

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 #2

The patient's tissue mineral pattern indicates a FAST METABOLIZER TYPE #2 characterized as being sympathetic dominant with high adrenal activity in conjunction with decreased thyroid function. This pattern is indicative of acute stress and a possible inflammatory condition. This condition may result in a lack of sustained energy production and can lead to mood swings and fluctuations in energy levels.

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 #2, 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
ANXIETY	████████████████							
ASTHMA	██████████							
GASTRITIS	██████████████████							
HYPERACTIVITY	████████████████							

COMMENTS

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.

ASTHMA AND MAGNESIUM:

Low magnesium intake has been found in groups of people experiencing lung problems such as wheezing and asthma. Histamines can trigger lung problems and are also known to increase the requirement for magnesium.

GASTRITIS:

High sodium relative to potassium has been associated with a gastritis-like condition.

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

ELEVATED ARSENIC (As):

The arsenic level is above the established reference range for this toxic element. Arsenic is antagonistic to selenium and may therefore contribute to free-radical formation.

SOURCES OF ARSENIC

Arsenic has been found high in some seafood obtained from coastal waters, particularly shrimp, oysters, and muscles. Other sources include arsenic rich soils, herbicides, arsenic containing insect sprays, burning of arsenate treated building materials in

fireplaces, coal combustion, and smelters.

CADMIUM (Cd):

The cadmium level is within the cautionary range. The following are some fairly common sources of cadmium:

Tobacco	Zinc Smelters
Burning Plastics	Galvanized Water Pipes
Superphosphate Fertilizers	Auto Exhaust
Electronics Industry	

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.

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 B3 *

Vitamin B3 (niacin), lowers or antagonizes the mineral copper. Niacin is presently in vogue as an anti-cholesterol supplement. However, it can contribute to hypercholesterolemia if an individual has a copper deficiency by further lowering the individual's copper status. A high zinc to copper ratio has been documented to affect adversely the HDL/LDL ratio. Therefore, avoidance of extra niacin supplementation by the patient is warranted at this time.

* ZINC *

An elevated zinc/copper ratio is known to lower the HDL/LDL ratio and thereby contribute to increased cholesterol levels. The patient should not be taking a zinc supplement exclusively as this may contribute to a worsening of the zinc/copper balance.

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
Cocoa
Parsley
Beets

Concord Grapes
Collards
Blackberries

FOODS HIGH IN MAGNESIUM

The following foods are high in magnesium content relative to calcium and sodium. These foods may be increased in the diet until the next evaluation.

Blackstrap Molasses
Prunes
Avocados
Bananas
Bass (broil)
Figs (dried)

Corn
Cashews
Wild Rice
Tofu
Garbanzo Beans

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

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
Brazil Nuts
Pecans
Hazelnuts
Pistachio Nuts
Sunflower Seeds
Duck

Lobster
Mushrooms
Crab
Almonds
Sesame Seeds
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

Soybeans
Sausage (lean)
Lamb
Smelt

Beef Stew
Cottage Cheese
Spare Ribs
Lentils
Flounder
Cod
Ham
Salami

Vegetable Stew
Canadian bacon
Peanuts
Bass
Heart
Chuck Roast
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.