

What Your Hair Can Reveal About Your Health

A Beginner's Guide to Hair Tissue Mineral Analysis (HTMA)

Presented by Eileen Durfee | EileenDurfee.com

Most people who feel tired, depressed, anxious, or unwell are told their blood tests are normal. They leave the doctor's office without answers — and without hope.

What conventional blood testing largely misses is what is happening inside your cells and tissues — where minerals actually do their work. Hair Tissue Mineral Analysis (HTMA) reads the body at this deeper level, revealing imbalances that blood tests routinely overlook.

This guide explains what HTMA is, what it measures, and why the research of Dr. Paul C. Eck, Dr. Larry Wilson, and Dr. David Watts has made it one of the most revealing health assessment tools available today.

1. Why Blood Tests Often Miss the Real Problem

Blood is a transport medium — its job is to maintain stability by constantly adjusting mineral levels. This means blood minerals can appear normal even when your tissues are severely depleted or overloaded. Hair is a metabolic record: as each strand grows, it captures what was actually happening in your tissues.

The critical distinction:

Blood tests measure what is being transported.

HTMA measures what is actually present in your tissues.

A person can have normal blood calcium while tissues are dangerously depleted or excessively accumulated. Standard thyroid panels frequently appear normal when hair tissue ratios show clear hypothyroid patterns.

2. What HTMA Actually Measures

HTMA measures 35 or more minerals and toxic metals from a small hair sample — no blood draw, no needles, no fasting — using inductively coupled plasma atomic emission spectrometry (ICP-AES). The test must be performed on unwashed hair: washing erratically removes sodium and potassium, two of the most critical adrenal indicators. Eileen works with Trace Elements, Inc. (TEI), founded by Dr. David Watts, using the correct unwashed methodology.

Essential Minerals Measured

Calcium • Magnesium • Sodium • Potassium
Zinc • Copper • Iron • Manganese
Chromium • Selenium • Phosphorus • Sulfur
Molybdenum • Boron • Cobalt • Lithium
Germanium • Vanadium • and more

Toxic Metals Screened

Lead • Mercury • Cadmium • Arsenic
Aluminum • Nickel • Tin • Titanium
Barium • Bismuth • Antimony • Beryllium
Uranium • Thallium • Silver • Zirconium
Strontium • and more

HTMA doesn't just measure individual mineral levels — it calculates the ratios between minerals. These ratios are often far more revealing than any single number.

3. The Five Key Mineral Ratios

The breakthrough insight of Dr. Paul C. Eck — building on Dr. George Watson's oxidation research and refined by Dr. David Watts at Trace Elements, Inc. — is that mineral ratios in hair tissue reveal glandular function, metabolic rate, and stress stage in ways blood tests cannot.

Ratio	When Too Low — Signs & Symptoms	When Too High — Signs & Symptoms
Ca/Mg "Blood Sugar" Ideal: 6.67:1	Too low: Hypoglycemia, shakiness, energy crashes, diabetes trend	Too high: Diabetes trend, blood sugar dysregulation, mental/emotional disturbances
Na/K "Life-Death" Ideal: 2.5:1	Too low: Adrenal exhaustion, kidney/liver stress, arthritis, allergies, and heart disease trend	Too high: Inflammation, asthma, adrenal imbalance, kidney and liver stress
Ca/K "Thyroid" Ideal: 4:1	Too low: Overactive thyroid: sweating, nervousness, oily skin, irritability, diarrhea	Too high: Sluggish thyroid: weight gain, cold hands/feet, fatigue, dry skin, constipation

Na/Mg "Adrenal" Ideal: 4.17:1	Too low: Adrenal insufficiency: fatigue, depression, hypoglycemia, allergies, poor digestion	Too high: Overactive adrenals: inflammation, hypertension, aggressiveness, Type A patterns
Zn/Cu "Zinc-Copper" Ideal: 8:1	Too low: Copper toxicity: acne, PMS, anxiety, spaciness, depression, hair loss, menstrual issues	Too high: Copper deficiency: fatigue, immune weakness, anemia

Note: These ratios apply specifically to unwashed samples analyzed by ICP-AES. Results from labs that wash hair will differ and cannot be interpreted using these standards.

4. Your Oxidation Type: Fast, Slow, or Mixed

HTMA identifies your oxidation type — the rate at which your body converts food to energy — determining which foods, supplements, and lifestyle approaches will actually work for your unique biochemistry. Approximately 80% of adults today are slow oxidizers, often while blood tests appear completely normal.

FAST OXIDIZER Alarm Stage Ca/K < 4:1 & Na/Mg > 4.17:1	MIXED OXIDIZER Resistance Stage Thyroid/adrenal out of sync	SLOW OXIDIZER Exhaustion Stage Ca/K > 4:1 & Na/Mg < 4.17:1
Overactive thyroid & adrenals Signs: High/nervous energy, anxiety, insomnia, irritability, sweating, high blood pressure Needs: Higher fat/protein, calcium & magnesium, reduced sugar	One gland overactive, one underactive Signs: Fluctuating energy, unpredictable symptoms, variable mood Needs: Highly individualized — testing determines which gland to support	Underactive thyroid & adrenals Signs: Fatigue, depression, weight gain, cold intolerance, constipation, allergies, hypoglycemia Needs: Adequate protein, low-fat diet, B vitamins, manganese, zinc, adrenal support

5. What HTMA Detects That Standard Testing Misses

Standard Blood Testing - Measures minerals in transport, not tissue storage - Often normal until the disease is well advanced - Cannot reveal oxidation type or stress stage - Misses hidden copper toxicity in 50%+ of cases - Cannot detect early toxic metal accumulation - Thyroid panels are frequently normal in hypothyroid tissue patterns	Hair Tissue Mineral Analysis (HTMA) - Reads actual tissue mineral storage and activity - Reveals metabolic trends years before symptoms appear - Identifies oxidation type and current stress stage - Detects hidden and bio-unavailable copper patterns - Screens 35+ minerals and toxic metals simultaneously - Adrenal/thyroid function is visible even when blood is "normal."
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6. 10 Mineral Imbalances Commonly Found on HTMA

Based on research by Dr. Paul Eck, Dr. David Watts, and their colleagues — these are among the most frequently identified imbalances and the symptoms they produce, often misattributed to other causes.

Mineral	Imbalance	Common Symptoms	Health Connection
Copper (bio-unavailable)	Excess stored, not usable	Anxiety, depression, brain fog, PMS, skin problems, fatigue, spaciness, hair loss	Adrenal burnout, candida, allergies
Zinc deficiency	Low tissue zinc	Poor wound healing, loss of taste/smell, acne, prostate issues, low appetite, and immunity	Burnout, hypoglycemia, anorexia
Na/K inversion	Na/K below 2.5:1	Chronic fatigue, resentment, kidney/liver stress, allergies, arthritis, heart risk	Adrenal exhaustion, cancer trend
Calcium shell	Bio-unavailable high Ca	Emotional withdrawal, depression, numbness, defensiveness, joint stiffness	Arthritis, slow oxidation, hypothyroid
Magnesium deficiency	Low tissue Mg	Muscle cramps, insomnia, heart palpitations, anxiety, constipation, migraines	Blood sugar dysregulation
Lead accumulation	Elevated tissue Pb	Bone/joint pain, fatigue, depression, nervous system irritability, calcium displacement	Arthritis, neurological stress
Mercury accumulation	Elevated tissue Hg	Fatigue, brain fog, fears, kidney stress, immune impairment, skin issues	Neurological, immune, thyroid
Cadmium accumulation	Elevated tissue Cd	Low back pain, kidney stress, zinc displacement, hypoglycemia, bone loss	Arthritis, diabetes trend
Iron excess	Elevated tissue Fe	Joint inflammation, fatigue, anger, rheumatoid arthritis trend, liver stress	Rheumatoid arthritis, liver

Chromium deficiency	Low tissue Cr	Sugar cravings, blood sugar instability, impaired insulin activity, fatigue	Hypoglycemia, diabetes trend
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7. How the HTMA Process Works with Eileen

Getting a Hair Tissue Mineral Analysis through Eileen is straightforward:

1 Collect your hair sample

A small amount of hair — about 1–2 teaspoons — is cut from the nape of the neck. No special preparation beyond avoiding heavy conditioners or chemical treatments in the days before collection.

2 Send to Trace Elements, Inc.

The sample goes to TEI — founded by Dr. David Watts — analyzed using ICP-AES on an unwashed sample, the only methodology that preserves accurate sodium and potassium readings for proper adrenal assessment.

3 Eileen interprets your results

Your results are interpreted using the nutritional balancing framework developed by Dr. Eck and refined by Dr. Watts. Eileen identifies your oxidation type, stress stage, mineral imbalances, and toxic metal patterns.

4 Receive your personalized protocol

Tailored diet recommendations for your oxidation type, targeted supplements from Trace Elements and/or Endo-met Labs, lifestyle and detoxification guidance. Packages include a screen share or a phone consultation, depending on your preference.

5 Track progress with Eileen's Pattern Report

Eileen's proprietary Pattern Report software visualizes your mineral progression across multiple retests — a unique tool that makes it easy to see exactly how your body chemistry is shifting over time.

6 Retest every 3–4 months

Body chemistry shifts as you heal. Some minerals take months to replenish; toxic metals may only appear on later tests as they mobilize from deep tissue storage. Healing reactions are signs of progress, not setbacks.

Ready to discover your mineral blueprint?

A Hair Mineral Analysis with Eileen includes full interpretation, your oxidation type, a personalized diet and supplement plan, and optional consultation — all grounded in what your body is actually doing at the tissue level.

Eileen's proprietary Pattern Report software tracks your progress across retests so you can see your healing unfold over time.

Order your Hair Mineral Analysis at:

WellnessShoppingOnline.com

Learn more about Eileen's approach at EileenDurfee.com

Hair Mineral Analysis cannot diagnose or treat disease. It is an educational tool used to identify nutritional trends and guide a personalized wellness program.