arthritis, high blood pressure and tension headaches with dizziness.

Frontal headaches (behind the eyes) are associated with too much copper.

Taking too much calcium alone can contribute to osteoporosis, weight gain and fatigue.

Toxic metals can contribute to learning disabilities in children.

Designing a Nutritional Program

It is essential in order to design an effective nutritional program that your doctor is able to distinguish the basic underlying cause for symptoms that you may be experiencing. It is for this reason that upon evaluation, your doctor may request a HTMA to be used in conjunction with other diagnostic tests. A HTMA can assist in providing your doctor with a more comprehensive picture on which to base the most appropriate therapy.

HTMA Computer Designed Reports

Each test report will provide you with the most complete and comprehensive computer evaluation of significant mineral levels and ratios as tested in the hair. Included is a listing of foods to eat or to avoid in accordance with food allergy indicators and individualized requirements. In addition, each analysis contains a highly specific listing of nutrients that may assist in balancing body chemistry.

"Through proper interpretation, there exists a unique ability to recognize abnormal metabolic processes from trace mineral patterns 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.

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For further information on tissue mineral analysis see your health care professional.

Balancing Body Chemistry with Hair Tissue Mineral Analysis

MANY SYMPTOMS ARE ASSOCIATED WITH MINERAL AND VITAMIN DEFICIENCIES AND/OR EXCESSES, SUCH AS:

- HEADACHES
- ALLERGIES
- ANXIETY
- DEPRESSION
- WEAKNESS
- ARTHRITIS
- HIGH BLOOD PRESSURE

What is Hair Tissue Mineral Analysis?

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.

Why Use The Hair?

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 acute exposure.

A HTMA reveals a unique metabolic world; intracellular activity, which cannot be seen through most other tests. This provides a blueprint of the biochemistry occurring during the period of hair growth and development.

Examples

- Thirty to forty 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.