

**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.:

1793565

PROFILE NO.:

2

SAMPLE TYPE:

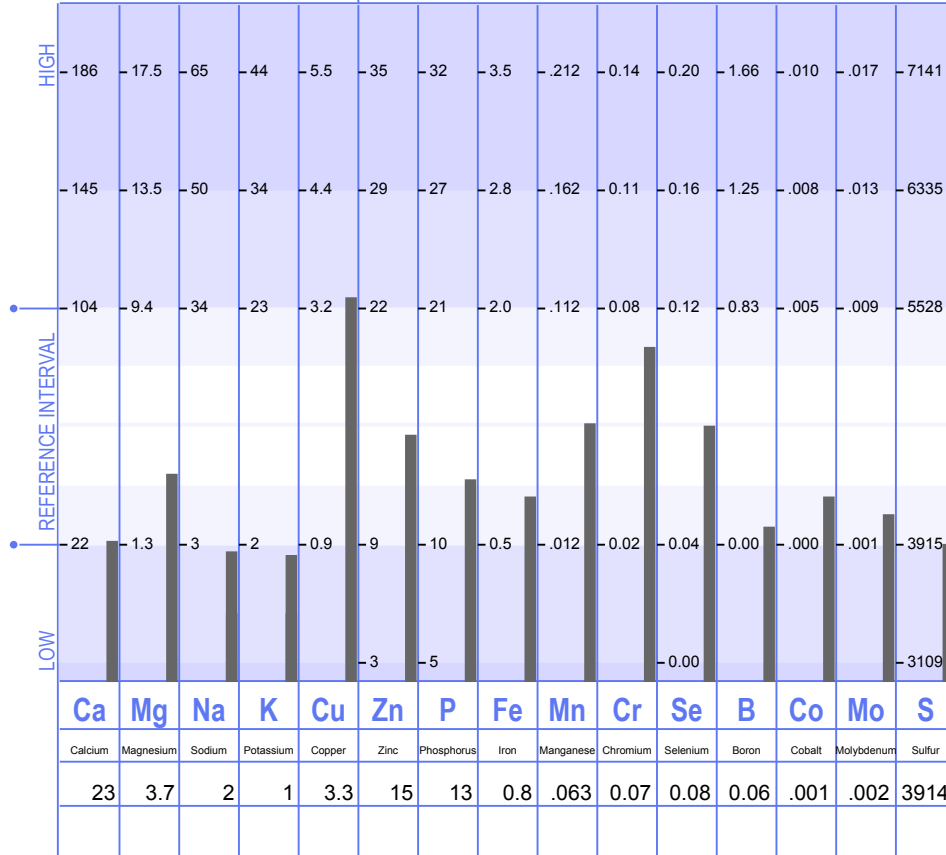
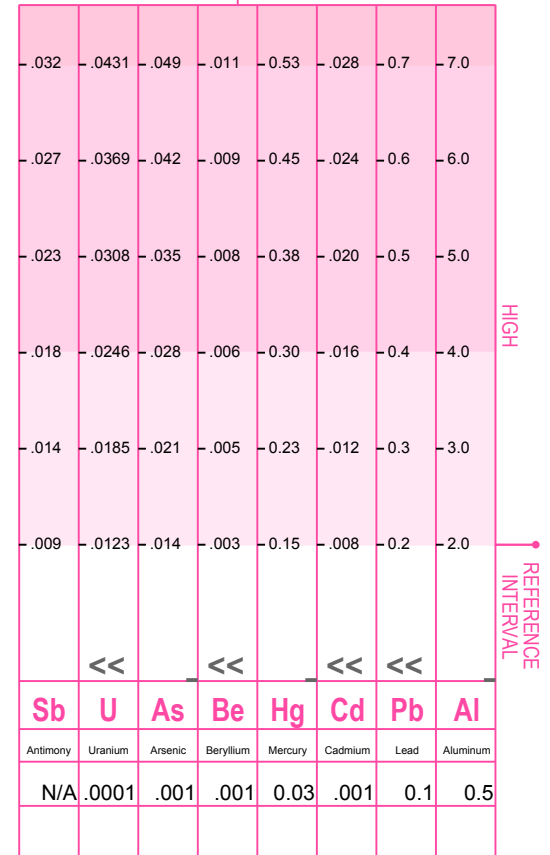
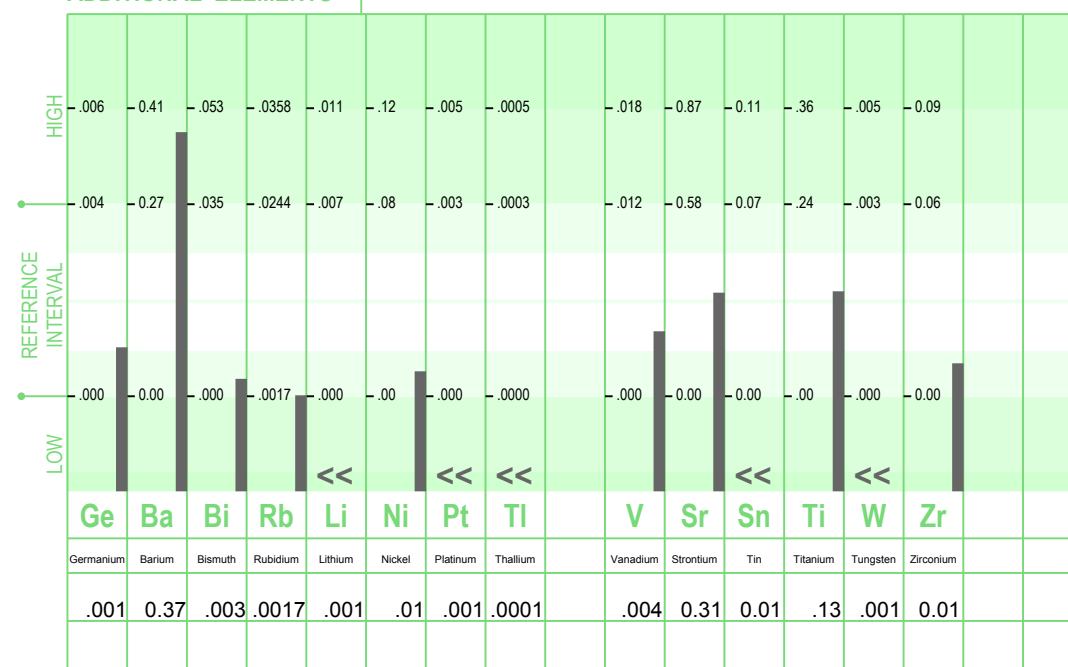
SCALP

PATIENT: **BURGMANN, VICKI**AGE: **60**SEX: **F**

METABOLIC TYPE:

**FAST 4**REQUESTED BY: **HAYNE, L**ACCOUNT NO.: **2216**

DATE:

**6/10/2023****NUTRITIONAL ELEMENTS****TOXIC ELEMENTS****ADDITIONAL ELEMENTS**

" &lt; &lt; ": 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.

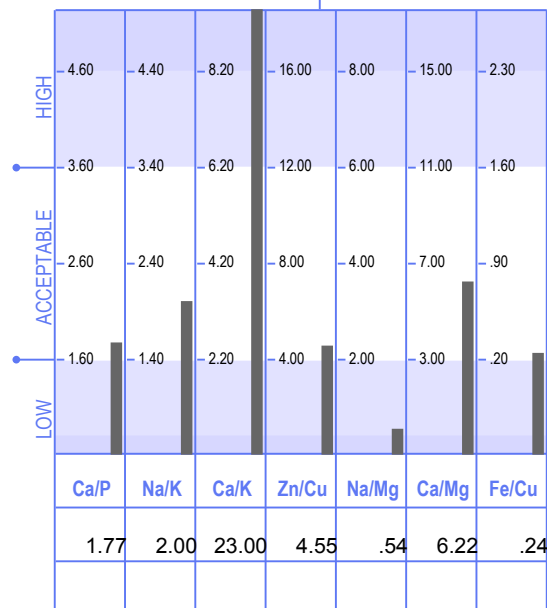
Laboratory Analysis Provided by Trace Elements, Inc.  
Dallas, Texas USA an H.H.S. Licensed Clinical Laboratory. No. 45 D0481787

6/10/2023

CURRENT TEST RESULTS

PREVIOUS TEST RESULTS

## SIGNIFICANT RATIOS



## TOXIC RATIOS



## ADDITIONAL RATIOS

RATIO	CALCULATED VALUE		EXPECTED
	Current	Previous	
Ca/Sr	74.19		263/1
Cr/V	17.50		8/1
Cu/Mo	1650.00		356/1
Fe/Co	800.00		615/1
K/Co	1000.00		6350/1
K/Li	1000.00		6350/1
Mg/B	61.67		21/1
S/Cu	1186.06		2668/1
Se/Tl	800.00		370/1
Se/Sn	8.00		3.2/1
Zn/Sn	1500.00		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
SYM BALANCE	1	0	1
ADEN COMPLEX	1	1	1
MAGNESIUM PLUS	1	0	1
ACTIVATED B6 PLUS (Vitamin B6)	1	0	1
ZINC PLUS	1	1	1
MOLY ZINC	0	0	1
MANGANESE PLUS	1	0	1
VITAMIN C PLUS	1	0	0
DIGESTIVE-ZYME	1	1	1

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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.

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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.

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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.

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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.

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## 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								
FATIGUE								
HYPOADRENIA								
HYPOTHYROID								
WATER RETENTION								

## COMMENTS

## ALLERGIES AND COPPER:

The mineral copper is a constituent of the enzyme histaminase and the protein ceruloplasmin, 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.

## FATIGUE:

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

## 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.

## WATER RETENTION AND LOW SODIUM:

Low sodium retention can result in water retention. Fluid retention may increase in an effort to retain more sodium, from the diet. This may be a sign of adrenal insufficiency.

## 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  
Wheat Germ  
Cocoa  
Parsley  
Beets

Chard  
Concord Grapes  
Collards  
Blackberries

## FOODS HIGH IN ZINC CONTENT:

The following foods may be increased in the diet until the next evaluation:

Beef  
Eggs  
Pumpkin Seeds

Cashews  
Oysters

## 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  
Lamb  
Cottage Cheese  
Spare Ribs  
Lentils

Rump roast  
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.

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

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Authorized Representative for Australia and New Zealand