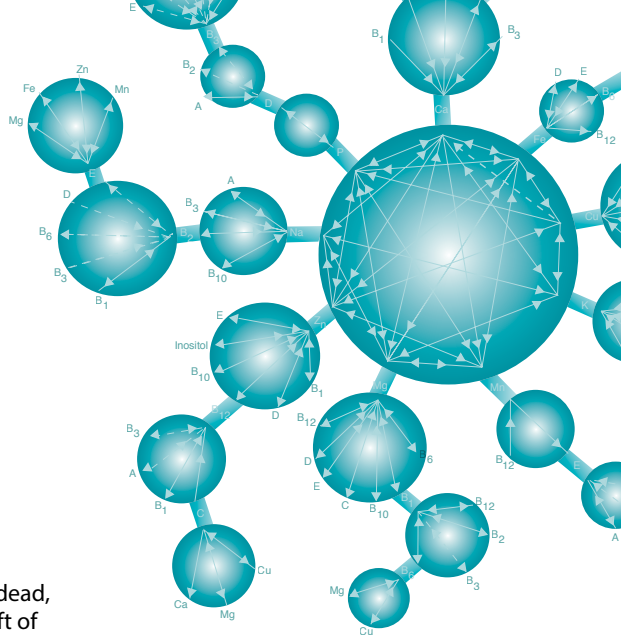
Nutrient and Toxic Element Testing

Hair Tissue Mineral Analysis

Balancing Body Chemistry



Why test for minerals?

Minerals are essential for growth, healing, vitality and wellbeing. They provide structural support in bones and teeth, and they maintain the body's acid-base balance, water balance, nerve conduction, muscle contractions and enzyme functions. Minerals participate in almost every metabolic process in the body – they are the true 'spark-plugs' of life.

Ideally we should get all the minerals we need from a balanced diet. Unfortunately this is rarely possible in today's world. Modern farming techniques, fertilisers and depleted soils reduce the mineral content of foods. Environmental toxins, chemical food additives and stressful lifestyles also have a detrimental effect on our nutritional status. Consequently, we need to test and monitor our nutritional needs more than ever.

What is a Hair Tissue Mineral Analysis?

Hair Tissue Mineral Analysis (HTMA) is an analytical test that measures the mineral composition of hair. It is regarded by many doctors, naturopaths and nutritional therapists as one of the most valuable screening tools available in everyday and preventative health care.

InterClinical Laboratories provides reliable clinical data on over 35 nutrient and toxic minerals, and over 26 significant mineral ratios.

MINERALS TESTED

NUTRITIONAL ELEMENTS	TOXIC ELEMENTS	ADDITIONAL ELEMENTS
Boron*	Aluminium	Barium
Calcium	Antimony*	Bismuth
Chromium	Arsenic	Germanium
Cobalt	Beryllium	Lithium
Copper	Cadmium	Nickel
Iron	Lead	Platinum
Magnesium	Mercury	Rubidium
Manganese	Uranium	Strontium
Molybdenum		Thallium
Phosphorus		Tin
Potassium		Titanium
Selenium		Tungsten
Sodium		Vanadium
Sulfur		Zirconium
Zinc		

*Additional fee applies

Why biopsy hair tissue?

Hair is a body tissue made up of mostly dead, keratinized cells fused together. The shaft of the hair is the portion that projects from the skin surface. The root of the hair, below the skin surface, contains living matrix cells from which the hair grows. Matrix cells depend on the blood supply for nourishment and growth. As they grow and divide, minerals are keratinised into the growing hair shaft, creating a permanent record of metabolic activity and exposure to toxic elements.

Mineral concentrations in the hair can provide a reliable indicator of mineral stores in the whole body. If your health, diet or environment has created a mineral imbalance or toxic mineral excess, it will be recorded in the hair shaft. Research has shown that hair mineral levels reflect stored mineral levels in other body tissues.

Non-intrusive health screening

Hair Tissue Mineral Analysis is a non-intrusive health screening tool for measuring your body's mineral status. This data can highlight potential health problems and help you to treat them through a nutritional program designed to meet your individual health needs.

Why not test blood?

Measuring the mineral content of blood gives a good indication of the minerals being transported around the body. However, it cannot accurately measure the minerals stored in tissue.

Very often, the body's homeostatic mechanisms maintain proper serum mineral concentrations at the expense of tissue concentrations. Unfortunately, correct serum levels often mask both mineral excesses and deficiencies in tissue mineral concentrations.

For example:

- About 30-40 days after acute lead poisoning, elevated serum lead levels may be undetectable. This is because the body removes lead from the blood as a protective measure and deposits it into tissues such as the liver, bones, teeth and hair.
- Iron deficiency symptoms are present long before low serum iron levels are detected, because the body depletes stored iron in order to maintain normal serum iron levels.

Note: HTMA should be used in conjunction with other appropriate pathology tests for the most comprehensive picture of a person's health.

CONDITIONS AFFECTED BY MINERAL IMBALANCES

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

Causes of mineral imbalances

- **Improper eating habits:** Fad diets and diets high in refined carbohydrates, sugar, salt, alcohol and saturated fats can lead to mineral deficiencies and excesses. Even the mineral content of a healthy diet can be deficient if foods are grown on nutrient-poor agricultural lands.
- **Stress:** Both physical and emotional stress can lead to mineral imbalances. B-complex vitamins, zinc and magnesium are lost in greater quantities when you are stressed; you also absorb less nutrients from your food. Sports people often have a higher requirement of certain nutrients.
- **Medications:** Many deplete the body's store of nutrient minerals and can increase levels of toxic minerals. Medications such as diuretics, the oral contraceptive pill, antacids and aspirin can all cause vitamin and mineral deficiencies.
- **Pollution:** Toxic minerals such as lead, mercury and cadmium can interfere with mineral absorption and increase mineral excretion. They build up in our bodies from sources such as: air pollution, car exhaust, cigarette smoke, unfiltered water, dental amalgams, copper and aluminium cookware, hair dyes and antiperspirants. Toxins have also entered the food chain, contaminating some of our foods. It is almost impossible these days to avoid some exposure to toxic minerals.
- **Genetic and individual factors:** A predisposition towards certain mineral imbalances, deficiencies and excesses can be inherited from parents. Certain individuals can also inherit a higher requirement than normal for particular nutrients to maintain good health.
- **Nutritional supplements:** Supplements can also lead to mineral excesses and deficiencies.

For example, excess calcium intake can cause phosphorus and magnesium deficiency. Continued magnesium deficiency increases sodium levels and eventually causes vitamin A deficiency.

User-friendly and Reliable

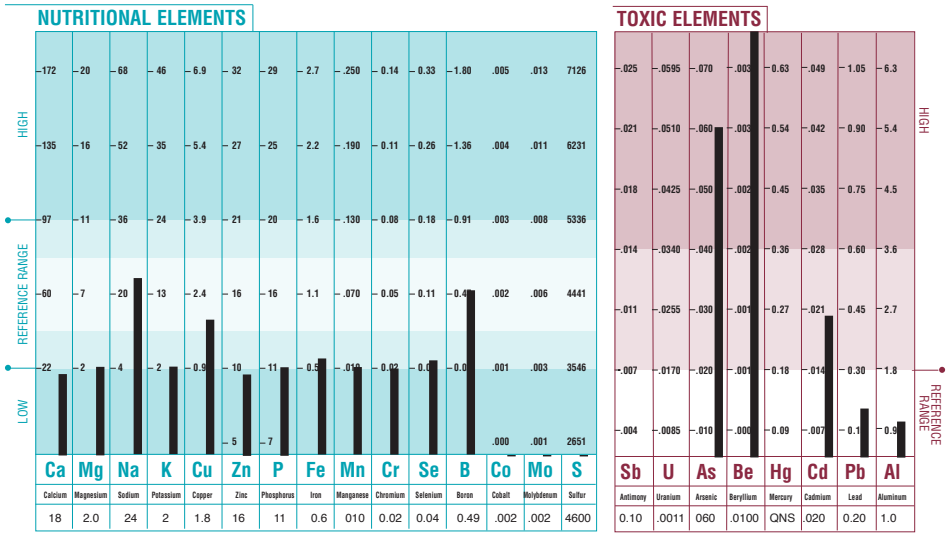
InterClinical Laboratories produces HTMA reports in three different formats:

1 Results only
2 Interpretative
3 Comparative

Our advanced interpretative reports are the best of their kind. They consist of two parts: an educational report for the patient and a more technical report for the practitioner. All reports are easy to read, comprehensive and incorporate the latest developments in nutritional therapeutics.

Our detailed reports contain a wealth of clinical data which, interpreted correctly, can provide an indication of nutrient imbalances and mineral toxicity.

Sample of nutrient and toxic mineral chart



Our reports are designed to shed light on the patient's current health status, identify potential areas of concern and direct dietary and supplemental measures to improve patient health. The laboratory is a fully accredited and certified clinical facility. Trace Elements Inc. is a US federally licensed clinical laboratory (License no. 45-DO481787).

REPORT FORMATS

PROFILE 1: RESULTS ONLY REPORT
This quantitative report contains only the mineral analysis results. With a graphic illustration of patient test results for at least 35 essential and toxic minerals, including reference ranges. It highlights significant mineral ratios and metabolic patterns.

PROFILE 2: INTERPRETATIVE REPORT
Our most popular and comprehensive report utilises our laboratory's expertise and extensive experience in interpreting trace mineral patterns. The report contains Profile 1 data, as well as a detailed medical discussion of the chemical results and personalised nutritional recommendations.

PROFILE 3: COMPARATIVE REPORT
This comparative report is available as a follow-up to Profile 2, comparing current and previous test results, and providing a comprehensive discussion with revised personalised nutritional recommendations.

HAIR SAMPLES

The laboratory requires 0.25gm or one tablespoon of head hair for testing.

Taking a hair sample is quick and easy. Cut hair close to the scalp. Use the first 4cm of hair, as this reflects the body's most recent metabolic activity. The hair needs to be clean, well-rinsed, untreated and uncoloured. If hair is treated or coloured, wait six to ten weeks and take a sample from the freshly grown untreated hair.

Head hair is best for testing. If head hair is not available, beard or pubic hair can be used. If there is no hair, clean fingernail clippings can be tested. These alternative tissue samples can be used to monitor toxic mineral levels, but will not always provide nutrient mineral data that is as reliable as head hair. Do not mix different types of tissue samples, eg. head hair with pubic hair.

Benefits of an InterClinical Hair Tissue Mineral Analysis

Reliable clinical data on over 35 nutrient and toxic minerals, and over 26 significant mineral ratios.

- Fully licensed and accredited laboratory facilities.
- Safe, specialised, scientific, non-invasive pathology test.
- Valuable health information often not revealed in standard blood and urine tests.
- Excellent means of identifying potential nutrient mineral deficiencies and excesses.
- Useful indicator of toxic mineral exposure.
- Personalised interpretive test report that assesses your current mineral status, highlights areas of concern and recommends dietary changes and supplements for improved health.

Ordering a hair analysis

We encourage you to ask your health care practitioner for a Hair Tissue Mineral Analysis from InterClinical Laboratories.

Results are normally available within 10-15 days from the date we receive your sample.

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InterClinical Laboratories

Leaders in nutritional pathology

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