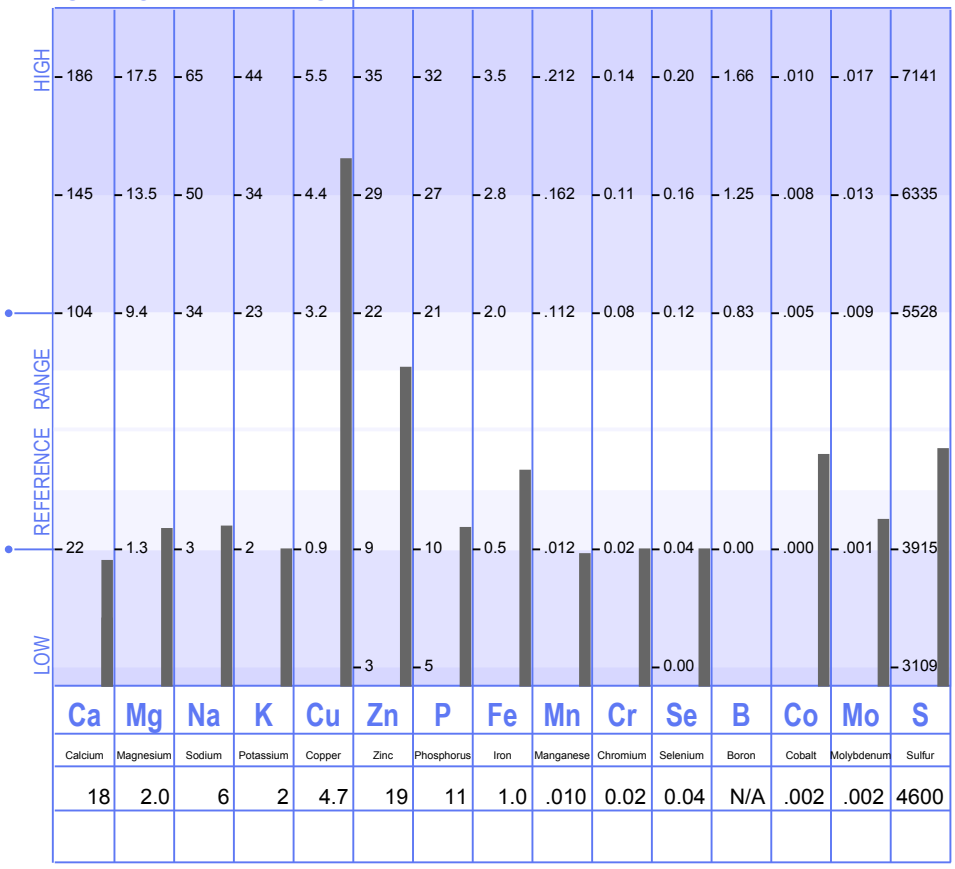
TRACE ELEMENTS
4501 Sunbelt Drive · Addison, Tx · 75001 · U.S.A.

LABORATORY NO.:	1
PROFILE NO.: 2	SAMPLE TYPE: SCALP

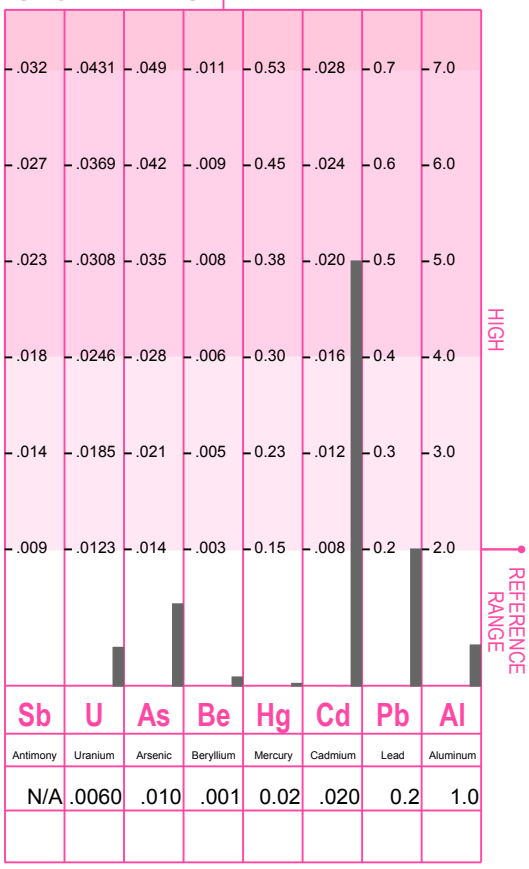
PATIENT: SAMPLE, SUSIE	AGE: 47	SEX: F	METABOLIC TYPE: FAST 4
REQUESTED BY: HOUSE	ACCOUNT NO.: 007		DATE: 1/5/2018

NUTRITIONAL ELEMENTS



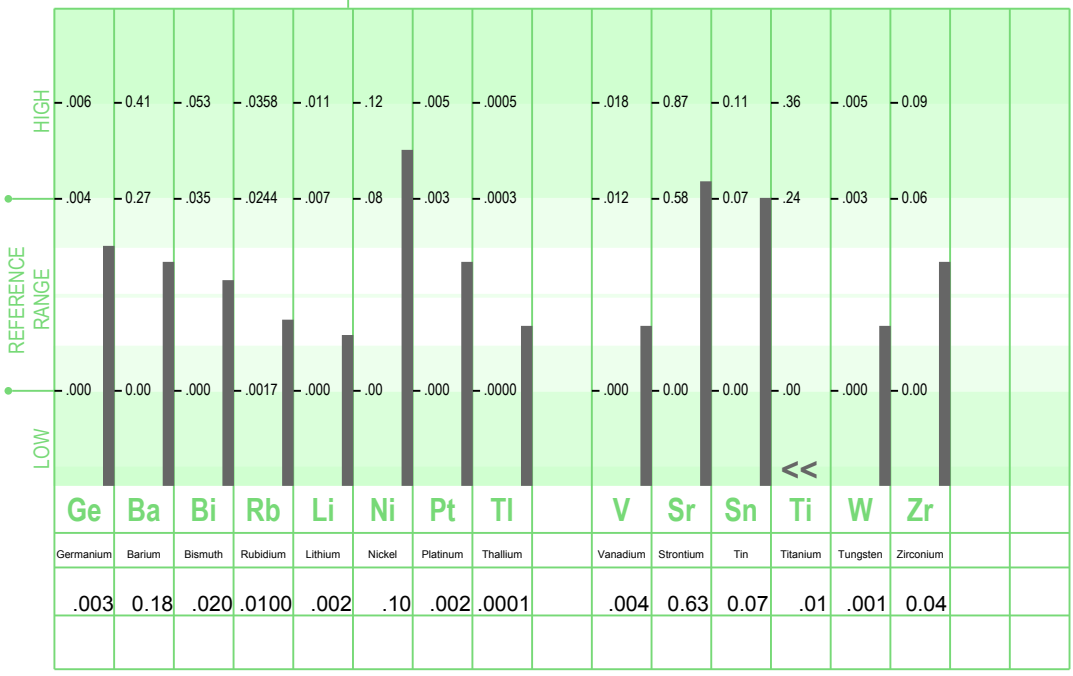
Ca	Mg	Na	K	Cu	Zn	P	Fe	Mn	Cr	Se	B	Co	Mo	S
Calcium	Magnesium	Sodium	Potassium	Copper	Zinc	Phosphorus	Iron	Manganese	Chromium	Selenium	Boron	Cobalt	Molybdenum	Sulfur
18	2.0	6	2	4.7	19	11	1.0	.010	0.02	0.04	N/A	.002	.002	4600

TOXIC ELEMENTS



Sb	U	As	Be	Hg	Cd	Pb	Al
Antimony	Uranium	Arsenic	Beryllium	Mercury	Cadmium	Lead	Aluminum
N/A	.0060	.010	.001	0.02	.020	0.2	1.0

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
.003	0.18	.020	.0100	.002	.10	.002	.0001	.004	0.63	0.07	.01	.001	0.04

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

"QNS": Sample Size Was Inadequate For Analysis.

"N/A": Currently Not Available

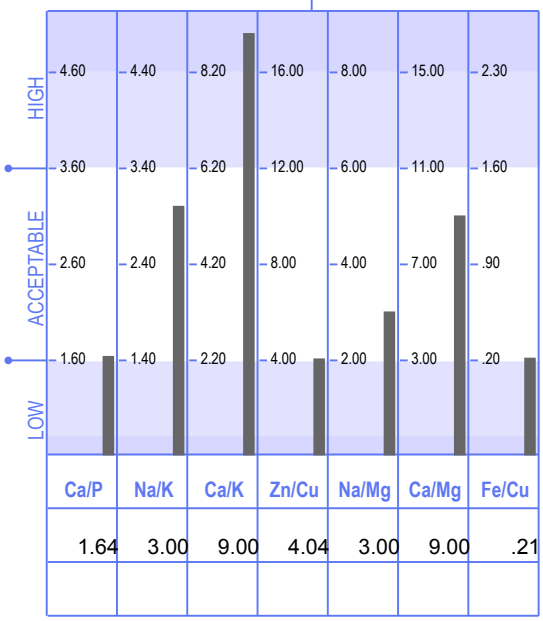
Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

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

1/5/2018
CURRENT TEST RESULTS

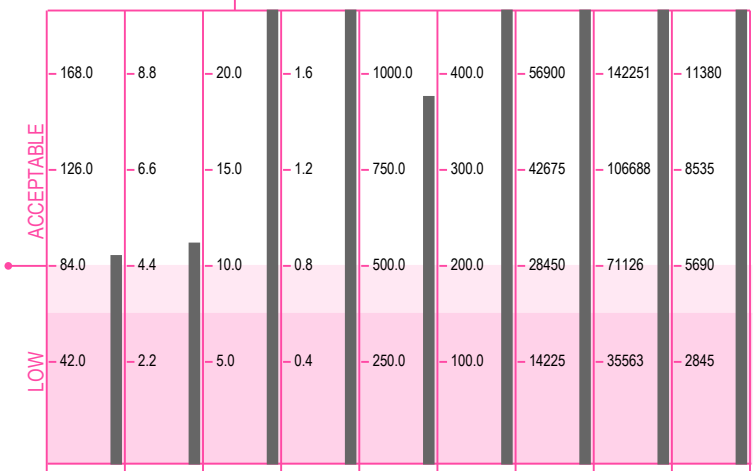
PREVIOUS TEST RESULTS

SIGNIFICANT RATIOS



Ca/P	Na/K	Ca/K	Zn/Cu	Na/Mg	Ca/Mg	Fe/Cu
1.64	3.00	9.00	4.04	3.00	9.00	.21

TOXIC RATIOS



Ca/Pb	Fe/Pb	Fe/Hg	Se/Hg	Zn/Cd	Zn/Hg	S/Hg	S/Cd	S/Pb
90.0	5.0	50.0	2.0	950.0	950.0	230000	230000	23000

ADDITIONAL RATIOS

RATIO	CALCULATED VALUE		EXPECTED
	Current	Previous	
Ca/Sr	28.57		263/1
Cr/V	5.00		8/1
Cu/Mo	2350.00		356/1
Fe/Co	500.00		615/1
K/Co	1000.00		6350/1
K/Li	1000.00		6350/1
Mg/B	N/A		21/1
S/Cu	978.72		2668/1
Se/Tl	400.00		370/1
Se/Sn	.57		3.2/1
Zn/Sn	271.43		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.

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
ADRENAL COMPLEX (Glandular Support)	1	1	1
PYRIDOX PLUS (Vitamin B6)	1	0	1
ZMC PLUS (Zinc + Manganese + Vitamin C)	1	0	1
HCL V-PLUS (Digestive Support)	1	1	1
	0	0	0

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 HEALTHCARE PROFESSIONAL.

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 METABOLIZER, TYPE #4

The patient is classified as a FAST METABOLIZER TYPE #4. This metabolic type has a dominance of phosphorus relative to calcium (sympathetic dominance), with an existing adrenal and thyroid insufficiency. This pattern is characteristic of "stress burnout," which can be a result of prolonged, chronic stress. This pattern may result in extreme fatigue and depression.

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.

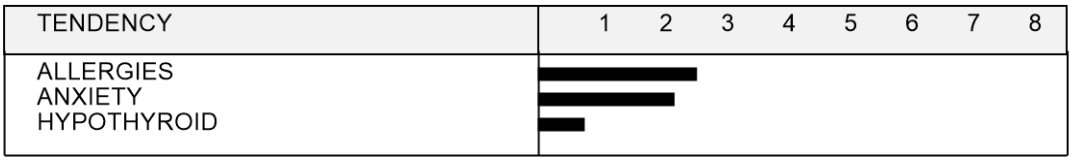
RE-EVALUATION

A re-evaluation is suggested at two months from the beginning of implementation of the supplement program. The metabolic subtypes, such as the Type #4 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.

*** SPECIAL NOTE ***
It must be emphasized that the following are only trends of potential health conditions. Realistically, the probability for each trend's occurance is based upon the degree and duration of the specific mineral imbalance. Since this analysis is not capable of determining either the previous degree of imbalance and/or previous duration, the trend analysis should only be used as an indicator to the health-care professional of potential manifestation's, particularly if the biochemical imbalance continues.



COMMENTS

ALLERGIES AND COPPER:
The mineral copper is a constituent of the enzyme histaminase and the protein ceruloplasm, both of which have the ability to destroy histamine. Zinc is required for the storage of histamine. Since the patient's zinc level is low to copper, or the tissue copper level is elevated, a low serum histamine may be present. This may result in histamine depletion if chronic. Low histamine levels have been found in the serum of patients who suffer from allergies to foods and inhalants.

ANXIETY:
Low tissue calcium is associated with increased central nervous system sensitivity and increased serum lactic acid levels, both of which may contribute to increased anxiety states. Anxiety may be contributed to by any factor that interferes with normal calcium metabolism such as stress or accumulation of toxic metals such as lead and mercury.

HYPOTHYROID:
High calcium relative to potassium indicates a tendency toward a low thyroid function. It has been found that an elevated TSH, even when circulating T-3 and T-4 are normal, is an early indication of hypothyroidism.

TOXIC METALS

CADMIUM (Cd):
Cadmium is a toxic metal that interferes with the absorption and function of several minerals such as; zinc, iron, copper and manganese. Cadmium has an affinity to accumulate mainly in the kidneys, but will also deposit in the liver and bones if excessive. Some sources of cadmium are:

Tobacco
Burning Plastics
Zinc Smelters
Galvanized Water Pipes

Superphosphate Fertilizers
Electronics Industry

Auto Exhaust

METABOLIC DYSFUNCTIONS AND CADMIUM:
Chronic or long term exposure to cadmium has been related to kidney disturbance, abnormal bone changes, emphysema, pneumonitis, liver disturbance, anemia and discoloration or yellowing of the dental enamel. These abnormalities may occur only after several years of exposure to cadmium.

ADDITIONAL TEST(S):
* Pubic Hair Cadmium... to confirmendogenous accumulation and/or exogenous contamination.
* 24 Hour Urine Cadmium

IMPORTANT NOTE:
ELIMINATION OF CADMIUM FROM THE BODY CAN OFTEN PRODUCE SYMPTOMS THAT ARE SIMILAR TO FLU SYMPTOMS.

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.

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 reponse. Consumption of these foods should be avoided completely for four days. Afterwhich, they should not be eaten more frequently than once every three days during course of therapy.

FOOD ALLERGIES RELATED TO COPPER:
Individuals with excessive tissue copper accumulation will often crave foods that are high in copper. The following foods, which are high in copper relative to zinc, should be avoided until the next evaluation:

Chocolate	Liver
Haddock	Walnuts
Bran Flakes	Pecans
Peanut Butter	Avocado
Shrimp	Grapes
Trout	Bakers Yeast

REACTIONS ASSOCIATED WITH COPPER FOOD ALLERGIES

Excess intake of high copper foods has been associated with several reactions, both physical and emotional. Physical reactions may include; frontal headaches, skin rashes, joint stiffness, constipation, insomnia causing morning fatigue, bloating, water retention, and cold sensitivity. Emotional reactions may include depression, crying spells, fearfulness, anxiety, irritability, anger, aggressive behavior and withdrawal.

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
Wheat Germ
Cocoa
Parsley
Beets
Chard
Concord Grapes
Collards
Blackberries

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

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

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:

Ham
Lamb
Cottage Cheese
Spare Ribs
Lentils
Rumproast
Vegetable Stew
Canadian bacon
Peanuts
Chuck Roast

SPECIAL NOTE:
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 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.