



TRACE ELEMENTS, INC.

4501 Sunbelt Drive · Addison, Tx · 75001 · U.S.A.

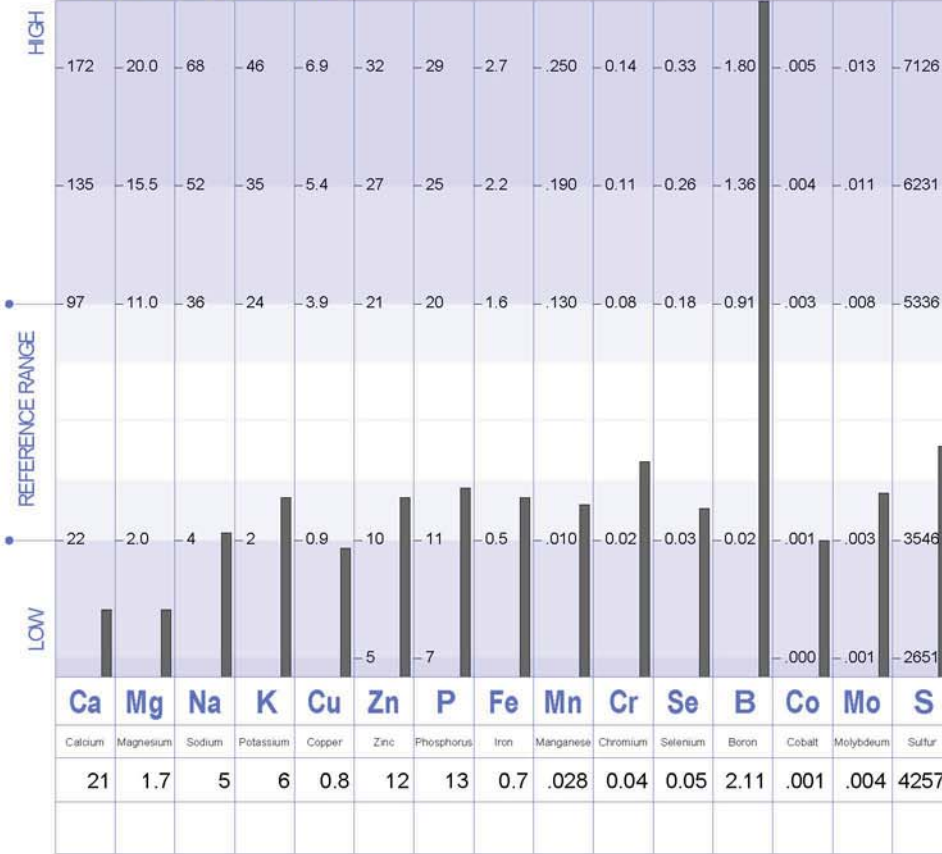
LABORATORY NO.: 1144365

PROFILE NO.: 2 SAMPLE TYPE: SCALP

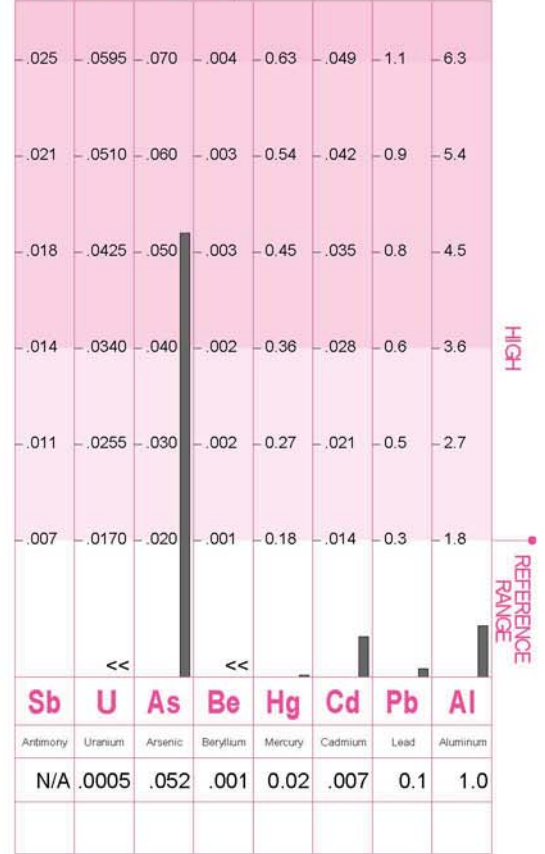
PATIENT: [REDACTED] BALA'ZS AGE: 2 SEX: M METABOLIC TYPE: FAST 3

REQUESTED BY: [REDACTED] ACCOUNT NO.: [REDACTED] DATE: 5/14/2013

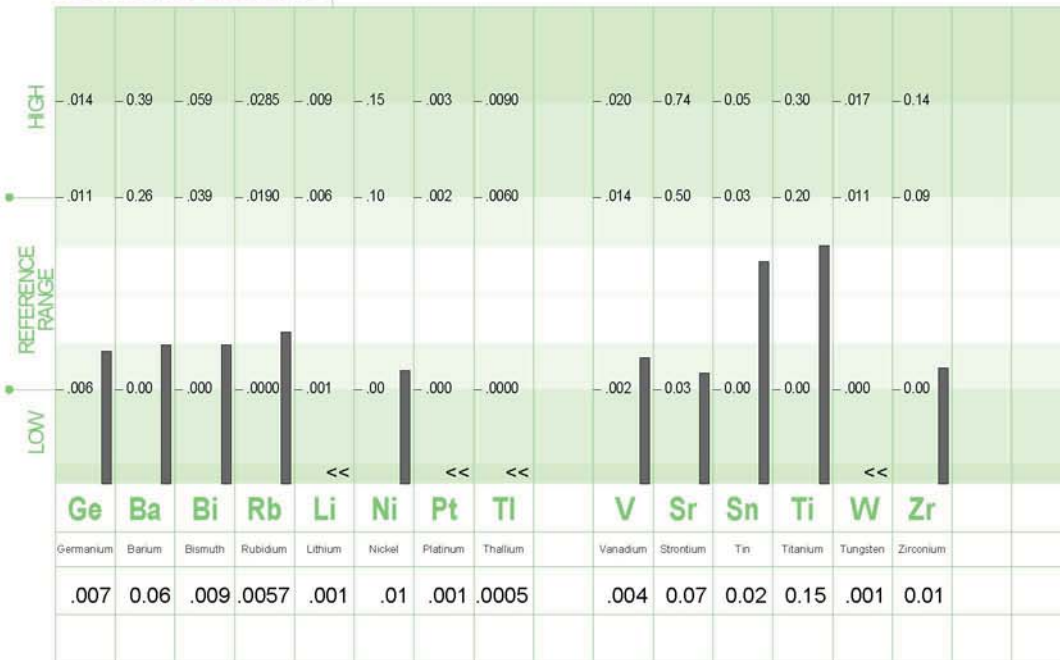
NUTRITIONAL ELEMENTS



TOXIC ELEMENTS



ADDITIONAL ELEMENTS



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

"QNS": Sample Size Was Inadequate For Analysis.

"N/A": Currently Not Available

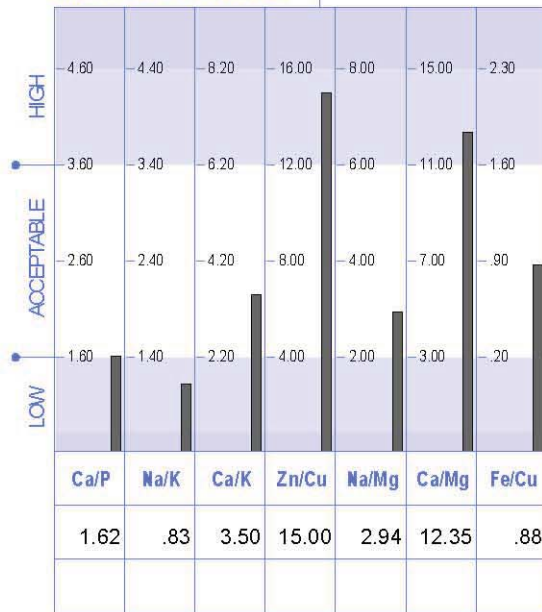
Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

Laboratory Analysis Provided by Trace Elements, Inc., an H. H. S. Licensed Clinical Laboratory. FNo. 45 D0481787

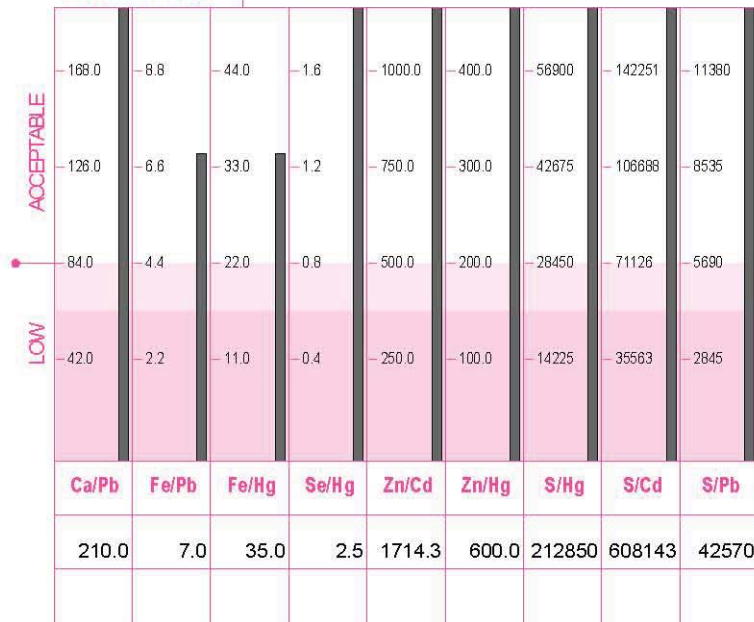
5/14/2013
CURRENT TEST RESULTS

PREVIOUS TEST RESULTS

SIGNIFICANT RATIOS



TOXIC RATIOS



ADDITIONAL RATIOS

RATIO	CALCULATED VALUE		EXPECTED
	Current	Previous	
Ca/Sr	300.00		131/1
Cr/V	10.00		13/1
Cu/Mo	200.00		625/1
Fe/Co	700.00		440/1
K/Co	6000.00		2000/1
K/Li	6000.00		2500/1
Mg/B	.81		40/1
S/Cu	5321.25		1138/1
Se/Tl	100.00		37/1
Se/Sn	2.50		0.67/1
Zn/Sn	600.00		167/1

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 RANGES

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

Important Note: The reference ranges 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 healthcare 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 doctor.

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 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 health-care 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.

FAST METABOLISM (TYPE #3)

- ** Sympathetic Dominance
- ** Tendency Toward Increased Thyroid Function (increased secretion of hormones)
- ** Tendency Toward Decreased Adrenal Activity (decreased secretion of hormones)

This child's mineral pattern is indicative of a fast metabolic rate (Fast Metabolism, Type #3). This pattern is often associated with exposure to a rather strong and prolonged period of stress (physical and/or emotional), and is described as the resistance or exhaustion stage of stress. If this is the case, there may be a noticeable drop in the child's normal energy levels. This condition if chronic, can result in lowered resistance to infections, and excessive metabolic activity.

It should be noted that stress is a normal part of life and serves a useful purpose when it is controlled. However, chronic uncontrolled stress will eventually contribute to various vitamin and mineral imbalances, and the ability to maintain adequate energy levels and optimum health will decrease.

NUTRIENT MINERAL LEVELS

This section of the report may discuss those nutritional mineral levels that reveal moderate or significant deviations from normal. The light blue area's of each graph section represent the reference range 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 range 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 tissue calcium level is below the normal level. This is not uncommon for children and fast metabolizers (Type #3's). However, if this profile worsens or continues for an extended period of time, a tendency toward experiencing one or more of the following symptoms will increase:

Dental Caries	Insomnia
Nervousness	Irritability

SOME FACTORS THAT MAY CONTRIBUTE TO A CHILDS LOW CALCIUM LEVEL

- * Increased Thyroid Activity
- * Hypoparathyroid Activity
- * Excess of Vitamin A
- * Toxic Metal Accumulation
- * Deficiency of Vitamin D
- * Excessive Phosphorus Retention
- * Deficiency of Magnesium
- * Stress
- * Inadequate Calcium Intake

HYPERACTIVITY PROFILE

The mineral calcium has a sedative affect upon the central nervous system. When cellular calcium levels are reduced, it can be indicative of a tendency towards hyperactivity. A concomitant deficiency of magnesium is an additional indicator of this profile. The following conditions are also associated with low calcium retention:

Dental Caries	Insomnia
Allergies	Irritability
Growing Pains	Decreased Attention Span

MAGNESIUM (Mg)

The mineral magnesium will normally fluctuate up and down with calcium. Magnesium is necessary for muscle relaxation, protein synthesis, nerve excitability and energy production on a cellular level. In a child, when magnesium levels are chronically low in the body, an increased tendency toward one or more of the following conditions will occur:

Hyperactivity	Noise Sensitivity
Muscle Spasms	Irritability
Insomnia (waking frequently)	

SOME FACTORS THAT MAY CONTRIBUTE TO A LOW TISSUE MAGNESIUM LEVEL

Low Magnesium Intake	Excess Phosphorus Intake
Deficiency of Vitamin D	Stress
Pancreatitis	Tissue Acidity
Chronic Diarrhea	Intestinal Malabsorption

INSOMNIA (TYPE #2)

Based on current research, there are two basic types of insomnia, Type #1 and Type #2. This mineral profile is indicative of a Type #2 insomnia trend. Type #2 is characterized by the ability to fall asleep, but awakening frequently throughout the night. Type #2 insomnia is associated with increased magnesium requirements.

COPPER (Cu)

The copper level is below normal. A reduction in cellular copper status can be due to the following factors:

Excessive Tissue Acidity	Excessive Vitamin C Intake
Toxic Metal Accumulation	Excessive Zinc Intake/Retention
Excessive Iron Intake/Retention	

LOW TISSUE COPPER MAY CONTRIBUTE TO THE FOLLOWING

Dental Caries	Bleeding Gums
Anemia	Ligamentous Laxity

Skin Blemishes

Infections

BORON (B)

The boron level of 2.11 mg% is above the established reference range for this element. Boron is suspected to be indirectly associated with calcium, magnesium and phosphorus metabolism, through its suppressing affect upon parathyroid hormone activity. Signs of acute boron excess may include:

Nausea
Diarrhea
Lethargy

Vomiting
Dermatitis

Boron is also known to antagonize vitamin B2, thereby increasing vitamin B2 requirements when boron is elevated.

SOME SOURCES OF BORON

Antacids
Antihistamines
Antibiotics
Dental hygiene products
Cleaning solutions with boric acid

Laxatives
Decongestants
Analgesics
Insecticide Dusts
Soap (borax)

SOME FOOD SOURCES OF BORON

Legumes
Fruits
Alcoholic Products

Tubers
Vegetables
Dietary Supplements

Note: Elevated boron levels may be due to external contamination from soap and detergent residues.

NUTRIENT MINERAL RATIOS

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

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).

LOW SODIUM/POTASSIUM (Na/K) RATIO

When sodium is low in relation to potassium, emotional mood swings, including depression have been cited in greater frequency. A low sodium-to-potassium ratio may also be related to phobias, withdrawal, repression and indecision.

MINERAL METABOLISM AND VITAMIN B6

A deficiency of, or increased requirement for vitamin B6 (pyridoxine) leads to alterations in the metabolism, utilization and balance between calcium and magnesium. Calcium retention will increase and the excretion of magnesium will also increase when vitamin B6 is lacking. Therefore, an increased need for vitamin B6 may be indicated by this child's current HTMA pattern.

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 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.

ARSENIC (As)

This child's arsenic level of 0.052 mg% is above the established reference range. Arsenic has been found high in some seafood obtained from coastal waters, particularly shrimp, oysters, and mussels. Other sources include arsenic rich soils, herbicides, arsenic containing insect sprays, burning of arsenate treated building materials in fireplaces, coal combustion, and smelters.

NOTE:

At this time, further confirmation of heavy metal toxicity 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 levels in the blood may not be present. It is recommended that another analysis be performed in at least one year to monitor any changes in toxic metal accumulation.

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 in the diet to aid in the improvement of this child's biochemistry.

GENERAL DIETARY GUIDELINES FOR THE FAST METABOLIZER

* INCREASE INTAKE OF HIGH PURINE PROTEIN FOODS...high purine protein sources include liver, kidney and heart. Other good sources include sardines, tuna, clams, crab, lobster and oysters. Unless notified otherwise, high purine and moderate purine protein intake should constitute approximately 33% of total daily caloric intake.

* INCREASE INTAKE OF MILK AND MILK PRODUCTS...such as cheese, yogurt, cream, butter (unsalted). Increase intake of nuts and seeds such as almonds, walnuts, peanuts, peanut butter and sunflower seeds. Foods high in fat unless notified otherwise should constitute approximately

33% of total daily caloric intake.

* **REDUCE CARBOHYDRATE INTAKE**...including unrefined carbohydrates. Sources such as cereals, whole grains and whole grain products are contraindicated for frequent consumption until the next evaluation. Carbohydrate intake in the form of unrefined carbohydrates should be approximately 33% of total daily caloric intake.

* **AVOID ALL SUGARS AND REFINED CARBOHYDRATES**...this includes white and brown sugar, honey, candy, soda pop, cake, pastries, alcohol and white bread.

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 drowsiness to hyperactivity in children, itching and rashes, headaches, high-blood pressure and arthritic pain.

Sensitivity to foods can develop due to biochemical (nutritional) imbalances, and which stress, pollution, and medications can aggravate. 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 avoid. 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 avoided completely for four days. After which, they should not be eaten more frequently than once every three days during course of therapy.

FOODS THAT STIMULATE HISTAMINES

Consumption of the following foods can stimulate histamine release in certain metabolic types and may contribute to respiratory-type allergy reactions. These foods are to be avoided until the next evaluation or until notified otherwise by attending doctor.

Beet Greens	Rhubarb
Apples	Chocolate
Spinach	Black Tea
Eggplant	Strawberries
Sweet Potatoes	Peanuts
Blueberries	Green Beans
Pecans	Chard
Wheat Germ	Concord Grapes
Cocoa	Collards
Parsley	Blackberries
Beets	

THE FOLLOWING FOODS MAY BE INCREASED IN THE DIET UNTIL THE NEXT EVALUATION

Mozzarella Cheese	Turnip Greens
Milk	Mustard Greens
Kale	Yogurt
Monterey Cheese	Cream
Almonds	Buttermilk
Swiss Cheese	

HIGH COPPER FOODS TO INCREASE IN THE DIET

The following foods are good sources of dietary copper. If desired, these foods may be increased in the diet until the next evaluation.

Cod	Lobster
Brazil Nuts	Mushrooms
Pecans	Crab
Hazelnuts	Almonds
Pistachio Nuts	Sesame Seeds

Sunflower Seeds
Duck

Walnuts
Liver

AMINO ACIDS THAT IMPROVE CALCIUM ABSORPTION

Calcium absorption is greatly enhanced when the diet is high in the amino acids, lysine, arginine and histadine. These proteins also help to reduce acidity of the tissues. Both effects are favorable for the fast metabolizer, therefore addition of any of the following foods to the diet is recommended at this time:

Lima Beans
Garbanzo Beans
Rumproast
Skim Milk
Beef Stew
Cottage Cheese
Spare Ribs
Lentils
Flounder
Cod
Ham

Salami
Sausage (lean)
Lamb
Smelt
Vegetable Stew
Canadian bacon
Peanuts
Bass
Heart
Chuck Roast
Liverwurst

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.

NAME:  BALAZS

DIET SUMMARY PAGE

This page may be removed from the HTMA Report and used as a quick-reference dietary guide. As this is solely a summary page, please refer to the dietary portion of the report to obtain more detailed information on why a particular food item is listed in the "Foods To Avoid" or "Foods That May Be Increased" section. For those foods that are not specifically mentioned below, continued consumption on a moderate basis is acceptable unless recommended otherwise by the attending healthcare professional.

FOODS TO AVOID UNTIL THE NEXT EVALUATION

Alcohol	Apples	Beans - Green	Beet Greens
Beets	Blackberries	Blueberries	Bread - White
Cakes	Candy	Chard	Chocolate
Cocoa	Collards	Eggplant	Grapes - Concord
Honey	Parsley	Pecans	Peanuts
Rhubarb	Soda	Spinach	Strawberries
Sugar	Sweet Potatoes	Tea - Black	Wheat Germ

FOODS THAT MAY BE INCREASED IN THE DIET

Almonds	Bacon - Canadian	Bass	Beans - Garbanzo
Beans - Lima	Beef - Stew	Brazil Nuts	Buttermilk
Cheese - Cottage	Cheese - Monterey	Cheese - Mozzarella	Cheese - Swiss
Clams	Cod	Crab	Cream
Duck	Flounder - Baked	Ham	Hazelnuts
Kale	Lamb	Lentils	Liverwurst
Lobster	Milk - Skim	Milk - Whole	Mushrooms
Mustard Greens	Oysters	Peas	Pistachio Nuts
Roast - Chuck	Roast - Rump	Salami	Sausage - Lean
Sesame Seeds	Smelt	Sunflower Seeds	Tuna
Turnip Greens	Vegetable Stew	Walnuts	Yogurt

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

RECOMMENDATION	AM	NOON	PM
SYM-PACK (Metabolic Support)	1	0	1
THYMUS COMPLEX (Glandular Support)	1	0	1
MAGNESIUM PLUS	1	0	1
GT-FORMULA (Chromium)	1	1	1
PYRIDOX PLUS (Vitamin B6)	1	1	1
COPPER PLUS	1	1	1
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. ADDITIONALLY, NUTRITIONAL SUPPLEMENTS SHOULD NEVER BE TAKEN AT THE SAME TIME AS MEDICATIONS. MEDICATIONS SHOULD BE TAKEN 2 HOURS PRIOR TO, OR 2 HOURS AFTER NUTRITIONAL SUPPLEMENT INTAKE.

INTRODUCTION

THE FOLLOWING REPORT SHOULD NOT BE CONSIDERED AS DIAGNOSTIC, BUT RATHER AS A SCREENING TOOL THAT PROVIDES AN ADDITIONAL SOURCE OF INFORMATION. THIS REPORT SHOULD ONLY BE USED IN CONJUNCTION WITH OTHER LABORATORY TESTS, HISTORY, PHYSICAL EXAMINATION AND THE CLINICAL EXPERTISE OF THE ATTENDING DOCTOR.

TEST RESULTS WERE OBTAINED BY A LICENSED* CLINICAL LABORATORY ADHERING TO TESTING PROCEDURES THAT COMPLY WITH GOVERNMENTAL PROTOCOL AND STANDARDS ESTABLISHED BY TRACE ELEMENTS, INC., U.S.A. THE FOLLOWING INTERPRETATION IS BASED UPON INTERNATIONAL DATA AND DEFINED BY EXTENSIVE CLINICAL RESEARCH CONDUCTED BY DAVID L. WATTS, PH.D.

This analysis including levels, ratios, ranges and recommendations are based upon the sample and sampling technique meeting the following requirements:

- ** Sample obtained from the mid-parietal to the occipital region of scalp.
- ** Sample is proximal portion of hair length (first 1" to 2" of hair closest to scalp).
- ** Sufficient sample weight (minimum of 150 mg.)
- ** High grade stainless steel sampling scissors.
- ** Untreated virgin hair (no recent perms, bleaching, or coloring agents).

* Clinical Laboratory License

U.S. Department of Health and Human Services, State of Texas Department of Health,
Clinical Laboratories Improvement Act, 1988 No. 45-D0481787

METABOLIC TYPE

FAST METABOLISM, TYPE #3

The patient is classified as a FAST METABOLIZER TYPE #3 characterized by sympathetic dominance with increased thyroid activity and adrenal insufficiency. This pattern may be the result of chronic stress, and is also indicative of an early resistance or exhaustion stage of stress. If chronic, this condition can result in lowered resistance to infections and increased catabolic activity, which if severe may cause serological changes including:

Elevated BUN
Elevated SGOT

Elevated SGPT
Elevated Creatinine

Endocrine replacement therapy, such as; thyroid, insulin, adrenal steroids (anti-inflammatory drugs), etc., as well as endocrine antagonists and in extreme cases of surgical removal of a gland, can affect the tissue mineral pattern. In these cases, the above reported indications of endocrine status should not be considered as representative of endocrine activity. Additional clinical tests and patient history should be taken into consideration.

There are several sub-classifications of each metabolic type, ranging from Type #1 to Type #4. This is taken into consideration on their supplement and dietary recommendations. The extent to which the patient is manifesting these metabolic characteristics depends upon the degree and chronicity of the mineral patterns.

RE-EVALUATION

A re-evaluation is suggested at two months from the beginning of implementation of the supplement program. The metabolic subtypes, such as the Type #3 may result from an acute condition, and therefore, may show a metabolic response more quickly than the Type #1.

TRENDS

The following trends may or may not be manifesting in the patient at this time. Each trend that is listed is a result of research including statistical and clinical observations. This trend analysis is advanced merely for the consideration of the health professional, and should not be considered an assessment of a medical condition. Further investigation may be indicated based upon your own clinical evaluation.

At this time, further confirmation of heavy metal toxicity 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 levels in the blood may not be present. It is recommended that another analysis be performed in at least one year to monitor any changes in toxic metal accumulation.

CONTRAINDICATIONS

It is suggested that additional supplementation and/or intake of the following nutrients and food substitutes should be avoided by the patient until re-evaluation.

* VITAMIN A *

Vitamin A has a stimulating effect upon the thyroid gland and therefore may contribute to a concomitant increase in the metabolic rate. Vitamin A's action increases the tissue retention of the mineral potassium and antagonizes the effect of vitamin D, which can contribute to calcium loss or a lack of retention. At this time extra vitamin A supplementation should be avoided by the patient unless an inborn error of metabolism exists.

* VITAMIN B5 *

Vitamin B5 (pantothenic acid), antagonizes the retention of the mineral copper. Since the patient is presently showing a low tissue copper level, extra pantothenic acid supplementation should be avoided at this time.

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 in the diet to aid in the improvement of the patient's chemistry.

GENERAL DIETARY GUIDELINES FOR THE FAST METABOLIZER

* INCREASE INTAKE OF HIGH PURINE PROTEIN FOODS...high purine protein sources include liver, kidney and heart. Other good sources include sardines, tuna, clams, crab, lobster and oysters. Unless notified otherwise, high purine and moderate purine protein intake should constitute approximately 33% of total daily caloric intake.

* INCREASE INTAKE OF MILK AND MILK PRODUCTS...such as cheese, yogurt, cream, butter (unsalted). Increase intake of nuts and seeds such as almonds, walnuts, peanuts, peanut butter and sunflower seeds. Foods high in fat unless notified otherwise should constitute approximately 33% of total daily caloric intake.

* REDUCE CARBOHYDRATE INTAKE...including unrefined carbohydrates. Sources such as cereals, whole grains and whole grain products are contraindicated for frequent consumption until the next evaluation. Carbohydrate intake in the form of unrefined carbohydrates should be approximately 33% of total daily caloric intake.

* AVOID ALL SUGARS AND REFINED CARBOHYDRATES...this includes white and brown sugar, honey, candy, soda pop, cake, pastries, alcohol and white bread.

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 drowsiness to hyperactivity in children, itching and rashes, headaches, high-blood pressure and arthritic pain.

Sensitivity to foods can develop due to biochemical (nutritional) imbalances, and which stress, pollution, and medications can aggravate. 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 avoid. 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 avoided completely for four days. After which, they should not be eaten more frequently than once every three days during course of therapy.

FOODS THAT STIMULATE HISTAMINES

Consumption of the following foods can stimulate histamine release in certain metabolic types and may contribute to respiratory-type allergy reactions. These foods are to be avoided until the next evaluation or until notified otherwise by attending doctor.

Beet Greens	Rhubarb
Apples	Chocolate
Spinach	Black Tea
Eggplant	Strawberries
Sweet Potatoes	Peanuts
Blueberries	Green Beans
Pecans	Chard
Wheat Germ	Concord Grapes
Cocoa	Collards
Parsley	Blackberries
Beets	

THE FOLLOWING FOODS MAY BE INCREASED IN THE DIET UNTIL THE NEXT EVALUATION

Mozzarella Cheese	Turnip Greens
Milk	Mustard Greens
Kale	Yogurt
Monterey Cheese	Cream
Almonds	Buttermilk
Swiss Cheese	

HIGH COPPER FOODS TO INCREASE IN THE DIET

The following foods are good sources of dietary copper. If desired, these foods may be increased in the diet until the next evaluation.

Cod	Lobster
Brazil Nuts	Mushrooms
Pecans	Crab
Hazelnuts	Almonds
Pistachio Nuts	Sesame Seeds
Sunflower Seeds	Walnuts
Duck	Liver

AMINO ACIDS THAT IMPROVE CALCIUM ABSORPTION

Calcium absorption is greatly enhanced when the diet is high in the amino acids, lysine, arginine and histadine. These proteins also help to reduce acidity of the tissues. Both effects are favorable for the fast metabolizer, therefore addition of any of the following foods to the diet is recommended at this time:

Lima Beans	Salami
Garbanzo Beans	Sausage (lean)
Rumproast	Lamb
Skim Milk	Smelt
Beef Stew	Vegetable Stew
Cottage Cheese	Canadian bacon
Spare Ribs	Peanuts
Lentils	Bass
Flounder	Heart
Cod	Chuck Roast
Ham	Liverwurst

This analysis will list only a limited number of dietary foods to avoid or to increase in the diet. For those foods not specifically mentioned in this section, continued consumption on a moderate basis may be considered appropriate unless recommended

otherwise.

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.

WHAT TO EXPECT DURING THE PROGRAM:

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 one's 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.