

HAIR TISSUE MINERAL ANALYSIS RECOMMENDATIONS & REPORT

Name

Trace Elements Test Date: 05/07/2022

Practitioner Received Date: 05/08/2022

Hair Tissue Mineral Analysis (HTMA) is a screening tool that examines mineral and heavy metal levels in hair using mass spectroscopy. As hair grows, it absorbs metabolic products from extracellular fluids, blood, and lymph, which become trapped in the hair as it reaches the surface and hardens. While HTMA specifically measures elements in the hair, the results can be inferred for mineral status in other tissues throughout the body.

When conducted and interpreted correctly, this data provides valuable insights into mineral imbalances and metabolic activity that may not be revealed by other clinical tests, such as blood testing. The blood maintains relatively constant mineral levels to preserve homeostasis, often at the expense of mineral reserves in tissues. This means blood tests may not accurately reflect chronic mineral imbalances or long-term exposure to toxic metals, which accumulate in soft tissues like hair rather than the blood. HTMA provides a unique window into the cells and a more accurate view of long-term mineral and heavy metal accumulation, which offers insights that blood tests might miss.

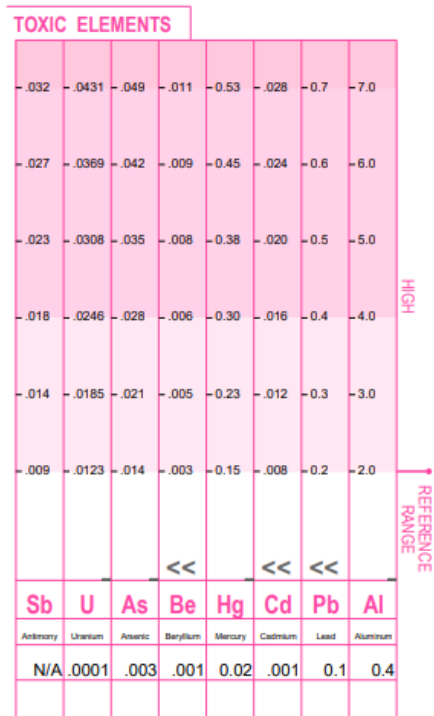
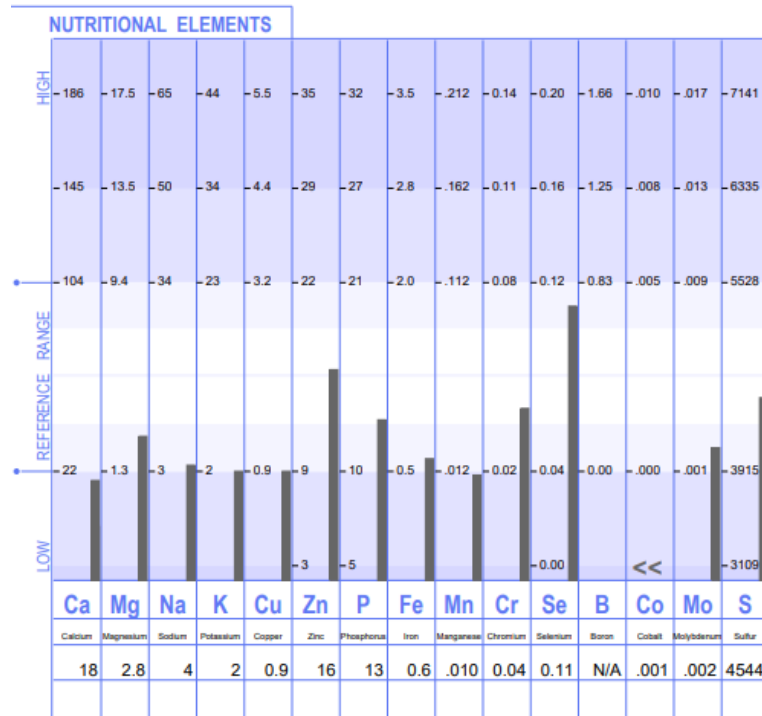
Minerals are essential for maintaining overall health and are known as the "spark plugs" of the body, serving as cofactors in thousands of enzyme reactions, supporting muscle function, nutrient transfer, nerve conduction, and pH balance. Since minerals cannot be produced by the body and must be obtained through food, their importance is heightened by the growing depletion of minerals in our soil, which impacts the mineral content in our food.

This report is intended to assist you and your health care provider in understanding your HTMA results. If your health care provider is interested in HTMA testing for their other patients, please refer them to my website at www.theweetdoc.net.

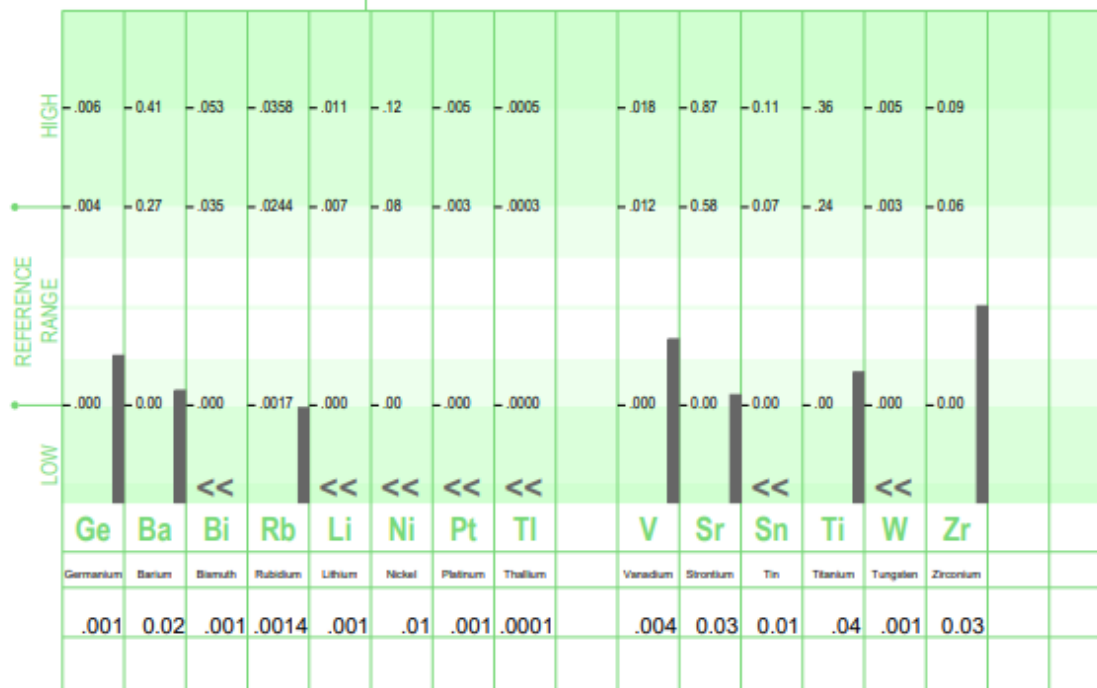
***Disclaimer:** This summary is not intended to diagnose any condition or disease, nor should it be a substitute for a diagnosis from your medical care provider.*



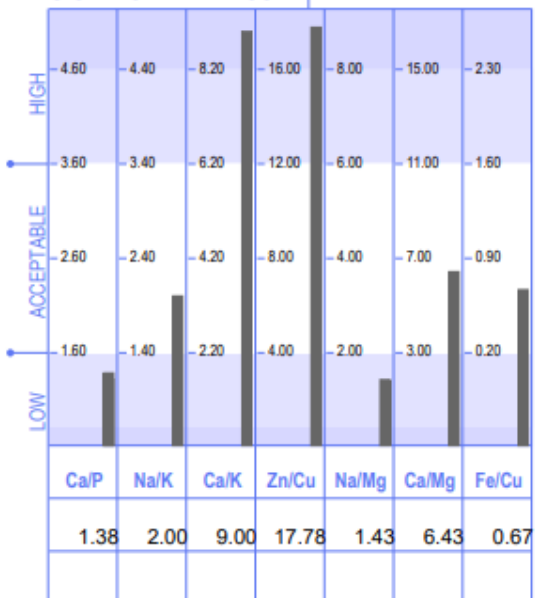
LABORATORY NO.:			
PROFILE NO.: 1		SAMPLE TYPE: SCALP	
PATIENT: Jane Doe		AGE: 58	SEX: F
		METABOLIC TYPE: FAST 4	
REQUESTED BY: Dr. Amanda Cartwright		ACCOUNT NO.:	DATE:



ADDITIONAL ELEMENTS



SIGNIFICANT RATIOS



HTMA Results:

Metabolic Type:

Your pattern reflects a Fast 4 metabolic type, which is associated with sympathetic nervous system dominance. This means your body is operating in a 'fight or flight' mode more often than a 'rest and digest' state. It is a transition stage where both thyroid and adrenal glands show decreased cellular activity, leading to reduced energy production and resilience. The resistance stage seen in your results suggests your system has adapted to ongoing stress, but energy output is not optimal. Your reported use of caffeine and energy drinks, as well as frequent tiredness and disrupted sleep, align with this metabolic trend—where the body seeks stimulation yet struggles to recover fully. Supporting metabolic balance through regular meals, rest, and reduction of stimulants can help optimize your energy and stress adaptation.

Patterns:

Tired Slow Oxidation

This pattern reflects slow oxidation, with reduced sodium and potassium activity, and is often seen in those experiencing fatigue and reduced metabolic drive. The need for rest, relaxation, and nourishment is emphasized, and this pattern is commonly associated with feelings of tiredness, cravings, and reduced stress tolerance. Optimizing this pattern involves prioritizing restorative practices and gradually supporting metabolic function through balanced nutrition and lifestyle adjustments.

Extreme Four Lows

This pattern is characterized by decreased levels of calcium, sodium, magnesium, and potassium, as well as a reduced sodium/potassium ratio. It is often seen in those experiencing chronic stress, lifestyle overwhelm, poor nutrient absorption, or high intake of sugar and caffeine. Psychological symptoms such as fatigue, depression, worry, and withdrawal can be present. The goal with this pattern is to replete mineral reserves slowly, set realistic expectations, and introduce changes gradually, as sensitivity to interventions is common. Supporting gut health, managing stress, and ensuring adequate rest are key steps for optimizing balance.

Ratios:

Calcium/Phosphorus (Autonomic Balance): 1.38

BELOW OPTIMAL

RATIO SIGNIFICANCE: Reflects the balance of autonomic nervous system activity, with a shift toward sympathetic ('fight or flight') dominance that increases brain and muscle activity.

CLINICAL IMPACT: This reflects a tendency toward sympathetic nervous system dominance. This pattern is often associated with increased stress response, muscle tension, and decreased ability to relax.

CONNECTION TO CONCERNS: This trend aligns with your reported sleep disruption, cravings, and energy fluctuations.

Sodium/Potassium (Vitality): 2

BELOW OPTIMAL

RATIO SIGNIFICANCE: Reflects the electrical potential of cells, specifically the sodium (extracellular) to potassium (intracellular) dynamic that governs cellular energy and adrenal response.

CLINICAL IMPACT: This reflects reduced vitality and chronic stress adaptation. This pattern is often associated with decreased resilience and a greater demand for rest and nourishment.

CONNECTION TO CONCERNS: This relates to your reported fatigue, cravings for salt, and difficulty recovering from stress or surgery.

Calcium/Potassium (Thyroid): 9

ABOVE OPTIMAL

RATIO SIGNIFICANCE: Reflects the influence of thyroid hormone on calcium and tissue sensitivity to thyroid function, specifically via calcitonin and potassium dynamics.

CLINICAL IMPACT: This reflects reduced cellular uptake of thyroid hormone and decreased metabolic rate. This pattern is often associated with fatigue and difficulty sustaining energy.

CONNECTION TO CONCERNS: This trend can be seen in patterns related to reduced brain function, weight gain, and persistent fatigue, which matches your concerns about brain health and energy.

Zinc/Copper (Hormonal Stress): 17.78

ABOVE OPTIMAL

RATIO SIGNIFICANCE: Reflects the balance between zinc-driven progesterone/testosterone production and copper's relationship to estrogen, as well as antioxidant function through superoxide dismutase.

CLINICAL IMPACT: This reflects a shift toward progesterone dominance relative to estrogen for women, or increased testosterone for men, with possible antioxidant stress. This pattern is often associated with hormonal fluctuations and oxidative demand.

CONNECTION TO CONCERNS: This relates to your menopausal status, hormonal symptoms, and joint discomfort.

Sodium/Magnesium (Adrenal): 1.43

BELOW OPTIMAL

RATIO SIGNIFICANCE: Represents adrenal influence on sodium retention and magnesium's role in stress response, reflecting aldosterone regulation and adrenal metabolic output.

CLINICAL IMPACT: This reflects reduced adrenal activity and long-term stress adaptation. This pattern is often associated with decreased energy and a need for restorative support.

CONNECTION TO CONCERNS: This trend is linked to your persistent tiredness, sleep challenges, and cravings for salty foods.

Calcium/Magnesium (Blood Sugar): 6.43

OPTIMAL

RATIO SIGNIFICANCE: Represents the balance between calcium's role in insulin release and magnesium's ability to moderate insulin activity, influencing blood sugar stability.

CLINICAL IMPACT: This reflects a balanced blood sugar regulatory dynamic. This pattern is often associated with steadier energy and metabolic function.

CONNECTION TO CONCERNS: This is supportive for your energy and metabolism, which is important given your experiences of excessive hunger and cravings.

Iron/Copper (Infection): 0.67

OPTIMAL

RATIO SIGNIFICANCE: Reflects the efficiency of cellular energy production and electron transport, balancing iron and copper for optimal metabolic function.

CLINICAL IMPACT: This reflects balanced iron and copper dynamics, supporting cellular energy and resilience. This pattern is often associated with stable metabolic function.

CONNECTION TO CONCERNS: This balance supports your foundational energy production, which is important given your concerns with fatigue and brain health.

Copper/Molybdenum (Copper Imbalance): 450

BELOW OPTIMAL

RATIO SIGNIFICANCE: Represents the dynamic between copper and molybdenum, with molybdenum opposing copper to support detoxification and stress adaptation.

CLINICAL IMPACT: This reflects a copper imbalance and possible stress on detoxification pathways. This pattern is often associated with sensitivity to environmental exposures and reduced resilience.

CONNECTION TO CONCERNS: This trend is relevant to your history of mold exposure and reported headaches.

Nutritional Elements:

Calcium: 18

BELOW OPTIMAL

SOURCES: Dairy, sardines, leafy greens, almonds, sesame seeds.

CLINICAL IMPACT: This reflects reduced calcium reserves, which can affect bone, nerve, and muscle function.

CONNECTION TO CONCERNS: This trend is often associated with joint discomfort, muscle cramps, and brittle nails, which you have reported.

Magnesium: 2.8

BELOW OPTIMAL

SOURCES: Leafy greens, nuts, seeds, legumes, dark chocolate.

CLINICAL IMPACT: This reflects reduced magnesium reserves, which can affect muscle function, nerve signaling, and stress adaptation.

CONNECTION TO CONCERNS: This trend is often linked to muscle tension, sleep disruption, and constipation, all of which you have described.

NOTE: Magnesium relaxes smooth muscle and is essential for bowel motility. You are currently taking a magnesium complex supplement; however, I do feel this needs to be a specific form of magnesium to increase your levels optimally.

Sodium: 4

BELOW OPTIMAL

SOURCES: Salt, sea vegetables, celery, beets, mineral-rich broths.

CLINICAL IMPACT: This reflects reduced adrenal activity and diminished cellular energy.

CONNECTION TO CONCERNS: This trend matches your cravings for salt, fatigue, and experiences of stress.

Note: Sodium drives hydrochloric acid production, adrenal function, and fluid balance. With sodium this low, digestive enzyme output, gut motility, and sleep are going to suffer.

Potassium: 2

BELOW OPTIMAL

SOURCES: Bananas, potatoes, avocados, leafy greens, beans.

CLINICAL IMPACT: This reflects reduced potassium reserves, affecting fluid balance, nerve function, and muscle contraction.

CONNECTION TO CONCERNS: This trend contributes to muscle cramps, fatigue, and irregular bowel function, all of which you have experienced.

Note: Potassium powers the migrating motor complex and peristaltic action in the gut. It is not a surprise you are not having everyday bowel movements because potassium is so important for peristaltic action. As far as weight problems, the body often holds weight when it is in a low-mineral, stressed state because it is trying to retain resources. As for having trouble going to sleep, low sodium and potassium are strongly tied to sleep issues.

Copper: 0.9

BELOW OPTIMAL

SOURCES: Shellfish, nuts, seeds, organ meats, whole grains, cocoa.

CLINICAL IMPACT: This reflects reduced copper reserves, which can impact iron absorption, connective tissue formation, and energy production.

CONNECTION TO CONCERNS: This trend is relevant to your joint health, thinning eyebrows, and hormonal changes.

Zinc: 16

OPTIMAL

SOURCES: Shellfish, beef, pumpkin seeds, lentils, eggs.

CLINICAL IMPACT: This reflects an optimal zinc status, supporting immune, hormonal, and cognitive function.

CONNECTION TO CONCERNS: This is supportive for your immune health and hormone balance, which are relevant given your menopause and joint concerns.

Phosphorus: 13

OPTIMAL

SOURCES: Meat, dairy, fish, legumes, nuts.

CLINICAL IMPACT: This reflects optimal phosphorus status, supporting energy production and bone health.

CONNECTION TO CONCERNS: This supports your foundational energy and bone strength, which is important as you recover from surgery.

NOTE: Your phosphorus is just barely above the digestion insufficiency threshold of <12. Low phosphorus is associated with impaired protein synthesis and lowered vitality, which slows digestion overall.

Iron: 0.6

BELOW OPTIMAL

SOURCES: Red meat, organ meats, beans, leafy greens, fortified grains.

CLINICAL IMPACT: This reflects reduced iron reserves, which can be associated with compromised oxygen transport and cellular energy production.

CONNECTION TO CONCERNS: This trend is often seen in patterns related to fatigue, brain fog, and reduced exercise tolerance, all of which you have reported.

Manganese: 0.01

BELOW OPTIMAL

SOURCES: Whole grains, nuts, leafy vegetables, tea.

CLINICAL IMPACT: This reflects reduced manganese reserves, which can impact bone health and antioxidant defense.

CONNECTION TO CONCERNS: This trend is relevant to your joint discomfort and contributes to reduced resilience.

Chromium: 0.04

OPTIMAL

SOURCES: Broccoli, egg yolks, whole grains, meats.

CLINICAL IMPACT: This reflects optimal chromium status, supporting blood sugar balance.

CONNECTION TO CONCERNS: This supports stable energy and helps with cravings for sugar.

Selenium: 0.11

ABOVE OPTIMAL

SOURCES: Brazil nuts, seafood, eggs, whole grains.

CLINICAL IMPACT: This reflects increased selenium intake or retention, supporting antioxidant defense and thyroid function.

CONNECTION TO CONCERNS: This trend is supportive for immune and thyroid health, which is relevant as you navigate recovery and hormonal changes.

Cobalt: 0.001

BELOW OPTIMAL

SOURCES: Animal proteins, organ meats, shellfish, eggs, dairy.

CLINICAL IMPACT: This reflects reduced vitamin B12 synthesis and support for neurological function.

CONNECTION TO CONCERNS: This trend can be linked to your concerns about brain health and energy.

Molybdenum: 0.002

BELOW OPTIMAL

SOURCES: Legumes, grains, nuts, leafy vegetables.

CLINICAL IMPACT: This reflects reduced molybdenum reserves, which can impact detoxification and uric acid metabolism.

CONNECTION TO CONCERNS: This trend relates to your environmental exposures, headaches, and joint symptoms.

Sulfur: 4544

OPTIMAL

SOURCES: Eggs, garlic, onions, cruciferous vegetables, animal proteins.

CLINICAL IMPACT: This reflects optimal sulfur status, supporting detoxification and connective tissue health.

CONNECTION TO CONCERNS: This supports your body's capacity for detox and joint maintenance.

Toxic Elements:

Uranium: 0.0001

OPTIMAL

SOURCES: Groundwater, phosphate fertilizers.

CLINICAL IMPACT: This reflects uranium within the optimal range, supporting kidney and bone health.

CONNECTION TO CONCERNS: This supports your body's ability to maintain mineral balance and resilience.

Arsenic: 0.003

OPTIMAL

SOURCES: Seafood, rice, contaminated water.

CLINICAL IMPACT: This reflects arsenic within the optimal range, supporting overall health.

CONNECTION TO CONCERNS: This is reassuring considering your concerns about environmental exposures.

Beryllium: 0.001

OPTIMAL

SOURCES: Industrial exposure, electronics.

CLINICAL IMPACT: This reflects beryllium within the optimal range, reducing toxic burden.

CONNECTION TO CONCERNS: This is supportive for your detoxification pathways.

Mercury: 0.02

OPTIMAL

SOURCES: Seafood, dental fillings, environmental exposure.

CLINICAL IMPACT: This reflects mercury within the optimal range, minimizing its impact on neurological and metabolic function.

CONNECTION TO CONCERNS: This is positive given your history of mercury fillings and concerns about brain health.

Cadmium: 0.001

OPTIMAL

SOURCES: Cigarette smoke, shellfish, organ meats, contaminated water.

CLINICAL IMPACT: This reflects cadmium within the optimal range, reducing strain on detox and kidney function.

CONNECTION TO CONCERNS: This is supportive for your overall resilience and recovery.

Lead: 0.1

OPTIMAL

SOURCES: Old pipes, paint, contaminated water or dust.

CLINICAL IMPACT: This reflects lead within the optimal range, reducing the burden on detoxification systems.

CONNECTION TO CONCERNS: This is supportive given your environmental exposures and focus on brain health.

Aluminum: 0.4

OPTIMAL

SOURCES: Cookware, antacids, processed foods, water.

CLINICAL IMPACT: This reflects aluminum within the optimal range, minimizing its impact on nervous system function.

CONNECTION TO CONCERNS: This is supportive for your brain health and overall resilience.

Additional Elements:

Germanium: 0.001

OPTIMAL

SOURCES: Vegetables, grains, ginseng.

CLINICAL IMPACT: This reflects germanium within the optimal range, supporting immune and metabolic health.

CONNECTION TO CONCERNS: This supports your resilience and immune balance.

Barium: 0.02

OPTIMAL

SOURCES: Contaminated water, industrial exposure.

CLINICAL IMPACT: This reflects barium within the optimal range, supporting kidney and cardiovascular health.

CONNECTION TO CONCERNS: This supports your overall mineral status.

Bismuth: 0.001

OPTIMAL

SOURCES: Medications, cosmetics, water.

CLINICAL IMPACT: This reflects bismuth within the optimal range, supporting detoxification.

CONNECTION TO CONCERNS: This is supportive for your metabolic and detox pathways.

Rubidium: 0.0014

OPTIMAL

SOURCES: Vegetables, grains, mineral-rich soils.

CLINICAL IMPACT: This reflects rubidium within the optimal range, supporting mineral balance.

CONNECTION TO CONCERNS: This supports your overall mineral status.

Lithium: 0.001

BELOW OPTIMAL

SOURCES: Mineral water, vegetables, grains.

CLINICAL IMPACT: This reflects reduced lithium reserves, which can impact mood and neurological resilience.

CONNECTION TO CONCERNS: This trend is relevant to your mood changes, sleep disruption, and feelings of depression.

Nickel: 0.01

OPTIMAL

SOURCES: Stainless steel, jewelry, coins, foods.

CLINICAL IMPACT: This reflects nickel within the optimal range, minimizing allergic and toxic risk.

CONNECTION TO CONCERNS: This is beneficial for your resilience and immune function.

Platinum: 0.001

OPTIMAL

SOURCES: Dental work, industrial exposure.

CLINICAL IMPACT: This reflects platinum within the optimal range, minimizing toxic burden.

CONNECTION TO CONCERNS: This is beneficial for your neurological and detox health.

Thallium: 0.0001

OPTIMAL

SOURCES: Industrial pollution, contaminated water.

CLINICAL IMPACT: This reflects thallium within the optimal range, minimizing toxic burden.

CONNECTION TO CONCERNS: This is supportive for your neurological and metabolic resilience.

Vanadium: 0.004

OPTIMAL

SOURCES: Shellfish, mushrooms, black pepper, parsley.

CLINICAL IMPACT: This reflects vanadium within the optimal range, supporting blood sugar regulation.

CONNECTION TO CONCERNS: This supports your blood sugar balance and energy stability.

Strontium: 0.03

OPTIMAL

SOURCES: Seafood, leafy greens, drinking water.

CLINICAL IMPACT: This reflects strontium within the optimal range, supporting bone health.

CONNECTION TO CONCERNS: This is supportive for your bone and joint health.

Tin: 0.01

OPTIMAL

SOURCES: Canned foods, cookware, groundwater.

CLINICAL IMPACT: This reflects tin within the optimal range, minimizing non-essential element burden.

CONNECTION TO CONCERNS: This is supportive for your mineral balance and resilience.

Titanium: 0.04

OPTIMAL

SOURCES: Cookware, cosmetics, dental implants.

CLINICAL IMPACT: This reflects titanium within the optimal range, reducing non-essential element burden.

CONNECTION TO CONCERNS: This supports your mineral and metabolic balance.

Tungsten: 0.001

OPTIMAL

SOURCES: Industrial exposure, groundwater.

CLINICAL IMPACT: This reflects tungsten within the optimal range, supporting metabolic health.

CONNECTION TO CONCERNS: This is beneficial for your detoxification capacity.

Zirconium: 0.03

OPTIMAL

SOURCES: Industrial exposure, ceramics, water.

CLINICAL IMPACT: This reflects zirconium within the optimal range, reducing non-essential element burden.

CONNECTION TO CONCERNS: This supports your mineral balance and resilience.

HTMA Results Summary:

Your HTMA profile reveals patterns that reflect reduced metabolic activity, mineral depletion, and stress adaptation. The trends seen in your mineral ratios and single elements are often associated with experiences like reduced energy, cravings for sugar and salt, disrupted sleep, joint discomfort, and digestive irregularities. These findings are consistent with your reported history of brain health concerns, weight gain, joint issues, and digestive challenges. The combination of reduced sodium, potassium, calcium, and magnesium, alongside patterns such as Four Lows and tired slow oxidation, are linked to long-standing stress, possible nutrient absorption challenges, and lifestyle factors including caffeine and energy drink intake. Your history of menopause, knee scope recovery, and possible mold exposure also provide important context for understanding your current mineral status and symptoms.

Dietary Recommendations

I understand that finding nutrient-dense foods at the grocery store can be challenging, but please remember that small, consistent changes can make a meaningful difference over time. Before turning to supplementation, I encourage you to focus on the dietary changes outlined below as your first step. Do the best you can with the options available to you, and don't feel that you have to change everything at once. You mentioned that you eat out approximately 50% of the time. If possible, gradually reduce this and prepare more meals at home, where you have greater control over ingredient quality, cooking methods, and nutrient content. Restaurant meals can sometimes contain excessive sodium and fewer nutrient-dense ingredients, and some establishments may use aluminum cookware. Even replacing a few restaurant meals each week with balanced, home-prepared meals is a positive step toward supporting your body's nutritional needs. Remember, progress—not perfection—is the goal!

The Slow Oxidation diet is designed to support metabolic activity, stabilize blood sugar, and improve overall energy. It emphasizes moderate protein at every meal, balanced with moderate carbohydrates and fats. Carbohydrates such as white rice, potatoes, sweet potatoes, and fruit are encouraged to support metabolism, while protein sources include poultry, beef, fish, and eggs. Meals should be consistent—three times per day, with breakfast within one hour of waking, and snacks if needed. There is a focus on cooked, easily digestible foods, mineral-rich carbohydrates, and adequate sodium, with avoidance of prolonged fasting, restrictive diets, or using caffeine in place of meals. Processed foods, refined sugars, and industrial seed oils are minimized to reduce stress on the system and support gradual metabolic improvement.

For you, given your reported sugar and salt cravings, digestive irregularities, and use of caffeine and energy drinks, this dietary approach offers a way to nourish your body more consistently. Incorporating regular, balanced meals with protein and mineral-rich carbohydrates can help

stabilize your energy and reduce excessive hunger and cravings. Choosing cooked foods may ease digestive discomfort and constipation, while freely salting your meals supports adrenal function. As you recover from knee surgery and address joint and brain health, focusing on whole, nutrient-dense foods—such as eggs, seafood, and colorful produce—can provide essential minerals. Reducing energy drinks and processed products, and opting for simple, repeatable meals, will help you build sustainable dietary habits that align with your current needs and goals.

Supplement Recommendations

These recommendations are designed around how your body is functioning right now, so the supplements are chosen to support your specific mineral patterns, energy needs, and stress response, and to help your system rebuild in a steady, supportive way. These supplements can be synthetic supplements; however, I do recommend whole food supplements when possible. They are more expensive and usually only found in natural health food stores/online. I do have the option of using a company called Vykon Customs which can customize a capsule or powder for drinking with the exact minerals your body needs. It is pricey but helpful. If interested, I can get you an estimate on costs. If not, try supplementing with what you can purchase in stores/online.

1. Adrenal cocktail or Redmond Re-Lyte

Adrenal cocktail <https://a.co/d/044HVdpS> or a balanced electrolyte powder like Redmond Re-Lyte <https://a.co/d/0gxrw4OG> can help balance your calcium, magnesium, sodium, and potassium levels.

2. Coconut water

Coconut water because it is high in potassium and it is so important for peristaltic action in the gut. <https://a.co/d/0epzm6Gy> Any other brand would work as well.

3. Magnesium

400 mg Magnesium glycinate. <https://a.co/d/04W9iudI> You are already taking magnesium complex but with your magnesium level at 2.8, you need more. If this were me, I would stop taking the complex. The adrenal cocktail or Redmond Re-Lyte will have some in it but I feel you need additional. It is best to take this at night.

If the coconut water doesn't help increase bowel movements to 1-2 per day, it may be beneficial to take 100 mg magnesium citrate <https://a.co/d/04wZ2K77> daily for 4-10 days. Only consume until stools soften and become more frequent. Once this happens, stop taking the magnesium citrate and take the magnesium glycinate daily. I do not recommend a temporary stool softener because this would only add to the mineral depletion.

4. Digestive Bitters

Low sodium, potassium, and cobalt on an HTMA test all point toward reduced digestive secretions and lower hydrochloric acid production. Digestive bitters can help 'rev up' your digestion. They come in the form of either an extract or a tincture and you place a small amount in your mouth and swallow about five minutes before consuming food.

With your faster metabolism, I would suggest starting with a mild digestive bitter like dandelion root. You can pick either an extract or tincture. You can also purchase or make your own. I typically also recommend one of the following or a Betaine HCL and probiotics but with your digestion and minerals, I think the extract or tincture is your best route.

- A. Dandelion root tincture. A good place to purchase this is from <https://bit.ly/3Io3YOd>

It is hard to find a true tincture for purchase in store or online. The problem with true tinctures is they don't taste great but they are more potent so you only need around a teaspoon before meals.

- B. Dandelion root extract. There are several places in which you can purchase this both in store and online. I've found good luck with this online company. <https://get.aspr.app/SHpJt>
Extracts are made with glycerin which is sweet so they do taste better but unfortunately not as potent as true tinctures. You would need to consume around a tablespoon of this before meals.

5. Amino Acids

Amino acids are one of 4 basic raw materials the body needs to function properly (vitamins, minerals, amino acids, and fatty acids). They are the building blocks of protein which means we need them in order to break down proteins. Our bodies make some amino acids on its own but there are some that we either must receive

through diet or through supplementation. Perfect Aminos is a brand I enjoy but any would do. Here is a link <https://a.co/d/01g49N95> It comes in powder or capsule form. You can also receive amino acids through foods such as poultry, fish, eggs, dairy, quinoa, amaranth, buckwheat, chia seeds, hemp seeds, pistachio nuts, and pumpkin seeds. Herbal options include spirulina, fennel seeds, basil, mint, and sage.

6. Fatty Acids

Fatty Acids are the building blocks of fats which means we need them in order to break down fats. Our bodies use this for energy and to break down vitamins properly. Fatty acids are broken down into omega 3's and 6's. Our diet typically provide us all the omega 6's we need but most people are lacking in omega 3's so I recommend a fish oil capsule daily. Here is a link. <https://a.co/d/0e5zecv7> but any brand would work.

7. B Vitamins

B vitamins are something almost everyone is deficient in so I recommend adding nutritional yeast to foods because this is a nutritional source of b vitamins. It is something you just sprinkle on top of foods before consuming. It tastes a little like powdered cheese. Here is a link <https://a.co/d/0fWNa0il> but any brand would work.

8. Iodine

Almost every person is deficient in iodine. The recommended daily allowance isn't really enough for our bodies to function properly and with fluoride in the water system, which can deplete iodine (and later cause thyroid issues), it is essential we supplement with it but I do not recommend a capsule supplement unless there is documented evidence the iodine level is extremely low. I recommend getting kelp flakes or powder and sprinkling it on foods. It just seasons it, doesn't change the taste of foods. I recommend <https://a.co/d/05ef3JSF> but any would work.

Herbal Recommendations

- Dandelion root (extract or tincture) for digestion absorption.
- Nettle tea can help support mineral absorption.
- Possibly triphala which is an herbal blend to help bowel motility. This is one that we need to wait on to see if the magnesium/potassium strategy works.

Lifestyle Recommendations

Given your mineral patterns and concerns with joint health, sleep, and energy, it is beneficial to consider gradually reducing energy drink, Gatorade zero, and caffeine intake, especially later in the day, to support more stable energy and sleep. Also, drinking filtered or spring water instead of tap water will help minimize exposure to environmental elements.

Retest Recommendation

It is recommended to have a repeat HTMA test in 3-6 months after beginning the recommendations listed above.

Note

- Your body is so currently depleted that minerals are not being retained or utilized properly. Being in a 4 low pattern, you can become overwhelmed easily. If all the recommendations above seem overwhelming, please only concentrate on one thing....the adrenal cocktail. This will help get the minerals in a better place and you can concentrate on everything else later on.
- If you have heartburn or acid reflux, it is recommended to not take acid reducers. This reduces mineral absorption and can worsen constipation over time.

- Hidden copper is very possible with your copper at 0.9 and zinc at 16. It appears your copper isn't binding to ceruloplasmin because of your symptoms of brain issues, joint issues, digestive issues, and sleep trouble. These are all commonly tied to copper imbalance. Hidden copper can push potassium down because copper is excitatory and creates oxidative stress, and potassium is often lost in that pattern. I do feel that if you balance your main minerals, your copper imbalance may equalize. If it does not on a retest, I may recommend vitamin A, vitamin C, adrenal support, liver support, manganese, and possibly a zeolite binder.

Of course, speak with your health care provider about these recommendations. If you have follow-up questions, I am happy to help.

Thank you.



Dr. Amanda P. Cartwright
www.theweetdoc.net