



HTMA Personalized Summary
interpreted by:
Rebecca Yenchik CMS, CNC, hTMAP

This summary contains your Trace Elements hair analysis report (HTMA), my written analysis of your results, your detailed mineral ratios, my suggested supplements, and recommendations for you to attain optimal health.

LABORATORY NO.:

PROFILE NO.: **1**

SAMPLE TYPE: **SCALP**

PATIENT:

AGE: **59**

SEX: **M**

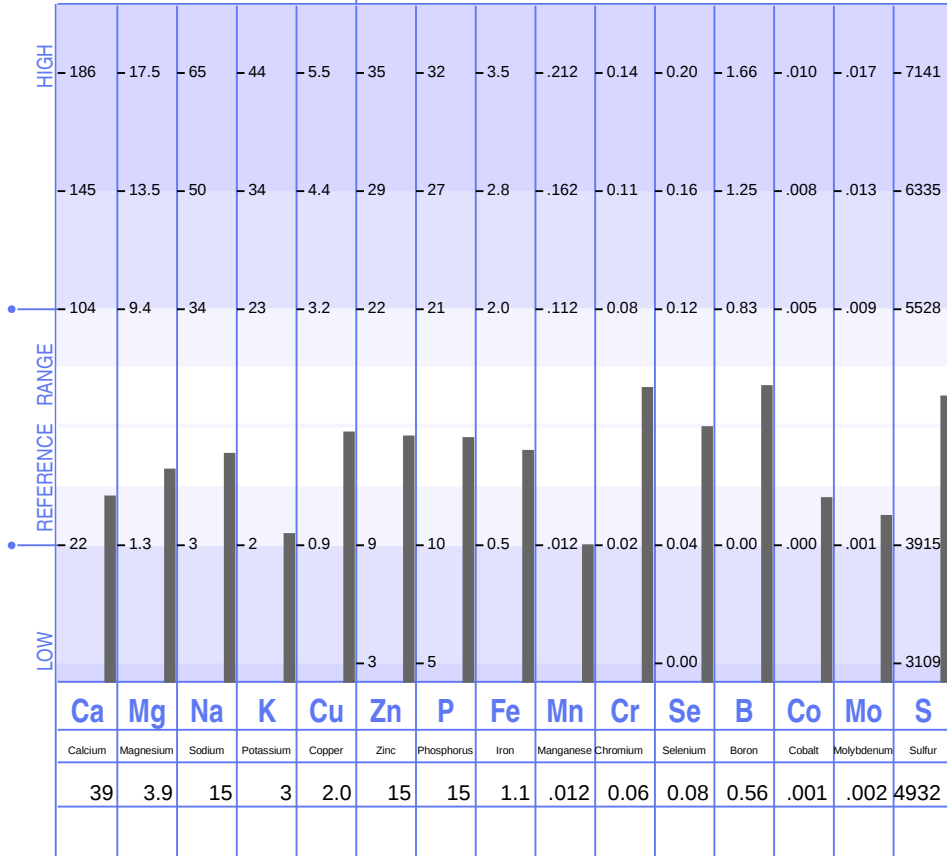
METABOLIC TYPE: **FAST 4**

REQUESTED BY:

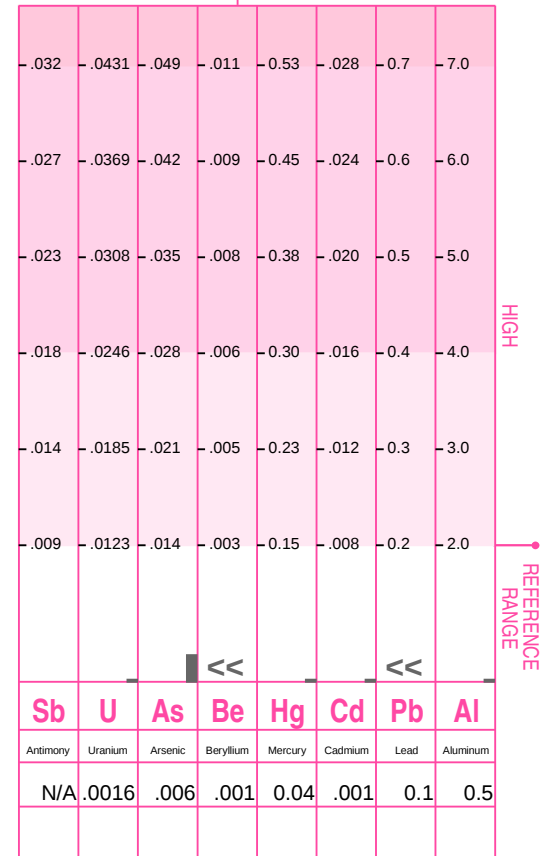
ACCOUNT NO.:

DATE:

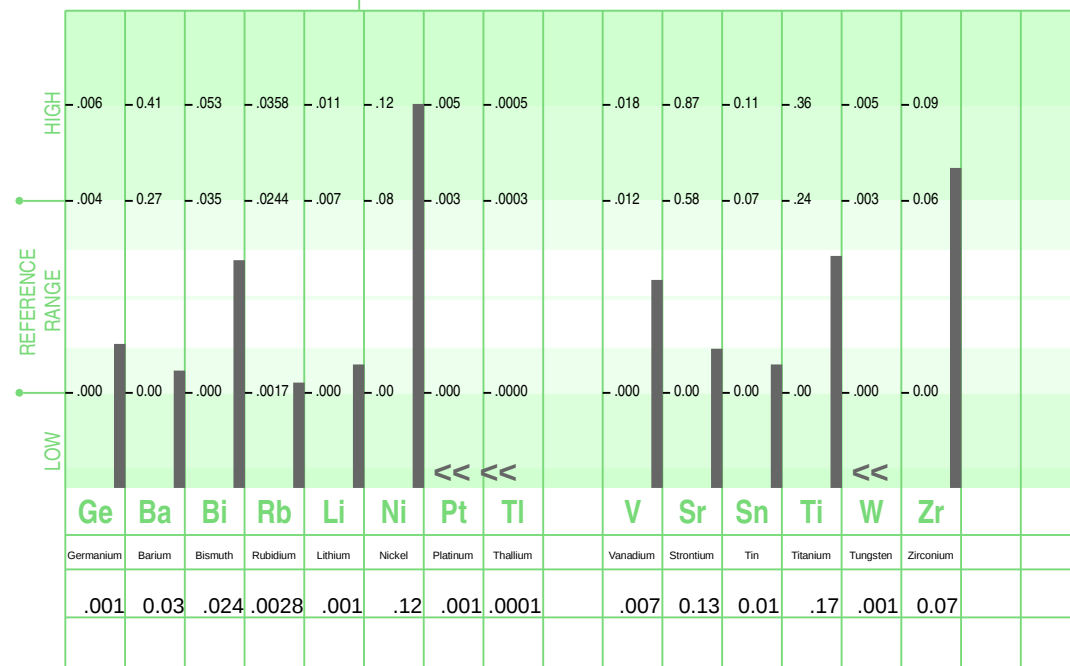
NUTRITIONAL ELEMENTS



TOXIC ELEMENTS



ADDITIONAL ELEMENTS



"<<": Below Calibration Limit; Value Given Is Calibration Limit

"QNS": Sample Size Was Inadequate For Analysis.

"N/A": Currently Not Available

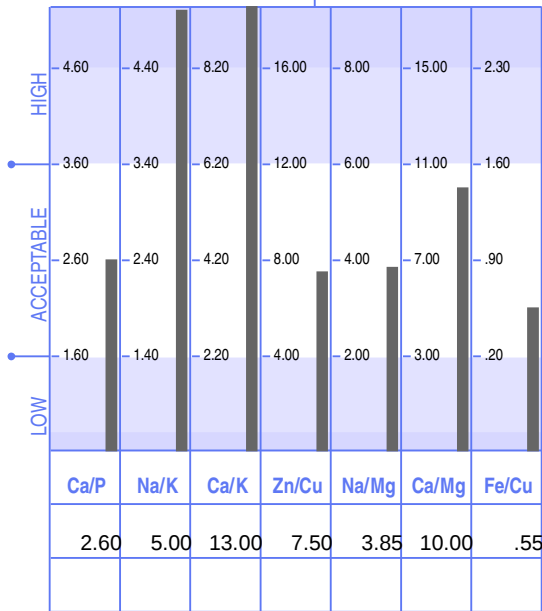
Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

Laboratory Analysis Provided by Trace Elements, Inc. an H. H. S. Licensed Clinical Laboratory. No. 45 D0481787 Lab Dir: P. Mendershausen, Ph.D.

CURRENT TEST RESULTS

PREVIOUS TEST RESULTS

SIGNIFICANT RATIOS



TOXIC RATIOS



ADDITIONAL RATIOS

RATIO	CALCULATED VALUE		EXPECTED
	Current	Previous	
Ca/Sr	300.00		263/1
Cr/V	8.57		8/1
Cu/Mo	1000.00		356/1
Fe/Co	1100.00		615/1
K/Co	3000.00		6350/1
K/Li	3000.00		6350/1
Mg/B	6.96		21/1
S/Cu	2466.00		2668/1
Se/Tl	800.00		370/1
Se/Sn	8.00		3.2/1
Zn/Sn	1500.00		624/1

LEVELS

All mineral levels are reported in milligrams percent (milligrams per one-hundred grams of hair). One milligram percent (mg%) is equal to ten parts per million (ppm).

NUTRITIONAL ELEMENTS

Extensively studied, the nutrient elements have been well defined and are considered essential for many biological functions in the human body. They play key roles in such metabolic processes as muscular activity, endocrine function, reproduction, skeletal integrity and overall development.

TOXIC ELEMENTS

The toxic elements or "heavy metals" are well-known for their interference upon normal biochemical function. They are commonly found in the environment and therefore are present to some degree, in all biological systems. However, these metals clearly pose a concern for toxicity when accumulation occurs to excess.

ADDITIONAL ELEMENTS

These elements are considered as possibly essential by the human body. Additional studies are being conducted to better define their requirements and amounts needed.

RATIOS

A calculated comparison of two elements to each other is called a ratio. To calculate a ratio value, the first mineral level is divided by the second mineral level.

EXAMPLE: A sodium (Na) test level of 24 mg% divided by a potassium (K) level of 10 mg% equals a Na/K ratio of 2.4 to 1.

SIGNIFICANT RATIOS

If the synergistic relationship (or ratio) between certain minerals in the body is disturbed, studies show that normal biological functions and metabolic activity can be adversely affected. Even at extremely low concentrations, the synergistic and/or antagonistic relationships between minerals still exist, which can indirectly affect metabolism.

TOXIC RATIOS

It is important to note that individuals with elevated toxic levels may not always exhibit clinical symptoms associated with those particular toxic minerals. However, research has shown that toxic minerals can also produce an antagonistic effect on various essential minerals eventually leading to disturbances in their metabolic utilization.

ADDITIONAL RATIOS

These ratios are being reported solely for the purpose of gathering research data. This information will then be used to help the attending health-care professional in evaluating their impact upon health.

REFERENCE INTERVALS

Generally, reference intervals should be considered as guidelines for comparison with the reported test values. These reference intervals have been statistically established from studying an international population of "healthy" individuals.

Important Note: The reference intervals should not be considered as absolute limits for determining deficiency, toxicity or acceptance.



HTMA - SUMMARY 10/##/2021

Fast and slow metabolizer types are ways that the body responds to stress. The stress may be from within, such as nutrient deficiencies or fatigue. Stress may also arise from a multitude of external sources, this may be from intense exercise, medications, or even occupational stress.

You are a fast oxidizer. This means you use your minerals very quickly and often have low levels of calcium and magnesium. This results in increased adrenal activity and thyroid function. Overall, vitality is lost, and one can feel restless and edgy. Anxiety may often be present in a fast oxidizer. Looking at one's lifestyle, work habits, and stressors are important for improving the minerals of this pattern. Reduce strenuous, intense exercise. Practicing meditation, Pilates, or yoga are better choices for staying healthy and reducing stress. **FAST 4** - this level of a fast oxidizer is handled similarly to a slow oxidizer due low sodium and potassium. This pattern will tolerate magnesium a little better than a slow oxidizer, but it is best not to overdo it.

Low calcium – yours 39 – ideal ## – Calcium and magnesium work together to maintain blood sugar. Calcium is necessary for a healthy nervous system. Low calcium can lead to impaired thyroid function, blood sugar issues, muscle tension, sleep issues, and anxiety. Bringing magnesium, sodium, and potassium into balance with help regulate calcium in the body.

Low magnesium - yours 3.9 - ideal ## – Your magnesium level is too low. This indicates a magnesium deficiency. Low sodium and potassium can make it difficult to restore and maintain magnesium. Adrenal support is necessary. A low magnesium level can make sleep difficult, induce anxiety, depression may be present, and low energy. You may also have a low tolerance for stress. This pattern will do better with increased magnesium food intake or possible magnesium supplementation if diet is very low in magnesium.

Low sodium – yours 15 – ideal ## – Your sodium level is too low. Sodium is necessary for fluid balance, blood pressure, and energy. Most importantly, sodium is necessary in the production of stomach acid. Increased sodium is needed for this pattern. Low hair sodium on an HTMA is an excellent indicator of impaired adrenal gland activity. A very low sodium is indicative of exhaustion. Excessive magnesium supplementation will lower sodium levels.

Low potassium – yours 3 – ideal ## – Your potassium is low. Low potassium increases the stress response which can lead to anger, anxiety, fatigue, and depression. Sleep issues are common with low potassium. Low potassium results in overall loss of vitality

and muscle cramping. Potassium is necessary for good blood pressure and energy. Low potassium can sometimes be an indicator of "[copper toxicity](#)". Isolated vitamin D supplementation will lower potassium while driving calcium at times too high. Mercury toxicity can also keep potassium levels too low. Mercury blocks the potassium channel, hindering absorption. We do not have a bodily store for potassium. We must take in approximately 4700 mgs. a day of potassium rich foods.

Low copper – yours 2.0 – ideal ## – Your copper is too low. Copper is necessary for immunity, healthy skin, and is necessary for proper estrogen production. Copper is also antibacterial and antifungal.

Low zinc -yours 15 – ideal ## – Your zinc is low. Zinc is necessary for immunity and is important for progesterone/testosterone production. Zinc can be low from poor digestion and absorption. Zinc may also be low if experiencing copper toxicity.

Low phosphorus – yours 15 - ideal ## – Your phosphorus level is low. Phosphorus is derived from protein. A low phosphorus level is frequently associated with inadequate protein synthesis. Although most diets are adequate in phosphorus, those on low-protein diets or vegetarians may have a low phosphorus intake. Zinc is required for protein synthesis. Often a low phosphorus level is associated with a Zinc deficiency, cadmium toxicity or zinc loss. When these imbalances are corrected, the phosphorus level improves. A low phosphorus level may be due to poor digestion or assimilation of protein. This may be due to digestive enzyme deficiency or low hydrochloric acid level.

Low iron – yours 1.1 – ideal ## – This level is likely low from poor absorption. Iron should rise when digestion and absorption improve. Iron is necessary to prevent anemia, as well as to form healthy hemoglobin. Hemoglobin is essential for moving oxygen into your blood from the lungs. Symptoms of low iron can be fatigue, restless legs, low stamina, and shortness of breath. Iron may be low if experiencing copper toxicity.

Low manganese – yours .012 – ideal ##– Your level is low likely to poor absorption. Deficiency symptoms may include impaired growth, skeletal defects, ataxia in newborns, and defects in metabolism. Manganese is involved in the formation of bone, amino acids, cholesterol, and carbohydrate metabolism. It also has a major role in cartilage formation. Excessive calcium inhibits manganese absorption.

Low chromium – yours .06 - ideal ##– Your chromium is low. Chromium is critical for carbohydrate, lipid, and nucleic acid metabolism. Chromium enhances the effects of insulin. It is an important part of the glucose tolerance factor. The glucose tolerance factor is believed to help glucose move across the cell surface.

Ideal selenium – yours .08 – ideal ## – Your selenium is ideal.

Low boron – .56 – ideal - ## – Your boron level is high; this indicates this mineral is under stress. Likely from magnesium deficiency. Boron is necessary for magnesium absorption. It is also essential for bone growth. Boron can impact the body's estrogen and testosterone.

Low cobalt - yours .001 – ideal ## – Your cobalt level is low. Cobalt is needed for supporting energy, metabolism, and mental health. A lack of stomach acid can contribute to a lack of vitamin B12, which is made in the body using cobalt. This element is mainly stored in the liver, activates numerous enzymes, and is excreted in bile.

Low molybdenum – yours .002 – ideal ## – Your molybdenum level is low. Molybdenum is necessary for keeping copper in check. Low levels of molybdenum may be due to excess copper. Molybdenum absorption is antagonized by copper, sulfur, methionine, and a high-protein diet. Molybdenum can bind directly to copper and facilitates its removal. The main known function of molybdenum in humans is to act as a catalyst for enzymes and to help facilitate the breakdown of certain amino acids in the body. Molybdenum also plays a role in sulfur metabolism.

High sulfur – yours 4932 – ideal #### – Your sulfur is slightly high. Adequate sulfur levels are important for detoxification. Maintain intake of nuts, onions, garlic, shallots, and eggs in your diet.

TOXIC ELEMENTS

Toxic Elements are in range currently.

ADDITIONAL ELEMENTS

Your nickel is high. Hair is commonly contaminated with nickel from hair treatments and dyes. Nickel has been reported to produce more instances of dermatitis than any other metal. Dermatitis most often occurs after ear piercing when nickel-plated earrings are inserted. The nickel is then absorbed, triggering dermatological conditions. Nickel can also be found in ground water. Nickel has also been found in many tea brands; this includes organics too.

Your zirconium is high. Zirconium is toxic to humans, and it is also radioactive, it is considered an irritant at low levels and higher levels are considered dangerous to life and health. Zirconium regardless of its toxicity and radio-activeness is used in many of today's common products such as cosmetics, deodorants, toothpaste, mouthwash and is used in the making the of composite resin fillings or to replace metal amalgams. Zirconium is also used to make surgical appliances, glass, jewelry and is a sweat inhibitor. It's very common to see this metal in anti-perspirants. Symptoms associated with zirconium toxicity vary depending on the amount you are currently exposed to, here are some of the more common symptoms: adrenal insufficiency, hyperparathyroidism, poor digestion, acne, hypothyroidism, fatigue, hypertension, and skin irritation. Zirconium toxicity also becomes a problem when it replaces or increases the needs for essential nutrients such as potassium. When potassium becomes depleted, zirconium takes its place and causes a decline in health.

Most often, toxic elements and additional elements appear due to lack of other necessary minerals to combat them. When your minerals status improves, so will your ability to prevent the absorption of toxic elements.

Significant Ratios

Mineral ratios are at times more important than individual minerals levels. These ratios give us a cellular view of what is happening within the body and can let us know how bodily systems are functioning.

1) Metabolic type: (Ca/P) Calcium/Phosphorus - Ideal Ratio: ###/1

Your ratio: 2.60/1 - fast metabolizer

This ratio can indicate:

- Sympathetic dominance
- Decreased adrenal function – Fast 4
- Decreased thyroid function – Fast 4
- Fatigued but mind runs
- Impaired digestion and nutrient absorption

2) Stress & Vitality: (Na/K) Sodium/Potassium - Ideal Ratio: ###/1

Your ratio: 5.00/1

This ratio can indicate:

- Current stress level
- Wired but tired feeling
- Can indicate magnesium loss
- May experience sleep difficulties
- A need to keep going even though exhausted
- Restlessness and irritability
- Anxiety may be present
- Fatigue

3) Thyroid Function: (Ca/K) Calcium/Potassium - Ideal Ratio: ###/1

Your ratio: 13.00/1

This ratio can indicate:

- Low calcium can display as nervousness, hypersensitivity, or muscle cramps.
- Mild hypothyroidism

4) Hormonal Function: (Zn/Cu) Zinc/Copper - Ideal Ratio: ###/1

Your ratio: **7.58/1**

This ratio can indicate:

- A high ratio can sometimes indicate hidden copper.
- Hormonal balance
- Zinc correlates with Progesterone in women, testosterone in men
- Copper correlates with Estrogen in both sexes

5) Adrenal Function: (Na/Mg) Sodium/Magnesium - Ideal Ratio: ###/1

Your ratio: **3.85/1**

This ratio can indicate:

- Moderate adrenal fatigue
- Burnout
- Requires adrenal support
- Magnesium loss can contribute to adrenal burnout
- Can indicate magnesium deficiency

6) Blood Sugar Balance: (Ca/Mg) Calcium/Magnesium - Ideal Ratio: ###/1

Your ratio: **10.00/1**

This ratio can indicate:

- Blood sugar imbalances
- Calcium contracts muscles, magnesium relaxes muscles
- Spasms in muscles
- Tight tense muscles

7) Infection Ratio: (Fe/Cu) Iron/Copper - Ideal Ratio: ###/1

Your ratio: **.55/1**

This ratio can indicate:

- A high ratio - may signify an infection – *Lyme disease, root canal infection*

- A low ratio - maybe associated with iron deficiency or thyroid disturbance.
- A high or low ratio can affect neurotransmitters

TIPS FOR OPTIMAL WELLNESS:

Supporting your liver during mineral balancing is helpful and often necessary for everyone. The liver can be overloaded with toxins from the environment, health/beauty products, and home cleaning products. It is important to take a personal inventory of what you are using on your body and what you use in your home (laundry detergent/fabric softener especially). The most common offenders are often anti-perspirants, perfumes, body washes, lotions, and cosmetics. Most anti-perspirants contain some form of aluminum or zirconium. Those 2 ingredients are often used to control perspiration. Stopping perspiration is a problem on many levels. Mostly, because you stop your own body's detoxification, sweating is way of allowing the body to get rid of toxins. Many of the common ingredients in perfumes, body washes, shampoos, lotions, and cosmetics can contain chemicals such as sulfates, phthalates, and parabens. They have been listed as [endocrine disruptors](#). Estrogen Dominance is on the rise for many men, women, and children. It is important for both women, men, and children to take note of what products they use daily. Even changing a few products can make a big difference in reducing your liver's toxic burden.

Your liver, which is responsible for over 500 metabolic functions, is very busy at night when you sleep between the hours of 1 am and 3 am. If you are waking during these times, it can be an indicator that your liver is struggling and could benefit from some liver support. The follow are very gentle and helpful ways to support the liver and detoxification: (Not necessary to do all of these, starting with one is a good place to start)

Evenbetternow® DETOX Bentonite Clay Baths - Soaking in sodium bentonite clay helps to remove both chemical and metal toxins out through the pores of the skin. For many, taking regular clay baths or foot baths have radically improved their health. Our DETOX clay has the highest cation exchange capacity (CEC) of any bathing clay that was tested on the market. This means it has a strong "pulling power" to attract positively charged toxins and the unique molecular structure to ABSorb and ADSorb harmful contaminants. It is a safe, gentle, and easy way to detoxify without having to process impurities through the internal organs of elimination. You can read more about how clay baths work [here](#).

Zeolite Pure Mineral Clay - is volcanic ash that is orally taken. It binds on to toxins and helps remove them from the body. It has also been known for removing viruses. It is negatively charged by nature, which means it attracts the toxins like a magnet. A unique cage-like structure traps these body harming toxins and carries them out of the body. You can read more about Zeolite [here](#).

Bio-Chelat® - is a solution of oral drops that you take 3x daily to help remove metal toxins (not chemical) that are deeply embedded in the organs and tissues of the body. It is a German-patented formula that works in the gut through the Law of Isotonicity to gradually and gently capture heavy metal ions and remove them safely through the urine and stool. It is a unique liquid dietary supplement to help support the body's natural detoxification processes and safe enough for babies. It has no side effects according to the manufacturer, even when taken long-term. You can read more about Bio-Chelat [here](#).

NOTE: Bio-Chelat would be most recommended for removing heavy metal toxicity only, especially long-term sequestered metal toxicity. The DETOX clay baths would be recommended most for those wanting to quickly detoxify safely and as half of a dynamic duo when used with Bio-Chelat for removing metals. The Red Desert Clay and Zeolite would be for internal use; although the RDC clay also makes a great external poultice, pack or facial.)

Milk Thistle is also very helpful to the liver. The silymarin extracted from milk thistle is known to have antioxidant, antiviral and anti-inflammatory properties. You can read more about it [here](#).

As toxins leave the body, sometimes unpleasant physical reactions can occur. Some of the reactions can be irritability, nausea, headaches, grogginess, and sometimes sleep disturbances. These are to be considered "healing reactions" as your body begins find homeostasis and they will become less and less.

Consuming a nutrient dense diet is essential when bringing the body back into balance. Strong digestion is needed for optimal break down of foods to allow proper nutrient absorption. Optimal stomach acid and bile are necessary to break down fats, proteins, and carbohydrates. Beets, spicy greens, ox bile, and dandelion root tea are all great for bile production and the gall bladder. [Digestive enzymes](#) can be helpful to improve digestion while your body is healing.

Probiotic foods (kefir/raw sauerkraut), organ meats, and properly prepared foods will help correct the digestion. Steaming is a great way to preserve nutrients in vegetables compared to boiling them. If you decided to boil your vegetables, it is recommended to drink the cooking water which is full of nutrients. Bone marrow broth or collagen can be added to your diet. This will help rebuild the stomach and intestinal lining. Collagen provides health amino acids that improve gut health. A healthy gut is your second brain, it is within the gut that building blocks are made for proper brain function, this includes neurotransmitters.

Take note of foods that cause the pancreas to release a lot of insulin. We are consuming more carbohydrates than ever before. This could come in the form of sugar, grains, orange juice, or a fresh vegetable juice. The body recognizes this as sugar and automatically makes the pancreases release a lot of insulin to balance out the sugar. Aloe vera is very gelatinous and stops the sugar from dumping into the bloodstream by adding in some valuable fiber. Collagen powder can also be added for additional protein.

Both can minimize blood sugar spikes. Minimizing foods that cause our pancreases to release insulin at once is beneficial to decrease stress on the body.

It is recommended to change things one at a time when balancing minerals. This helps to see how the body is adjusting. Keeping a food diary is also helpful.

The combination of mineral balancing, blood sugar balancing, correcting digestion, and removing toxins from the body will all contribute to bringing the body back into balance. Lifestyle, lack of minerals in the soil, environment, and many other factors will affect our bodies. We all need to be more conscious of our food choices, practice self-care, reduce stress, and limit your exposures to unnecessary toxins.

RECOMMENDATIONS:

- Recommend reducing the amount of strenuous and intense exercise. Light stretching, Pilates, yoga, Tai chi, Qigong, and walking are suggested.
- Increase intake of calcium rich foods. Broccoli, kale, spinach, kefir, Greek yogurt, and milk (if tolerated). A calcium supplement is not recommended.
- Recommend maintaining magnesium through food intake, topical magnesium lotion, or Epsom salt baths. Either Epsom salts or magnesium chloride flakes may be used for foot baths or full baths. 1 cup for a foot bath and 2 cups for a full bath. Soaking for 20 to 30 mins at time, a few times a week for a foot bath and a full bath around twice a week. Just don't overdo it. Topical magnesium is easily absorbed by the body vs. oral supplementation, it can still affect sodium levels. Magnesium rich foods include almonds, almond butter, kale, spinach, and chard. I would not suggest oral supplementation at this time.
- Recommend using sea salt freely at all meals. Sodium intake is very important when you are adding magnesium. Adding a ¼ tsp. of sea salt to a glass of water may be helpful once a day. You may need more if stressed, exercising, or have been in heat. Saunas will induce sweating which will lower sodium. Himalayan, Redmond's, and Celtic Sea salts are all suggested. Avoid iodized table salt, it is devoid of all nutrients.
- Recommend increasing potassium intake. Potassium from food is best. Potatoes, coconut water, bananas, and most vegetables are all great for potassium. Fresh is preferable but canned and frozen are still viable. Meat and fish are loaded with potassium. Kiwis and berries are good fruit choices because they are low glycemic and have plenty of potassium. Tart cherry juice is good for potassium and helps natural melatonin production. Aim for 4700 mgs. of potassium a day. Please do not take isolated vitamin D or even in multi formulas, vitamin D isolated lowers potassium drastically. If you feel you need to support your vitamin D levels, do so naturally with [Nordic Naturals Cod Liver Oil](#). It is excellent for natural vitamin A

(retention of potassium) and D (helping calcium).

- Recommend increasing copper rich foods such as: oysters, red meat, pumpkin seeds, avocados, black strap molasses, and small amounts of liver are beneficial.
- Recommend increasing zinc rich foods such as: oysters, pumpkin seeds, and lean red meat are all suggested.
- Recommend increasing iron rich foods like black strap molasses, (which is also good for copper and potassium), red meat, legumes, and green vegetables.
- Recommend increasing manganese rich foods which include whole grains, dark chocolate, coconut water, birch water, cereals, and legumes.
- Recommend increasing chromium rich foods which include cheese, molasses, wheat germ, whole grains, eggs, meat, and seafood.
- Recommend adding 4 prunes a day and eating the skins of organic potatoes to increase your boron.
- Recommended increasing cobalt rich foods such as fish, nuts, and green leafy vegetables.
- Recommend increasing molybdenum rich foods. Highest sources are found in milk, legumes, and cereals.
- Recommend diet consist of mainly cooked food. Lightly steamed or stir-fried. Raw food is hard to digest.

Suggested Supplements

Digestive Enzymes – follow dosage on bottle. Suggested brand: [Source Naturals Daily Essential Enzymes](#) or NOW Super Enzymes

Cod Liver oil – follow dosage on bottle. Suggested brand [Nordic Naturals Cod Liver Oil](#)

Overall, your pattern requires solid nutrition which needs to be acquired through diet and supplementation. Foods are completely balanced allowing the body to absorb each nutrient and mineral with its natural co-factors. Supplements do not replace food but are helpful.

It is recommended to retest in 3-4 months to see progress and make modifications to the program.

<https://www.evenbetternow.com/proddetail.asp?prod=Hair-Mineral-Analysis-Retest>

Should you have any questions, please feel free to contact me at
#####@gmail.com

****Information provided here is not intended to be used as medical advice and the information is for health education purposes only. Please consult your doctor before beginning any health, exercise, or nutritional program.****