

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 occurrence 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.

TENDENCY	1	2	3	4	5	6	7	8
ALLERGIES	██████████							
ANXIETY	██████████							
HYPOTHYROID	████							

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):

The cadmium level is elevated when compared to the population in general, which is indicative of acute exposure or chronic exposure to this toxic element, representing an unnecessary risk. 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

Zinc Smelters

Burning Plastics
Superphosphate Fertilizers
Electronics Industry

Galvanized Water Pipes
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. However, these abnormalities may occur only after several years of exposure to cadmium.

IMPORTANT NOTE:

ELIMINATION OF CADMIUM FROM THE BODY CAN OFTEN PRODUCE SYMPTOMS 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. Therefore, improving your nutritional status can help reduce the toxic metal burden and 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 of 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 improving {age} biochemistry.

GENERAL DIETARY GUIDELINES FOR THE FAST METABOLIZER:

* INCREASE INTAKE OF HIGH PURINE PROTEIN FOODS...high purine protein sources include the 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, and 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 the 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.

FOOD ALLERGIES RELATED TO COPPER:

Individuals with excessive tissue copper accumulation will often crave foods 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 physical and emotional reactions. 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. Therefore, these foods are to be avoided until the next evaluation or until notified otherwise by the attending healthcare professional.

- | | |
|----------------|----------------|
| 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 | |

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 the acidity of the tissues. Both effects are favorable for the fast metabolizer; therefore, the addition of any of the following foods to the diet is recommended at this time:

- | | |
|----------------|----------------|
| Ham | Rump roast |
| Lamb | Vegetable Stew |
| Cottage Cheese | Canadian bacon |
| Spare Ribs | Peanuts |
| Lentils | 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 on other supporting clinical data as determined by the attending healthcare professional.

OBJECTIVE OF THE PROGRAM:

This program aims 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 the removal of the excess metal is complete.