

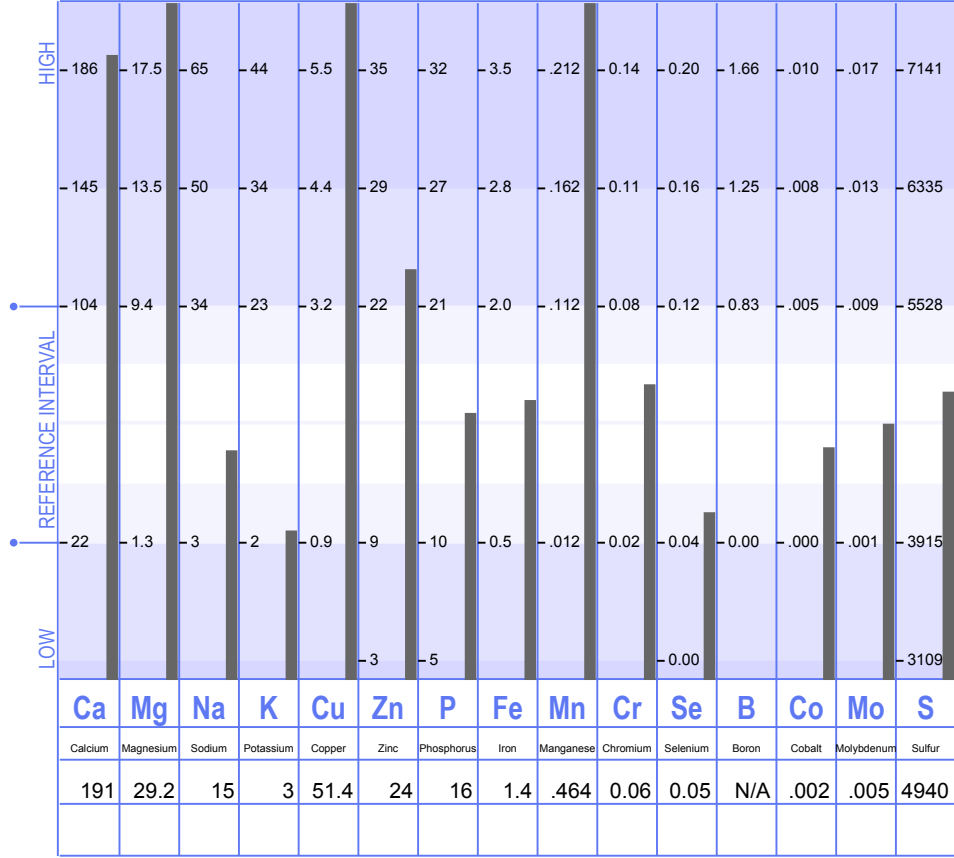


InterClinical Laboratories Pty Limited
 ABN 89 076 386 475
 PO Box 6474, Alexandria NSW 2015 Australia
 Ph: 02 9693 2888 Fax: 02 9693 1888
 Email: lab@interclinical.com.au

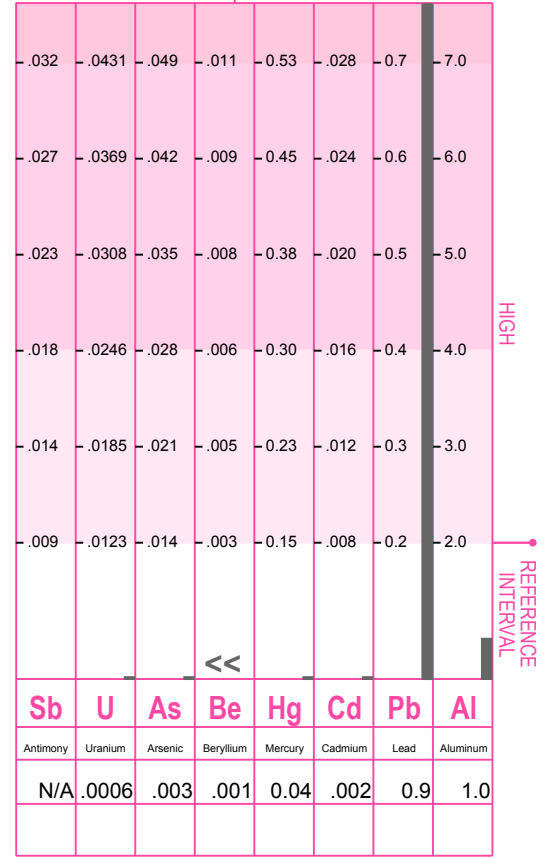
LABORATORY NO.: XXXXX	
PROFILE NO.: 2	SAMPLE TYPE: SCALP

PATIENT: XXXXX	AGE: 17	SEX: M	METABOLIC TYPE: SLOW 1
REQUESTED BY: XXXXX	ACCOUNT NO.: 2216	DATE: 2021	

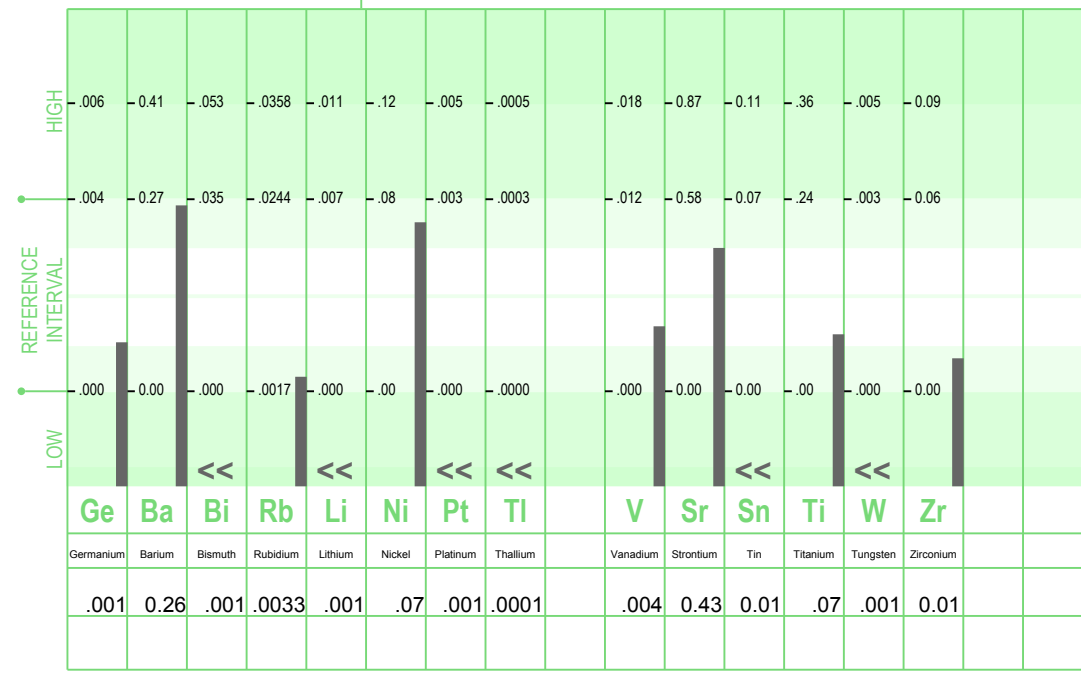
NUTRITIONAL ELEMENTS



TOXIC ELEMENTS



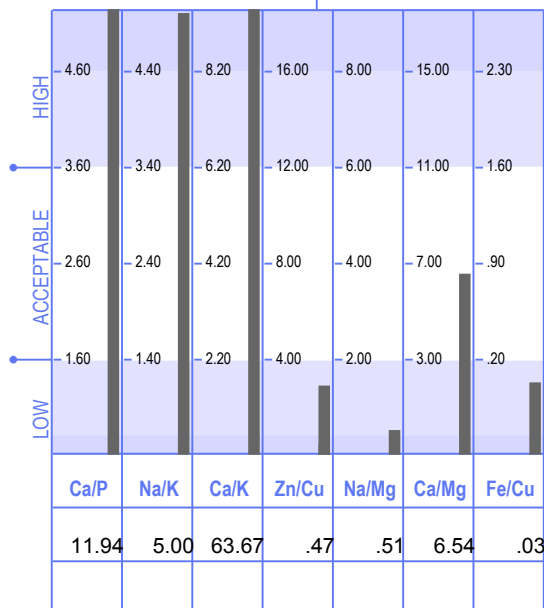
ADDITIONAL ELEMENTS



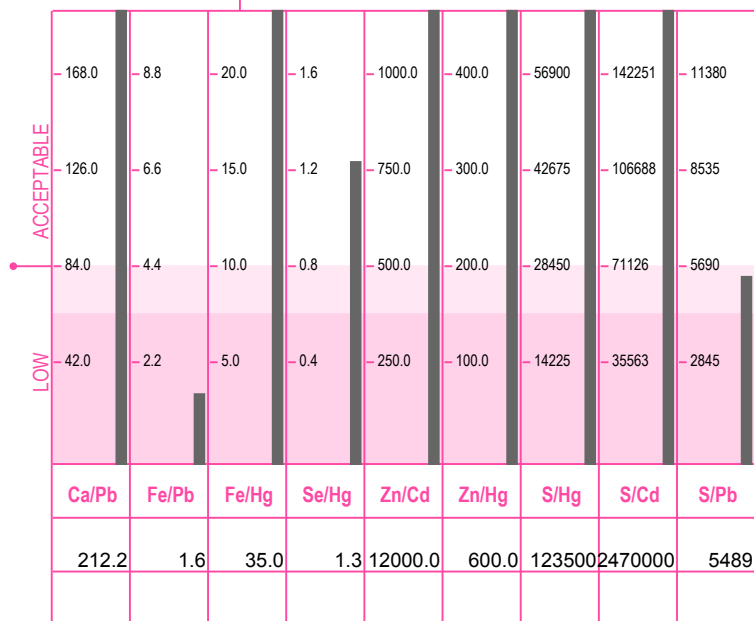
<<: Below Calibration Limit; Value Given Is Calibration Limit
 "QNS": Sample Size Was Inadequate For Analysis.
 "N/A": Currently Not Available
 Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.
 Laboratory Analysis Provided by Trace Elements, Inc. Dallas, Texas USA an H.H.S. Licensed Clinical Laboratory. No. 45 D0481787

2021
 CURRENT TEST RESULTS
 PREVIOUS TEST RESULTS

SIGNIFICANT RATIOS



TOXIC RATIOS



ADDITIONAL RATIOS

RATIO	CALCULATED VALUE		EXPECTED
	Current	Previous	
Ca/Sr	444.19		263/1
Cr/V	15.00		8/1
Cu/Mo	10280.00		356/1
Fe/Co	700.00		615/1
K/Co	1500.00		6350/1
K/Li	3000.00		6350/1
Mg/B	N/A		21/1
S/Cu	96.11		2668/1
Se/Tl	500.00		370/1
Se/Sn	5.00		3.2/1
Zn/Sn	2400.00		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.

THE FOLLOWING RECOMMENDATIONS SHOULD BE TAKEN ONLY WITH MEALS IN ORDER TO INCREASE ABSORPTION AND TO AVOID STOMACH DISCOMFORT. IF DISCOMFORT OCCURS SUPPLEMENTATION CAN BE REDUCED TO A MINIMUM THEN INCREASED GRADUALLY.

RECOMMENDATION	AM	NOON	PM
PARA TONE	2	2	2
ADEN COMPLEX	2	2	2
ACTIVATED B6 PLUS (Vitamin B6)	1	0	1
ZINC PLUS	2	1	2
MOLY ZINC	1	1	1
VITAMIN C PLUS	1	1	2
HCL SUPPORT	2	2	2

THESE RECOMMENDATIONS ARE BASED UPON THE MINERAL LEVELS FOUND IN THE HAIR TISSUE MINERAL ANALYSIS AND MAY AT TIMES NEED MODIFICATION AS PER SPECIFIC NEED AND/OR INDIVIDUAL CIRCUMSTANCES. THESE RECOMMENDATIONS ARE PROVIDED ONLY AS A PROFESSIONAL GUIDE TO SUPPLEMENTAL ASSISTANCE.

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.

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

SLOW METABOLISM, TYPE #1

This patient is classified as a SLOW METABOLIZER TYPE # 1. Generally speaking, the Slow Metabolizer is experiencing the following endocrine and CNS activity. However, in those cases involving 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, tissue mineral patterns can be significantly affected. In these cases, the following 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.

Para-Sympathetic Nervous System Dominance	Parathyroid Activity Increased
Tissue Alkalinity	Thyroid Activity Decreased
Pancreatic Activity Increased	Hypochlorhydria
Adrenal Medullary Insufficiency	

Physical Characteristics May Include:

Fatigue	Orthostatic Hypotension
Low Body Temperature	Pear-Shaped Body Structure
Low Blood Pressure	Cold Extremities

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 three months from the beginning of implementation of the TEI supplement program. However, if major symptomatic changes occur (other than from toxic metal removal), a retest can be submitted sooner.

High tissue copper has been associated with an increased incidence of depression, especially in women, often occurring near their menstrual period. The causative role of excess copper in depression may be due to its producing neurotransmitter imbalances in the brain, or its interfering with other nutrient minerals such as iron, zinc and manganese.

DEPRESSION AND HYPOTHYROIDISM:

An elevation of calcium relative to potassium is associated with hypothyroidism. Depression is often seen when a concomitant hypothyroid condition exists.

DERMATOSIS AND COPPER:

Copper is known to antagonize the metabolic activity of zinc as well as decrease its absorption. This may be a contributing factor to copper-induced dermatitis. Copper toxicity often produces skin rashes that are characterized by red itchy areas occurring on the face, neck, and lower back, on the thighs, and behind the knees.

FATIGUE:

High calcium to potassium is associated with an underactive thyroid. Fatigue is often a common complaint associated with low thyroid function.

HEADACHES AND HIGH TISSUE COPPER:

Elevated copper has been implicated in producing headaches, usually occurring in the frontal region. Copper water pipes may contribute to high tissue copper levels. The patient's water may be sent for analysis to determine if it is a source of copper contamination.

HYPOADRENIA:

Low tissue sodium and potassium relative to calcium and magnesium is associated with adrenal insufficiency. This may result in low blood pressure, postural hypotension, and fatigue.

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.

HYPOTHYROIDISM AND COPPER:

The mineral copper appears to have a suppressing effect upon the thyroid gland. Excess copper can cause a potassium loss and elevation of tissue calcium.

LIVER DYSFUNCTION:

High tissue copper levels are associated with decreased liver function. Copper is stored in the liver and eliminated via the gall bladder. Excessive accumulation of copper or its removal contributes to liver and gall bladder sluggishness. This can result in constipation and biliary stone formation due to incomplete emptying of the gall bladder.

PERIODONTAL PROBLEMS AND ELEVATED COPPER:

Excess copper by contributing to the rapid oxidation of vitamin C can contribute to swollen and bleeding gums.

NOTE:

The patient's test shows a markedly elevated copper level. Copper contamination can occur from frequently swimming in pools or spas if copper sulfate is used as an algicide. If the patient swims more than twice per week, we suggest that you send fingernail or toenail tissue for testing. This will help indicate the extent of copper toxicity within the body. You may also test the serum for elevated copper or ceruloplasmin.

LEAD (Pb):

Although the World Health Organization and governments around the world recognize the dangers of lead and are beginning to enact safety regulations regarding lead exposure, it is still one of the most common environmental pollutants. It is antagonistic to nearly every nutrient mineral, and contributes directly or indirectly, to many mineral excesses or deficiencies. Early signs of lead accumulation may be vague and include symptoms such as fatigue, anemia, ataxia and poor coordination. Elevated levels of lead can contribute to suppression of the immune system, nephrosis, autism, cancer, stillbirths, dental decay, arthritis and hypertension. The following are some sources of lead:

Leaded Gasoline	Lead Water Mains and Joints
Leaded Paint	Cosmetics (some)
Lead Crystal	Printing Industry
Hair Coloring (some)	Wines (some)
Battery Manufacturing	Radiator Repair
Firing Ranges - Ammunition	Solid Waste Incinerators
Rubber Product Manufact.	Stained Glass

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.

CONTRAINDICATIONS

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

*** VITAMIN B12 ***

Both vitamin B12 and its constituent cobalt, antagonize thyroid activity and disrupt the sodium/potassium relationship. Vitamin B12 should therefore be avoided at this time, especially if the patient is experiencing hypo-thyroidism or taking a thyroid support.

*** THYMUS ***

The thymus has an opposing effect on the adrenal glands. As long as an adrenal insufficiency is indicated, thymus supplementation should be avoided.

*** COD LIVER OIL ***

Cod liver oil will contribute to an adverse reduction in the metabolic rate, which can result in increased fatigue and

depression. It is suggested that cod liver oil be avoided until the biochemical pattern improves.

DIETARY SUGGESTIONS

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

GENERAL DIETARY PRINCIPLES FOR THE SLOW METABOLIZER:

A low protein, high carbohydrate, and high fat diet in addition to increased consumption of refined sugars and dairy products have a slowing-down effect upon metabolism and energy production.

* 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 lean beef, fish and fowl. 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, and mackerel.

* 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 OR AVOID MILK AND MILK PRODUCTS...such as cheese, yogurt, cream, etc... These foods should be reduced to no more than once every three to four days.

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

* AVOID CALCIUM AND/OR VITAMIN D SUPPLEMENTS

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.

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. After which, 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	Kale
Rutabagas	White Turnips
Cole Slaw	Fluorides
Sauerkraut	Horseradish
Soybeans	Chlorinated Water
Mustard	Walnuts

FOODS THAT MAY IMPEDE ADRENAL FUNCTION:

The following foods should be reduced or completely avoided until the next evaluation, or until notified otherwise by the attending doctor:

Almonds	Bass
Cashews	Garbanzo Beans
Wild Rice	Brazil Nuts
Tofu	Clams (raw)
Soybean Flour	Cocoa Powder
Baker's Yeast	Walnuts
Pecans	Peanuts
Hazelnuts	Chestnuts
Tortilla Roll	Spinach
Molasses	Figs (dried)
Torula Yeast	

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.

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

FOODS 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
Crab	Walnuts
Herring	Lobster
Haddock	Bran Flakes
Pecans	Peanut Butter

Almonds
Sesame Seeds
Bakers Yeast
Mushrooms
Avocado

Shrimp
Trout
Brazil Nuts
Sunflower Seeds
Grapes

REACTIONS ASSOCIATED WITH 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 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
Rye Bread
Blackberries
Rye Crackers

Strawberries
Whole Wheat
Brown Rice
Wheat Germ

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
Catfish
Cantaloupe
Bananas
Egg (white)
Turkey
Currants
Lima Beans

Asparagus
Plums
Prunes
Casaba
Raisins
Lentils
Beet Greens
Beef (lean)
Apples
Artichokes
Beets
Summer Squash
Flounder (baked)
Brussels Sprout
Chard

FOODS HIGH IN NIACIN:

Niacin (vitamin B3) is known to improve circulation, increase the metabolic rate via enzymes requiring B3, as well as help lower cholesterol and excess copper accumulation. The following foods are rich sources of niacin and may be eaten liberally:

Bran Flakes
Beef
Chicken (light)

Fish (broiled)
Tuna
Peas

METHIONINE RICH FOODS:

The following foods are a rich source of the essential amino acid methionine, which supplies sulfur to the cells for the activation of enzymes, and energy metabolism. Sulfur is also involved in detoxification processes. Toxic substances are combined with sulfur, converted to a nontoxic form and then excreted. The following foods may be consumed liberally during course of therapy:

Bass

Mackerel

Trout
Cod
Tuna
Flounder
Round Steak
Turkey

Short Ribs
Perch
Sirloin
Pumpkin Seeds
Swordfish

The above list of foods are also high in glutamic and aspartic acid. These amino acid proteins help to improve tissue alkalinity.

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.

NO PART OF THIS INTERPRETIVE REPORT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR ANY INFORMATION STORAGE OR RETRIEVAL SYSTEM WITHOUT PERMISSION IN WRITING FROM TRACE ELEMENTS, INC., U.S.A.

InterClinical Laboratories Pty Limited
Unit 6/10 Bradford Street, Alexandria, N.S.W. 2015, Sydney, Australia
Ph: (02) 9693-2888 Fax: (02) 9693-1888
Email: lab@interclinical.com.au

Authorized Representative for Australia and New Zealand