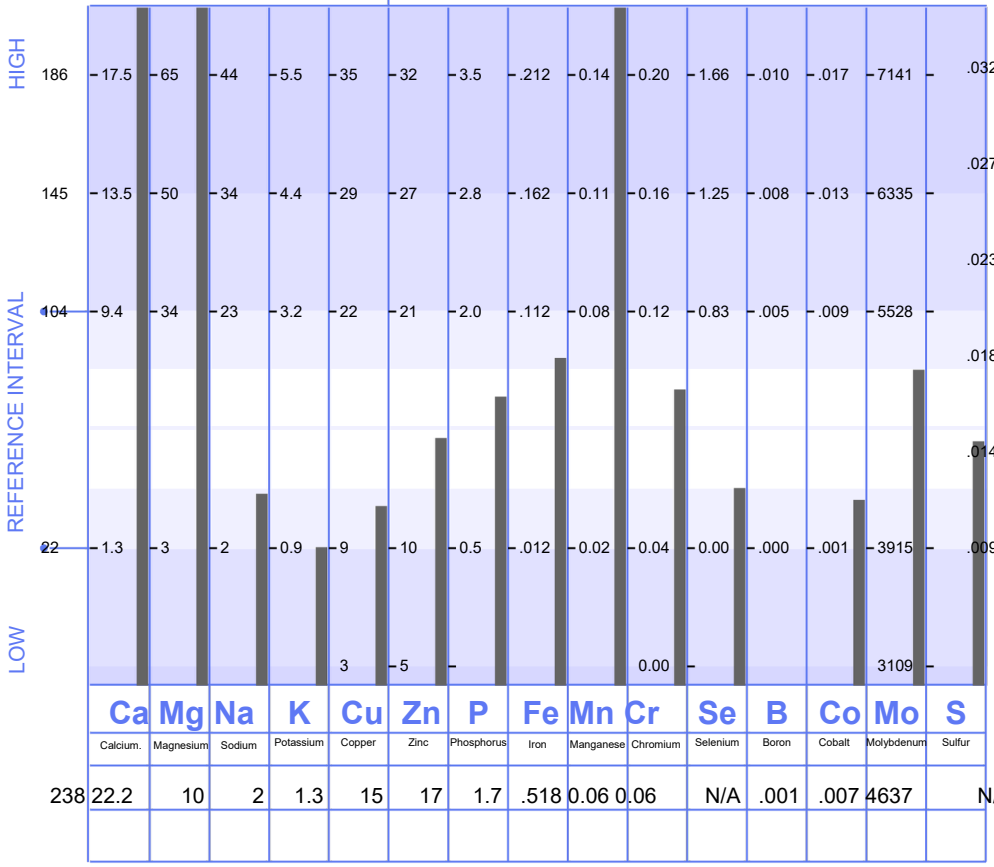
Bull Cottage
Lenham Heath
Kent. ME17 2BP
Tel: 01622 850 500
www.mineralcheck.com

| LABORATORY NO.: | |
|---|---|
| PROFILE NO.: | SAMPLE TYPE: |

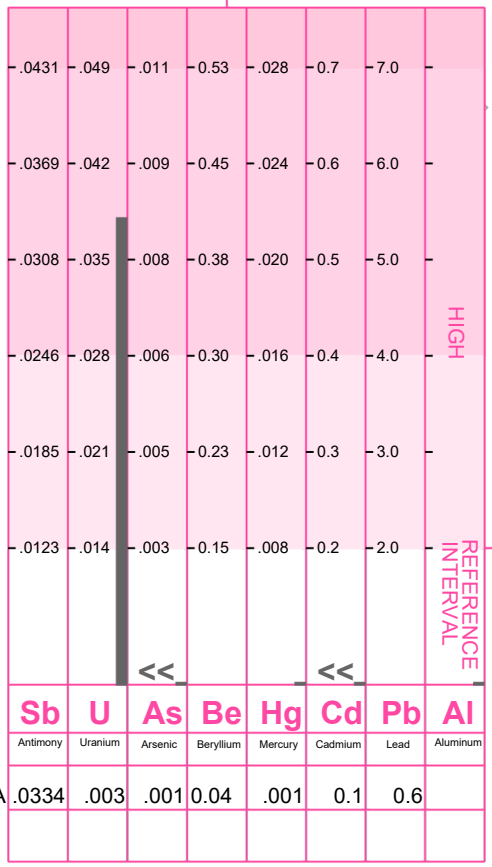
| PATIENT: | AGE: | SEX: | METABOLIC TYPE: |
|---|---|---|---|
| REQUESTED BY: | ACCOUNT NO.: | DATE: | |

## NUTRITIONAL ELEMENTS



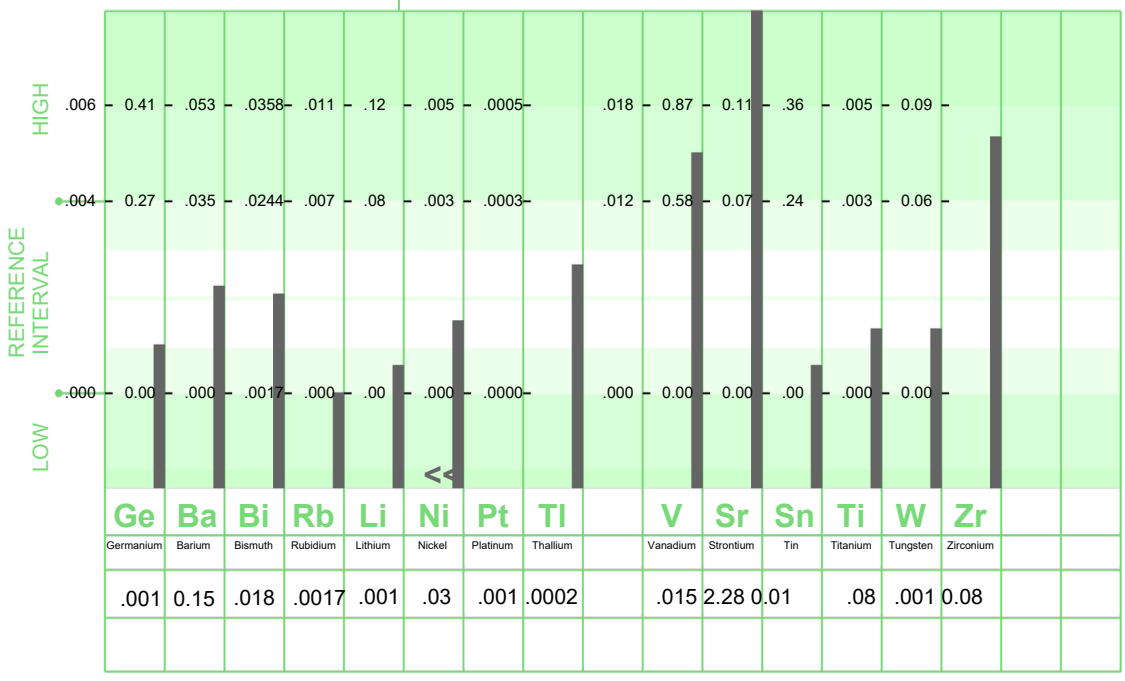

| Ca | Mg | Na | K | Cu | Zn | P | Fe | Mn | Cr | Se | B | Co | Mo | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Calcium. | Magnesium | Sodium | Potassium | Copper | Zinc | Phosphorus | Iron | Manganese | Chromium | Selenium | Boron | Cobalt | Molybdenum | Sulfur |
| 238 22.2 | 10 | 2 | 1.3 | 15 | 17 | 1.7 | .518 | 0.06 | 0.06 | N/A | .001 | .007 | 4637 | N/A |

## TOXIC ELEMENTS




| Sb | U | As | Be | Hg | Cd | Pb | Al |
|---|---|---|---|---|---|---|---|
| Antimony | Uranium | Arsenic | Beryllium | Mercury | Cadmium | Lead | Aluminum |
| .0334 | .003 | .001 | 0.04 | .001 | 0.1 | 0.6 | |

## ADDITIONAL ELEMENTS




| Ge | Ba | Bi | Rb | Li | Ni | Pt | Tl | V | Sr | Sn | Ti | W | Zr |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Germanium | Barium | Bismuth | Rubidium | Lithium | Nickel | Platinum | Thallium | Vanadium | Strontium | Tin | Titanium | Tungsten | Zirconium |
| .001 | 0.15 | .018 | .0017 | .001 | .03 | .001 | .0002 | .015 | 2.28 | 0.01 | .08 | .001 | 0.08 |

"<<": 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

06/04/2022
CURRENT TEST RESULTS

PREVIOUS TEST RESULTS

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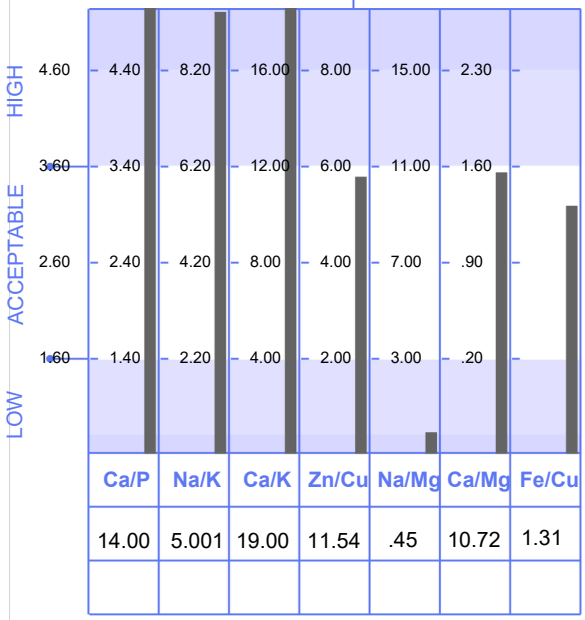
## SIGNIFICANT RATIOS




| Ca/P | Na/K | Ca/K | Zn/Cu | Na/Mg | Ca/Mg | Fe/Cu |
|---|---|---|---|---|---|---|
| 14.00 | 5.001 | 19.00 | 11.54 | .45 | 10.72 | 1.31 |
| | | | | | | |

## TOXIC RATIOS


| Ca/Pb | Fe/Pb | Fe/Hg | Se/Hg | Zn/Cd | Zn/Hg | S/Hg | S/Cd | S/Pb |
|---|---|---|---|---|---|---|---|---|
| 2380.0 | 17.0 | 42.5 | 1.5 | 15000.0 | 375.0 | 115925 | 463700 | 46370 |
| | | | | | | | | |

## ADDITIONAL RATIOS

| RATIO | CALCULATED VALUE | | EXPECTED |
|---|---|---|---|
| | Current | Previous | |
| Ca/Sr | 104.39 | 263/1 | |
| Cr/V | 4.00 | 8/1 | |
| Cu/Mo | 185.71 | 356/1 | |
| Fe/Co | 1700.00 | 615/1 | |
| K/Co | 2000.00 | 6350/1 | |
| K/Li | 2000.00 | 6350/1 | |
| Mg/B | N/A | 21/1 | |
| S/Cu | 3566.92 | 2668/1 | |
| Se/Tl | 300.00 | 370/1 | |
| Se/Sn | 6.00 | 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.

## *INTRODUCTION TO HAIR TISSUE MINERAL ANALYSIS (HTMA)*

Hair is used for mineral testing because of its very nature. Hair is formed from clusters of specialized cells that make up the hair follicle. During the growth phase the hair is exposed to the internal environment such as blood, lymph and extra-cellular fluids. As the hair continues to grow and reaches the surface of the skin its outer layers harden, locking in the metabolic products accumulated during the period of formation. This biological process provides a blueprint and lasting record of mineral status and nutritional metabolic activity that has occurred during this time.

The precise analytical method of determining the levels of minerals in the hair is a highly sophisticated technique: when performed to exacting standards and interpreted correctly, it may be used as a screening aid for determining mineral deficiencies, excesses, and/or imbalances. HTMA provides you and your health care professional with an economical and sensitive indicator of the long- term effects of diet, stress, toxic metal exposure and their effects on your mineral balance that is difficult to obtain through other clinical tests.

It is important for the attending healthcare professional to determine your mineral status as minerals are absolutely critical for life and abundant health. They are involved in and are necessary for cellular metabolism, structural support, nerve conduction, muscular activity, immune functions, anti-oxidant and endocrine activity, enzyme functions, water and acid/alkaline balance and even DNA function.

Many factors can affect mineral nutrition, such as; food preparation, dietary habits, genetic and metabolic disorders, disease, medications, stress, environmental factors, as well as exposure to heavy metals. Rarely does a single nutrient deficiency exist in a person today. Multiple nutritional imbalances however are quite common, contributing to an increased incidence of adverse health conditions. In fact, it is estimated that mild and sub-clinical nutritional imbalances are up to ten times more common than nutritional deficiency alone.

***The laboratory test results and the comprehensive report that follows should not be construed as diagnostic. This analysis is provided only as an additional source of information to the attending healthcare professional.***

***Test results were obtained by a licensed clinical laboratory adhering to analytical procedures that comply with governmental protocol and standards established by Trace Elements, Inc. U.S.A. The interpretive data based upon these results is defined by research conducted by David L. Watts, Ph.D.***

## *UNDERSTANDING THE GRAPHICS*

### *NUTRITIONAL ELEMENTS*

This section of the cover page graphically displays the test results for each of the reported nutritional elements and how they compare to the established population reference range. Values that are above or below the reference range indicate a deviation from "normal". The more significant the deviation, the greater the possibility a deficiency or excess may be present.

### *TOXIC ELEMENTS*

The toxic elements section displays the results for each of the reported toxic elements. It is preferable that all levels be as low as possible and within the lower white section. Any test result that falls within the upper dark red areas should be considered as statistically significant, but not necessarily clinically significant. Further investigation may then be warranted to determine the possibility of actual clinical significance.

### *ADDITIONAL ELEMENTS*

This section displays the results of additional elements for which there is limited documentation. These elements may be necessary for biochemical function and/or may adversely

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effect biochemical function. Further study will help to reveal their function, interrelationships and eventually their proper therapeutic application or treatment.

***SIGNIFICANT RATIOS***

The significant ratios section displays the important nutritional mineral relationships. This section consists of calculated values based on the respective elements. Mineral relationships (balance) is as important, if not more so, than the individual mineral levels. The ratios reflect the critical balance that must be constantly maintained between the minerals in the body.

***TOXIC RATIOS***

This section displays the relationships between the important nutritional elements and toxic metals. Each toxic metal ratio result should be in the white area of the graph, and the higher the better. Toxic ratios that fall within the darker red area may indicate an interference of that toxic metal upon the utilization of the nutritional element.

***ADDITIONAL RATIOS***

The additional ratios section provides calculated results on some additional mineral relationships. At this time, there is limited documentation regarding these ratios. For this reason, these ratios are only provided as an additional source of research information to the attending healthcare professional.

## *METABOLIC TYPE*

This section of the report will discuss the metabolic profile, which is based on research conducted by Dr. D. L. Watts. Each classification is established by evaluating the tissue mineral results and determining the degree to which the minerals may be associated with a stimulating and/or inhibiting effect upon the main "energy producing" endocrine glands. These glands regulate nutrient absorption, excretion, metabolic utilization, and incorporation into the tissues of the body: the skin, organs, bone, hair, and nails. How efficiently each nutrient is utilized depends largely upon proper functioning of the endocrine glands.

***SLOW METABOLISM (TYPE #1)***

** Parasympathetic Dominant
** Tendency Toward Decreased Thyroid Function (reduced secretion of hormones)
** Tendency Toward Decreased Adrenal Function (reduced secretion of hormones)

The mineral pattern obtained from these test results is indicative of a slow metabolic (Type #1) pattern. This particular profile can be related to a number of contributing factors, such as;

* Diet - Dietary factors such as low protein intake, high carbohydrate intake and eating refined carbohydrates, especially those containing appreciable amounts of sugar have an indirect yet significant suppressing effect on the metabolic rate.

* Endocrine Function - Low thyroid activity as well as low adrenal gland function will contribute to a lowering of the metabolic rate.

* Digestion - Poor absorption and utilization of nutrients found in the foods that are consumed will result in decreased energy production on a cellular level, thereby, affecting metabolism. In turn, a lowered metabolic rate will have an adverse effect upon the digestion process, thereby, creating a vicious cycle.

* Viral Infections - A past occurrence of a severe or chronic viral infection can contribute to a decrease in the metabolic rate, due to the body's neuro-immunological response to infection.

After a prolonged period of time, a significantly reduced metabolic rate, such as indicated in these testresults, has been correlated with the following characteristics:

Fatigue Dry Skin

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Lethargy
Depression
Cold Feet
Tendencies Toward Recurring Viral Infections
Water Retention
Cold Hands
Weight Gain in Thighs and Hips

It should be noted that even though this patient may not be overweight at this time, she can still have a lowered metabolic rate, as overweight and underweight tendencies may not always be reflective of metabolism on the cellular level.

## *NUTRIENT MINERAL LEVELS AND OTHER ELEMENTS*

This section of the report may discuss those nutritional mineral levels that reveal moderate or significant deviations from normal. The light blue and light green area's of each graph section represent the reference interval for each element based upon statistical analysis of apparently healthy individuals. The following section, however, is based upon clinical data, therefore an element that is moderately outside the reference interval may not be commented on unless determined to be clinically significant.

***NOTE:***
For those elements whose levels are within the normal range, it should be noted that nutritional status is also dependent upon their critical balance with other essential nutrients. If applicable, discussion regarding their involvement in metabolism may be found in the ratio section(s) of this report.

***CALCIUM (Ca)***
The calcium test level is significantly above the ideal. This is not necessarily indicative of too much calcium, but rather the calcium is not being made bio-available and/or utilized effectively. If this mineral profile remains for an extended period of time, this patient may begin to experience high calcium-related conditions such as; fatigue, dry skin and anemia. As calcium is well known for its sedative effects upon the body's biochemical responses, both physical and emotional, an excess may contribute to a reduced cellular metabolic rate and increased episodes of depression.

***SOMEFACTORS THAT MAY CONTRIBUTE TO HIGH CALCIUM LEVELS***
Thefollowing factors can contribute to calcium accumulation, even if calcium intake is low:
Low Thyroid Function
Excess Copper Intake
Excessive Vitamin D Intake
Low Phosphorus Intake
Inadequate Protein Intake or Assimilation
High Fat Intake
Excessive Sugar Intake
Vitamin Deficiencies
High Carbohydrate Intake
Low Adrenal Activity

***HYDROCHLORIC ACID PRODUCTION AND PROTEIN DIGESTION***
Your mineral profile may be reflective of a deficiency in hydrochloric acid (HCL) production, which can result in inadequate protein digestion. Hydrochloric acid in sufficient amounts is necessary for the complete digestion and utilization of dietary protein. Symptoms, such as, bloating of the stomach, flatulence and constipation may be observed with an HCL deficiency, especially following high protein meals.

***MAGNESIUM (Mg)***
Magnesium is the fourth most abundant metal found in the body, and is essential for muscle relaxation, protein synthesis, nerve excitability and energy production on a cellular level. However, magnesium also has a sedating effect upon the body, and when in excess may contribute to a number of conditions, such as;
Low Blood Pressure
Depression

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Fatigue
Craving for Salt
Decreased Mental Alertness
Dizziness
Muscle Weakness
Lowered Body Temperature

***SOME FACTORS THAT MAY CONTRIBUTE TO HIGH TISSUE MAGNESIUM LEVELS***

Some factors that may contribute to elevated magnesium other than possible excessive magnesium intake, include;

High Carbohydrate Intake
Vitamin B6 Deficiency
Elevated Tissue Calcium
Hypothyroidism (Low Thyroid)
Low Adrenal Function
Vitamin E Deficiency
HCL Deficiency
Low Protein Intake

***MANGANESE (Mn)***

Manganese is an essential element that in combination with certain vitamins and minerals is required for many biochemical reactions, including carbohydrate metabolism and energy production. However, if manganese accumulation reaches extremely high levels and becomes chronic, it may eventually give rise to:

Headaches
Tremors
Dizziness
Hyperactivity

Note: When manganese is found high in the hair tissue, it is frequently elevated along with iron or aluminum.

NOTE: A unusually high level of manganese may be from continued exposure, ingestion or inhalation froman environmental or external contaminating source, such as:

Electronics Industry
Steel Industry
Medications (some)
Gasoline (additives)
Fertilizers
Glass Manufacturing

***HERBAL SOURCES OF MANGANESE***

Some herbs contain significant levels of manganese. These may include:

Peppermint
Chickweed
Goldenseal
Cascara Sagrada
Comfrey
Black Cohosh

***VANADIUM (V)***

Although your vanadium level is moderately elevated, it should not be considered as clinically significant at this time. However, if a disturbance between this element and another mineral exists, clinical significance may be noted in the appropriate ratio section of this report.

***STRONTIUM (Sr)***

Your strontium level is above the established reference range. In excess, strontium is apparently antagonistic to calcium metabolism, and can therefore interfere with normal calcium function. Strontium may be contained in some mouth rinses and dental varnishes used in the treatment of dentin hypersensitivity.

## *NUTRIENT MINERAL RATIOS*

This section of the report will discuss those nutritional mineral ratios that reveal moderate or significant deviation from normal.

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Continuing research indicates that metabolic dysfunction occur not necessarily as a result of a deficiency or excess of a particular mineral level, but more frequently from an abnormal balance (ratio) between the minerals. Due to this complex interrelationship between the minerals, it is extremely important that imbalances be determined. Once these imbalances are identified, corrective therapy may then be used to help re-establish a more normal biochemical balance.

NOTE: The "Nutritional Graphic" developed by researchers at Trace Elements, and presented on the cover of this report shows the antagonistic relationships between the significant nutrients, including the elements (arrows indicate antagonistic effect upon absorption and retention).

***HIGH CALCIUM/PHOSPHORUS (Ca/P) RATIO***

Phosphorus is involved in almost every reaction of metabolism. When low levels of phosphorus are found in the hair relative to tissue calcium (see high Ca/P ratio), it often reflects abnormal calcium and/or phosphorus metabolism.

***HIGH SODIUM/POTASSIUM (Na/K)***

Your sodium-potassium profile is elevated above the normal range. When sodium is high relative to potassium (see high Na/K ratio), it is indicative of a relative sodium excess. This mineral profile, if chronic, may eventually lead to fluid retention and subsequent weight gain. Weight gain contributed to by this pattern is often only water retention. At this time, it is not necessary to reduce sodium intake, but it is recommended rather that dietary potassium intake be increased relative to sodium intake.

***HIGH CALCIUM/POTASSIUM (Ca/K) AND HYPOTHYROIDISM***

High calcium relative to potassium will frequently indicate a trend toward hypothyroidism (underactive thyroid). The mineral calcium antagonizes the retention of potassium within the cell. Since potassium is necessary in sufficient quantity to sensitize the tissues to the effects of thyroid hormones, a high Ca/K ratio would suggest reduced thyroid function and/or cellular response to thyroxine. If this imbalance has been present for an extended period of time, the following symptoms associated with low thyroid function may occur.

| | |
|---|---|
| Fatigue | Depression |
| Dry Skin | Over-weight Tendencies |
| Constipation | Cold Sensitivity |

***LOW SODIUM/MAGNESIUM (Na/Mg) RATIO***

This ratio is below the normal range. The adrenal glands play an essential role in regulating sodium retention and excretion. Studies have also shown that magnesium will affect adrenal cortical activity and response, and reduced adrenal activity results in increased magnesium retention. The sodium-magnesium profile is indicative of reduced adrenal cortical function. The following associated symptoms may be observed:

| | |
|---|---|
| Fatigue | Constipation |
| Dry Skin | Lowered Resistance |
| Allergies (Ecological) | Low Blood Pressure |

## *TOXIC METAL LEVELS*

Hair is used as one of the tissue's 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 which concluded that human hair may be a more appropriate tissue than blood or urine for studying community exposure to some trace metals.

A heavy metal may be elevated in this HTMA and yet no known environmental exposure can be

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ascertained at this time. This is not unusual, as exposure may have originated years earlier. Additionally, research has found that heavy metals can be inherited by the fetus during pregnancy. Heavy metals can be found in the body for years following the original exposure and will remain in body tissues until removal is initiated. For example, the half-life of cadmium in some tissues will range from ten to thirty years.

***URANIUM (U)***

Naturally occurring uranium is found throughout the environment (air, water, food and soil). While it is a slightly radioactive element, its radioactive properties are quite mild and are not considered a health risk, as compared to the enriched, industrial-processed form of uranium commonly associated with nuclear materials and weapons. It is important to note that this uranium measurement is not indicative of exposure to, or accumulation of the enriched and highly-radioactive form of uranium.

***SOME SOURCES OF URANIUM***

Most often, elevated hair levels of uranium are found to occur in people living in areas where the natural concentration of this element is high. In particular, geographical regions with granite and rocky soils are typically higher when compared to other areas of the country.

Root vegetables grown in high uranium soils and ground water are also two of the most common sources. Other potential sources include ceramics, colored glass, light bulbs, photographic chemicals, coal-burning plants and mining areas. Uranium is also found higher in agricultural areas due to the use of phosphate fertilizers which contain slightly higher amounts of natural uranium.

Although the uranium level is significantly elevated when compared to the population in general, this may or may not be considered clinically significant at this time, as toxicity levels in the hair have yet to be determined. However, uranium does occur with other elements that can pose a health risk. Past history has shown that radon gas has been found in the homes of individuals with markedly elevated hair uranium levels. Therefore, it may be prudent to have the home checked for radon gas.

***NOTE:***

A reduction in exposure and improved nutritional status will, in time, assist in mobilizing and excreting this element.

***TOXIC METAL RETENTION AND NUTRITIONAL STATUS:***

Every individual is constantly being exposed to sources of heavy metals. However, the main factor contributing to the absorption and retention of these metals in the body, is influenced by one's own nutritional status. For instance, a lack of nutrients that will combat the accumulation of lead, will then allow tissue lead level's to rise. This accumulation can occur even if lead exposure is minimal. Improving your nutritional status can help in reducing toxic metal burden as well as reducing the adverse effects that toxic metal accumulation can produce in the body.

***IMPORTANT NOTE ON TOXIC METAL ELIMINATION:***

As toxic metals are mobilized from storage tissues for removal from the body, the patient may experience an exacerbation of his/her present symptoms or new symptoms associated with a particular mineral. If this occurs, or if the symptoms become too uncomfortable have the patient discontinue supplementation for three days, during which symptoms should be relieved. Have the patient then resume the program at one-third the recommended dosage, usually the PM portion, then gradually build up to twice per day and back to the full program. This may be done over a one to two- week period. If symptoms again arise, have the patient continue on only the PM portion for one week before increasing.

***NOTE:***

At this time, further confirmation of toxic metal exposure using a blood test may or may not reveal an elevated level. This is due to the protective response of the body, in which following a toxic metal exposure, the element is sequestered from the blood and stored in various other tissues. Therefore, if the exposure is not ongoing or chronic, elevated blood levels may not be present.

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## *TOXIC METAL RATIOS*

***ALL CURRENT TOXIC METAL RATIOS ARE WITHIN THE ACCEPTABLE RANGE***

## *DIETARY SUGGESTIONS*

The following dietary suggestions are defined by several factors: the individual's mineral levels, ratios and metabolic type, as well as the nutrient value of each food including protein, carbohydrate, fat, and vitamin and mineral content. Based upon these determinations, it may be suggested that foods be avoided or increased temporarily to aid in the improvement of your biochemistry.

***SLOW METABOLISM***
Dietary habits may contribute to slow metabolism. Low protein, high carbohydrate, high fat intake and the consumption of refined sugars and dairy products have an excessive slowing-down effect upon metabolism and energy production.

***GENERAL DIETARY GUIDELINES FOR THE SLOW METABOLIZER*** * EAT A HIGH PROTEIN FOOD AT EACH MEAL...Lean protein is recommended and which should constitute at least 40% of the total caloric value of each meal. Recommended sources are fish, fowl and lean beef. Other good sources of protein include bean and grain combinations and eggs. Increased protein intake is necessary in order to increase the metabolic rate and energy production. * INCREASE FREQUENCY OF MEALS...while decreasing the total caloric intake for each meal. This is suggested in order to sustain the level of nutrients necessary for energy production, and decrease blood sugar fluctuations. * EAT A MODERATE AMOUNT OF UNREFINED CARBOHYDRATES...Carbohydrate intake should not exceed 40% of total daily caloric intake. Excellent sources of unrefined carbohydrates include whole grain products, legumes and root vegetables. * AVOID ALL SUGARS AND REFINED CARBOHYDRATES...This includes white and brown sugar, honey, candy, soda pop, cake, pastries, alcohol and white bread.

* AVOID HIGH PURINE PROTEIN...Sources of high purine protein include: liver, kidney, heart, sardines, mackerel and salmon.

* REDUCE OR AVOID MILK AND MILK PRODUCTS...Due to elevated fat content and high levels of calcium, milk and milk products including "low-fat" milk should be reduced to no more than once every three to four days. * REDUCE INTAKE OF FATS AND OILS...Fats and oil include fried foods, cream, butter, salad dressings, mayonnaise, etc... Fat intake should not exceed 20% of the total daily caloric intake.

* REDUCE FRUIT JUICE INTAKE...until the next evaluation. This includes orange juice, apple juice, grape juice and grapefruit juice. Note: Vegetable juices are acceptable.

* AVOID CALCIUM AND/OR VITAMIN D SUPPLEMENTS...unless recommended by physician.

***FOOD ALLERGIES***
In some individuals, certain foods can produce a maladaptive or "allergic-like" reaction commonly called "food allergies". Consumption of foods that one is sensitive to can bring about reactions ranging from fatigue or drowsiness to rashes, migraine headaches and arthritic pain.

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Sensitivity to foods can develop due to biochemical (nutritional) imbalances, and which can be aggravated by stress, pollution and medications. Nutritional imbalance can further be contributed to by restricting food variety, such as eating only a small group of foods on a daily basis. Often a person will develop a craving for the food they are most sensitive to and may eat the same food or food group more than once a day.

The following section may contain foods that are recommended to be avoided. These foods should be considered as potential "allergy foods" or as foods that may impede a rapid and effective response. Consumption of these foods should be completely avoided for four days. Afterwhich, they should not be eaten more frequently than once every three days during course of therapy.

***FOODS THAT MAY AFFECT THYROID ACTIVITY***

The following list of foods belongs to a family of foods that are known to decrease thyroid activity when eaten in appreciable quantities. If an under-active condition is present, excessive consumption can contribute to symptoms associated with hypothyroidism, such as; fatigue, cold sensitivity, depression, weight gain, dry skin and hair, and constipation.

Intake of the following foods should be reduced considerably until the next evaluation:

- Cabbage
- Walnuts
- Cole Slaw
- Sauerkraut
- Soybeans
- Mustard
- Kohlrabi
- Cauliflower
- Peanuts
- Kale
- White Turnips
- Fluorides
- Horseradish
- Chlorinated Water
- Brussels Sprouts
- Milk
- Mustard Seeds

***FOODS THAT CONTRIBUTE TO A REDUCTION IN METABOLIC RATE***

The following foods should be temporarily avoided or reduced until the next evaluation. They may contribute to a further lowering of an already low metabolic rate. Unlimited intake can contribute to fatigue, headaches, joint stiffness, water retention, and weight gain.

- Swiss Cheese
- Kale
- Cream
- Chinese Cabbage
- Mozzarella Cheese
- Parmesan Cheese
- Almonds
- Sardines
- Hazelnuts
- Broccoli
- Prawn
- Turnip Tops
- Blue Cheese
- Soybean Flour
- Yogurt
- Processed Cheese
- Brewers Yeast
- Cheddar Cheese
- Kelp
- Carob Powder
- Pancake Mix
- Curry Leaves

***THEFOLLOWING FOODS SHOULD BE AVOIDED UNTIL THE NEXT EVALUATION***

- Sardines
- Herring
- Enriched Milk
- Mushrooms
- Curry Leaves
- Prawn

***AVOID DIETARY FATS AND OILS UNLESS NOTIFIED OTHERWISE BY ATTENDING DOCTOR***

The handling of fats is difficult during a reduced metabolic state, and can contribute to a further reduction in the metabolic rate. It is suggested that all sources of high dietary fat and oil be avoided until the next evaluation.

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Salad Dressings
Cream Hazelnuts
Margarine
Coconut Oil
Salami Pork Corn Chips Bacon Duck
Avocado Cocoa Powder Sardines (canned) Avocado Oil
Groundnut
Cheese (most)
Butter
Walnuts
Pork
Milk
Peanut Butter
Sausages
Almonds
Knockwurst
Goose
Liverwurst
Peanuts
Tuna (canned in oil)
Tamarind

***FOODS HIGH IN PHYTIC ACID***

The following food sources may be increased in the diet until the next evaluation as they contain a high amount of phytic acid. Foods high in phytates will aid in reducing the accumulation of soft tissue calcium.

Oatmeal
Whole Wheat
Rye Crackers
Wheat Germ
Brown Rice

***HIGH POTASSIUM FOODS***

The following foods may be increased in the diet until the next evaluation. These foods which are high in potassium content in relation to calcium and sodium will help to supplement potassium requirements.

Oranges
Dates
Scallops
Tomatoes
Rhubarb
Peas
Apricots
Chicken
Butter Beans
Cantaloupe
Bananas
Egg (white)
Turkey
Currants
Black Eye Beans
Tapioca Chips
Cherries
Asparagus
Plums
Prunes
Chard
Raisins
Lentils
Beet Greens
Beef (lean)
Apples
Artichokes
Beet Root
Summer Squash
Flounder (baked)
Brussels Sprouts
Sweet Potato
Millet

***VITAMIN B-1 AND THYROID HORMONE***

The following foods high in Vitamin B-1 may be increased in the diet until the next evaluation. Vitamin B-1 has been associated with increasing the effectiveness of thyroid hormone (thyroxine) upon metabolism.

Wheat Germ
Pinto Beans
Rice Bran
Lobster

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Pike (broiled) Brazil Nuts

***SPECIAL NOTE:***
This report contains only a limited number of foods to avoid or to increase in the diet. FOR THOSE FOODS NOT SPECIFICALLY INCLUDED IN THIS SECTION, CONTINUED CONSUMPTION ON A MODERATE BASIS IS ACCEPTABLE UNLESS RECOMMENDED OTHERWISE BY YOUR DOCTOR. Under some circumstances, dietary recommendations may list the same food item in the "TO EAT" and the "TO AVOID" categories at the same time. In these rare cases, always follow the avoid recommendation.

## *CONCLUSION*

This report can provide a unique insight into nutritional biochemistry. The recommendations contained within are specifically designed according to metabolic type, mineral status, age, and sex. Additional recommendations may be based upon other supporting clinical data as determined by the attending health-care professional.

***OBJECTIVE OF THE PROGRAM:***
The purpose of this program is to re-establish a normal balance of body chemistry through individually designed dietary and supplement suggestions. Properly followed, this may then enhance the ability of the body to more efficiently utilize the nutrients that are consumed, resulting in improved energy production and health.

***REMOVAL OF HEAVY METALS:***
Re-establishing a homeostatic balance or equilibrium of body chemistry will enhance the body's ability to remove heavy metals naturally. The elimination of a heavy metal involves an intricate process of attachment of the metal to proteins, removal from storage areas, and transport to the eliminative organs for excretion. Improvement in ones nutritional balance will improve the capability of the body to perform these tasks and eliminate toxins more easily.

However, the mobilization and elimination of metals may cause temporary discomfort. As an example, if an excess accumulation of iron or lead is contributing to arthritic symptoms, a temporary flare-up of the condition may occur from time to time. This discomfort can be expected until removal of the excess metal is complete.

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PATIENT:

THE FOLLOWING RECOMMENDATIONS SHOULD BE TAKEN ONLY WITH MEALS IN ORDER TO INCREASE ABSORPTION AND TO AVOID STOMACH DISCOMFORT.

| RECOMMENDATION | AM | NOON | PM |
|---|---|---|---|
| PARA-PACK (Metabolic Support) | 2 | 2 | 2 |
| ADRENAL COMPLEX (Glandular Support) | 2 | 2 | 2 |
| MIN-PLEX B (Magnesium + Chromium + B6) | 2 | 2 | 2 |
| POTASSIUM PLUS | 1 | 1 | 1 |
| HCL V-PLUS (Digestive Support) | 2 | 2 | 2 |
| VITAMIN E PLUS | 1 | 1 | 1 |

THESE RECOMMENDATIONS MAY NOT INCLUDE MINERALS WHICH APPEAR BELOW NORMAL OR IN TURN MAY RECOMMEND MINERALS WHICH APPEAR ABOVE NORMAL ON THE HTMA GRAPH. THIS IS NOT AN OVERSIGHT. SPECIFIC MINERALS WILL INTERACT WITH OTHER MINERALS TO RAISE OR LOWER TISSUE MINERAL LEVELS, AND THIS PROGRAM IS DESIGNED TO BALANCE THE PATIENT'S MINERAL LEVELS THROUGH THESE INTERACTIONS.

THESE RECOMMENDATIONS SHOULD NOT BE TAKEN OVER A PROLONGED PERIOD OF TIME WITHOUT OBTAINING A RE-EVALUATION. THIS IS NECESSARY IN ORDER TO MONITOR PROGRESS AND MAKE THE NECESSARY CHANGES IN THE NUTRITIONAL RECOMMENDATIONS AS REQUIRED.

SPECIAL NOTE: NUTRITIONAL SUPPLEMENTS DO NOT TAKE THE PLACE OF A GOOD DIET. THEY ARE BUT AN ADDITIONAL SOURCE OF NUTRIENTS, AND THEREFORE, MUST NOT BE SUBSTITUTED FOR A BALANCED DIET.

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