

HAIR TISSUE MINERAL ANALYSIS REPORT



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LABORATORY NO.:

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PROFILE NO.:

2

SAMPLE TYPE:

SCALP

PATIENT: VAUGHAN, REBECCA

AGE: 39

SEX: F

METABOLIC TYPE:

FAST 4

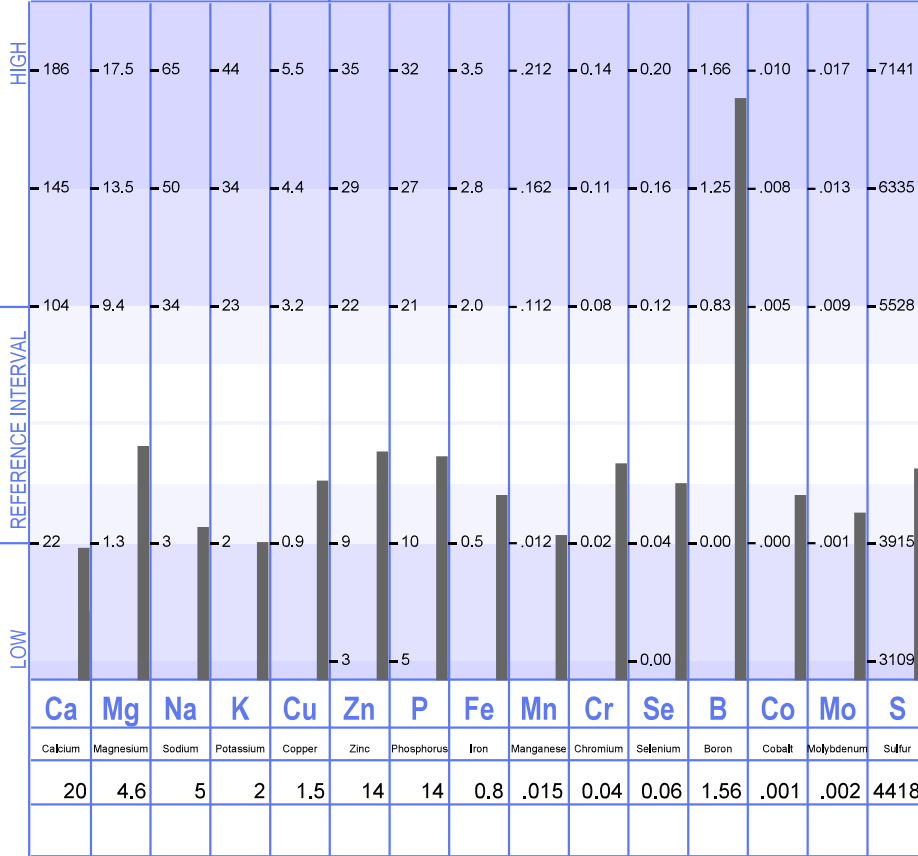
REQUESTED BY: VAUGHAN, R

ACCOUNT NO.: 2216

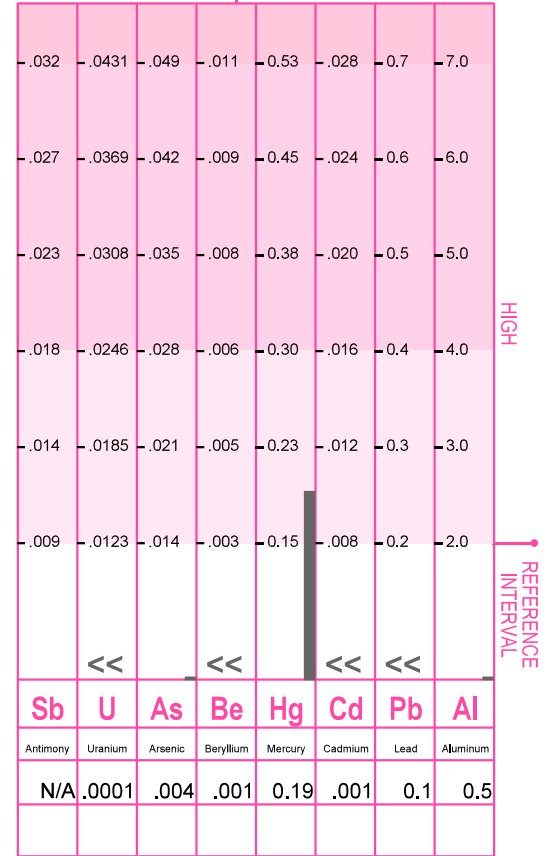
DATE:

30/05/2024

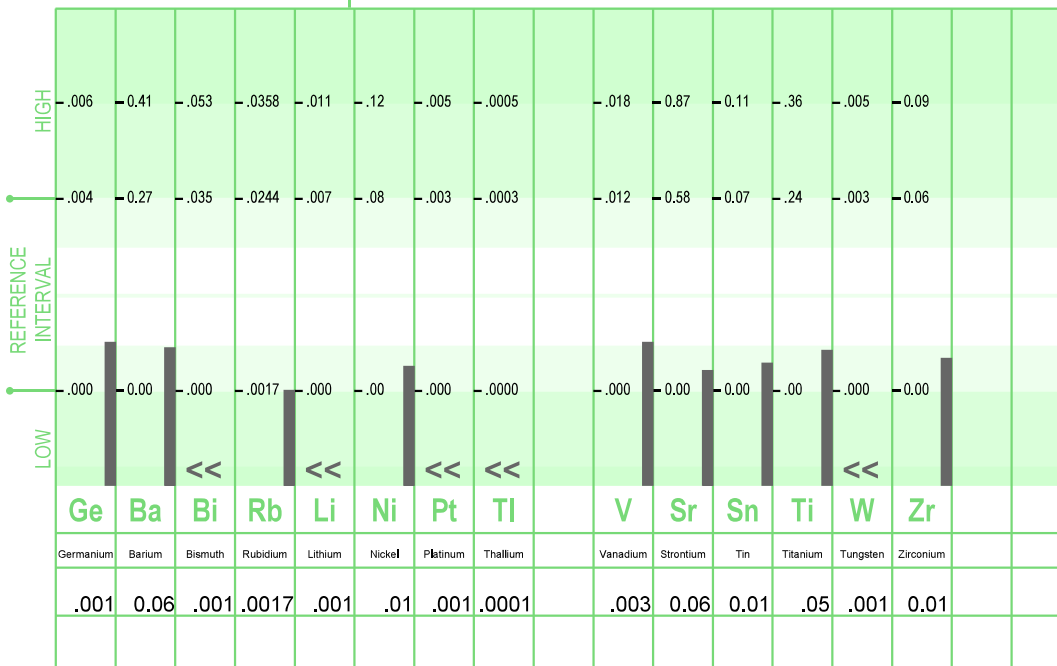
NUTRITIONAL ELEMENTS



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.

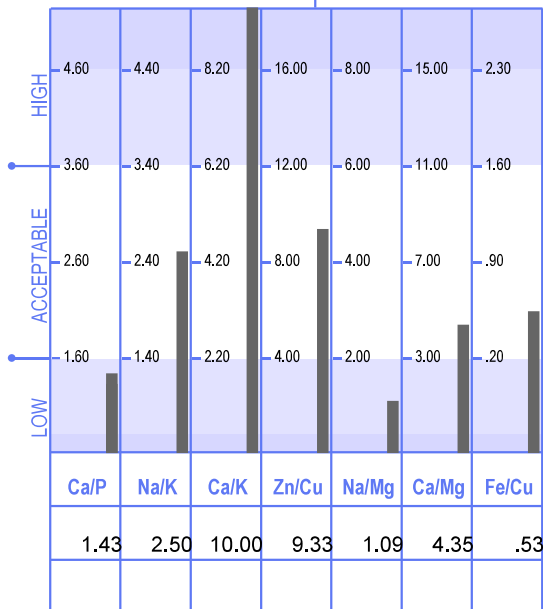
Laboratory Analysis Provided by Trace Elements, Inc. Dallas, Texas USA an H.H.S. Licensed Clinical Laboratory. No. 45 D0481787

30/05/2024

CURRENT TEST RESULTS

PREVIOUS TEST RESULTS

## SIGNIFICANT RATIOS



## TOXIC RATIOS



## ADDITIONAL RATIOS

RATIO	CALCULATED VALUE		EXPECTED
	Current	Previous	
Ca/Sr	333.33		263/1
Cr/V	13.33		8/1
Cu/Mo	750.00		356/1
Fe/Co	800.00		615/1
K/Co	2000.00		6350/1
K/Li	2000.00		6350/1
Mg/B	2.95		21/1
S/Cu	2945.33		2668/1
Se/Tl	600.00		370/1
Se/Sn	6.00		3.2/1
Zn/Sn	1400.00		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
COPPER PLUS	0	1	0
DIGESTIVE-ZYME	1	1	1
E ASTA SEL (Vitamin E)	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
ANXIETY								
HEADACHES								
HYPOTHYROID								

## 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.

## HEADACHES AND EXCESS MERCURY:

Headaches may be caused by excess mercury and have been described as being like a tight band around the head.

## 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

## MERCURY (Hg)

Although the mercury level is above the established reference range, this particular level may not be clinically significant. However, it's clinical significance should also be evaluated in relation to the nutrient minerals (see toxic ratios).

Mercury is a toxic metal that can contribute to many well-documented symptoms. Therefore, exposure to mercury should be limited to an absolute minimum, and mercury accumulation should not be present in excessive amounts within the body.

The major source of non-occupational exposure to mercury is the dietary intake of contaminated seafood. Fish and seafood have a tendency to concentrate mercury. Following are some additional potential sources of mercury.

Deteriorating Mercury Amalgams	Pesticides (some)
Fungicides (some)	Cosmetics (some)
Medications (some)	Germicides (some)
Calomel Laxatives	Hemorrhoid Suppositories
Diuretics (some)	Photographic Supplies (some)
Merthiolate	Electronics Industry
Polluted Water	Battery Manufacturing
Coal-Fired Utility Plants	Bleaching Skin Creams (some)

Soft Contact Lens Solution (containing thimerosal)  
Burning of treated industrial building materials

Water Based Paints (some)  
Vaccines (some)

#### CHRONIC OR ACUTE MERCURY ELEVATION MAY CONTRIBUTE TO:

- \* Tremors
- \* Memory Loss
- \* Skin Irritation
- \* Excessive Salivation
- \* Ataxia (poor balance)
- \* Kidney Disturbance
- \* Difficult Swallowing
- \* Neurological Disturbance
- \* Tingling Sensations (especially around the lips)
- \* Burning Sensation (usually noticed in the hands and feet)
- \* Uncontrollable or Excessive Blushing

#### ADDITIONAL TEST(S):

- \* Pubic Hair Mercury... to confirm endogenous accumulation and/or exogenous contamination.
- \* Blood Mercury... to determine acute exposure.
- \* Glutathione Peroxidase

#### 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 levels 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.

#### 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 histidine. 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:

Lima Beans	Salami
Garbanzo Beans	Sausage (lean)
Rump roast	Lamb
Skim Milk	Smelt

Beef Stew  
Cottage Cheese  
Spare Ribs  
Lentils  
Flounder  
Cod  
Ham

Vegetable Stew  
Canadian bacon  
Peanuts  
Bass  
Heart  
Chuck Roast  
Liverwurst

**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.

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