סיכום תוצאות בדיקת סטאטוס תזונתי

Gender: Female DOB: 06/09/1978

09/17/2018
Date Received: 09/18/2018
Date Reported: 09/27/2018

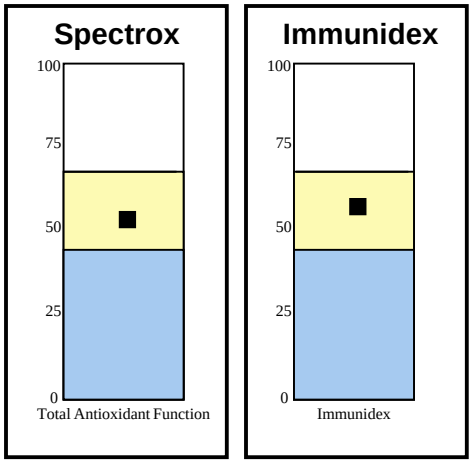
Summary of Deficient Test Results

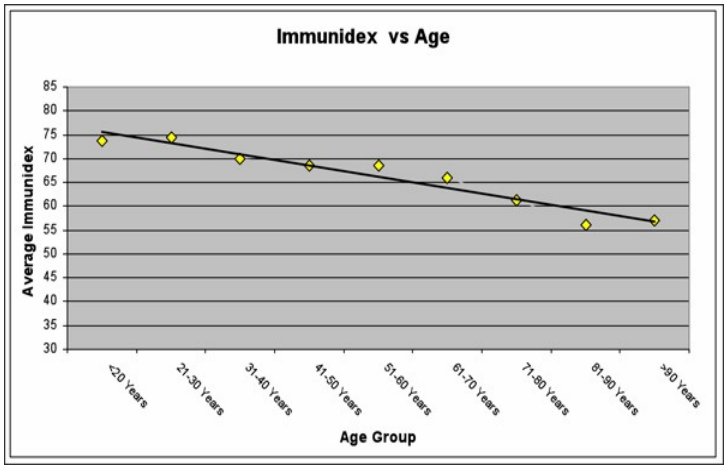
Testing determined the following functional deficiencies:

Vitamin B2 Folate

Borderline deficiencies include:

Vitamin B6	Vitamin B12	Pantothenate	Glutamine
Vitamin D3	Zinc	Glutathione	Spectrox
Immunidex			





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OVERVIEW OF TEST PROCEDURE

1. A mixture of lymphocytes is isolated from the blood.
2. These cells are grown in a defined culture medium containing optimal levels of all essential. nutrients necessary to sustain their growth in cell culture.
3. The T-lymphocytes are stimulated to grow with a mitogen (phytohemagglutinin) and growth is measured by the incorporation of tritiated (radioactive) thymidine into the DNA of the cells.

The growth response under optimal conditions is defined as 100%, and all other growth rates are compared to this 100% level of growth.

For example – we remove vitamin B6 from the medium and stimulate the cells to grow by mitogen stimulation. Growth is measured by DNA synthesis and the rate of growth is dependent only upon the functional level of vitamin B6 available within the cells to support growth. For Vitamin B6 a growth rate of at least 55% of the growth rate observed in the optimal (100%) media is considered normal. Results less than 55% are considered to indicate a functional deficiency for Vitamin B6. Each nutrient has a different reference range that was established by assaying thousands of apparently healthy individuals.

BREAKING DOWN THE REPORT

1. TEST RESULT (% CONTROL)

This column represents the patient's growth response in the test media measured by DNA synthesis as compared to the optimal growth observed in the 100% media.

2. FUNCTIONAL ABNORMALS

An interpretation is provided for those nutrients found to be deficient.

3. REFERENCE RANGE

This column represents how this patient's result compares to thousands of patients previously tested. A patient's result is considered deficient when it is less than the reference range.

4. GRAPHS

The abnormal range of results is noted in the blue area. Abnormal results are indicated in red. The gray cross hatch area is a representation of the range of test results found in a random selection of subjects.

SPECTROX® – TOTAL ANTIOXIDANT FUNCTION

SPECTROX® is a measurement of overall antioxidant function. The patient's cells are grown in the optimal media, stimulated to grow, and then increasing amounts of a free radical generating system (H_2O_2) are added. The cell's ability to resist oxidative damage is determined. The increasing levels of peroxide will result in diminished growth rates in those patients with poor antioxidant function capacity.

INDIVIDUAL ANTIOXIDANT LEVELS

In the tests for individual antioxidants, it is determined which specific antioxidants may be deficient and thus affecting the SPECTROX® antioxidant function result. For these tests, the patient's cells are preincubated with one of the nutrient antioxidants, i.e. selenium, and then the Spectrox® test is repeated to determine if the addition of selenium improves the patient's antioxidant function. This process is repeated for each individual antioxidant.

Antioxidants tested with this process:
Glutathione, Cysteine, Coenzyme-Q10, Selenium, Vitamin E, Alpha Lipoic Acid, and Vitamin C.

Repletion Suggestions

1. Vitamin B2 (Riboflavin)	20 mg daily of Riboflavin or Riboflavin-5-Phosphate
2. Folate	800 mcg daily

Please note: Supplementation is usually required for four to six months to effect the repletion of a functional deficiency in lymphocytes

Suggestions for supplementation with specific micronutrients must be evaluated and approved by the attending physician. This decision should be based upon the clinical condition of the patient and the evaluation of the effects of supplementation on current treatment and medication of the patient.

Micronutrients	Patient Results (% Control)	Functional Abnormals	Reference Range (greater than)
B Complex Vitamins			
Vitamin B1 (Thiamin)	102		>78%
Vitamin B2 (Riboflavin)	48	Deficient	>53%
Vitamin B3 (Niacinamide)	93		>80%
Vitamin B6 (Pyridoxine)	55	Borderline	>54%
Vitamin B12 (Cobalamin)	15	Borderline	>14%
Folate	32	Deficient	>32%
Pantothenate	10	Borderline	>7%
Biotin	40		>34%
Amino Acids			
Serine	53		>30%
Glutamine	42	Borderline	>37%
Asparagine	52		>39%
Metabolites			
Choline	26		>20%
Inositol	67		>58%
Carnitine	56		>46%
Fatty Acids			
Oleic Acid	72		>65%
Other Vitamins			
Vitamin D3 (Cholecalciferol)	51	Borderline	>50%
Vitamin A (Retinol)	76		>70%
Vitamin K2	48		>30%
Minerals			
Calcium	47		>38%
Manganese	77		>50%
Zinc	42	Borderline	>37%
Copper	54		>42%
Magnesium	57		>37%
Carbohydrate Metabolism			
Glucose-Insulin Interaction	44		>38%
Fructose Sensitivity	47		>34%
Chromium	48		>40%
Antioxidants			
Glutathione	45	Borderline	>42%
Cysteine	50		>41%
Coenzyme Q-10	93		>86%
Selenium	83		>74%
Vitamin E (A-tocopherol)	89		>84%
Alpha Lipoic Acid	92		>81%
Vitamin C	71		>40%
SPECTROX™			
Total Antioxidant Function	53	Borderline	>40%
Proliferation Index			
Immunidex	54	Borderline	>40%

The reference ranges listed in the above table are valid for male and female patients 12 years of age or older.

Adequate

Borderline

Deficient

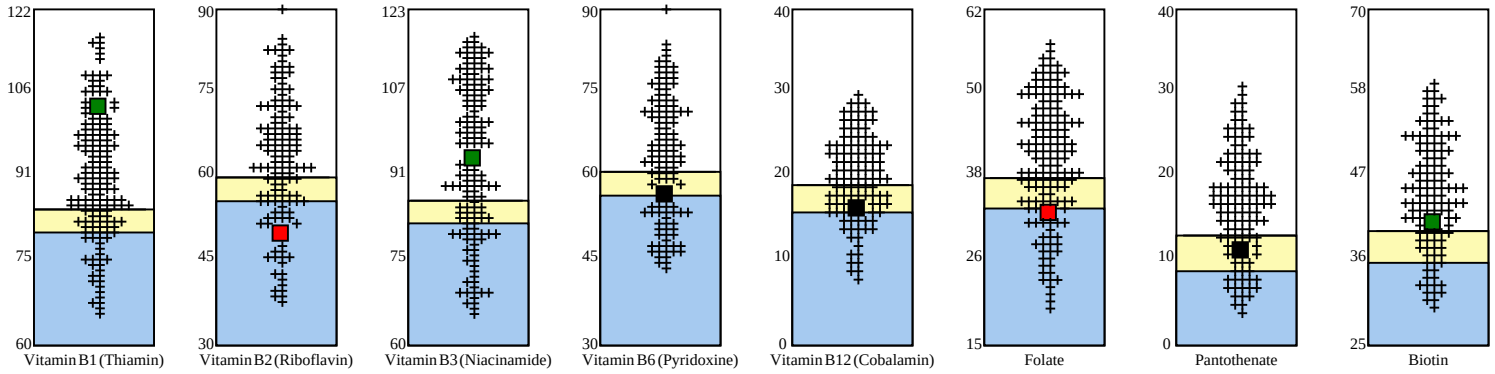
Deficient

Values in this area represent a deficiency and may require nutrient repletion or dietary changes

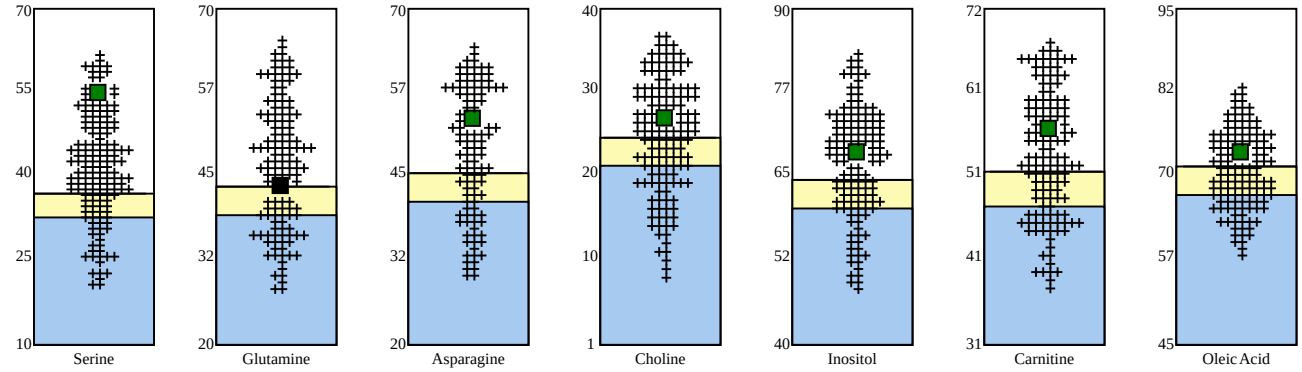
Borderline

Values in this area represent a borderline and may require nutrient repletion or dietary changes.

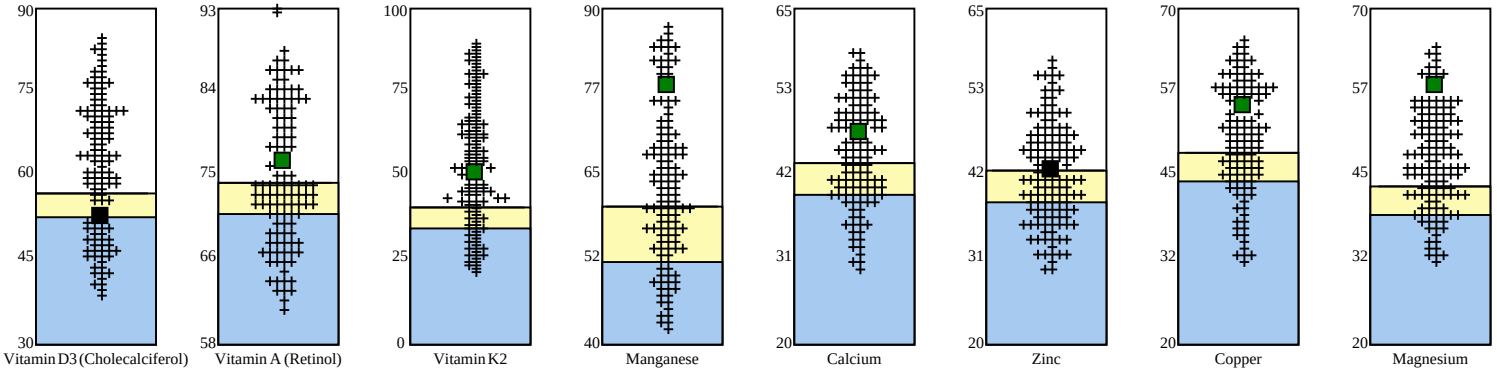
B Complex Vitamins



Amino Acids & Metabolites



Other Vitamins & Minerals



Adequate

Borderline

Deficient

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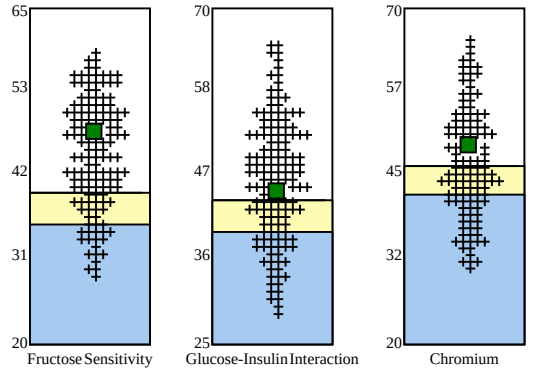
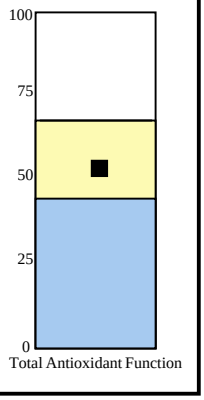
Carbohydrate Metabolism



Spectrox

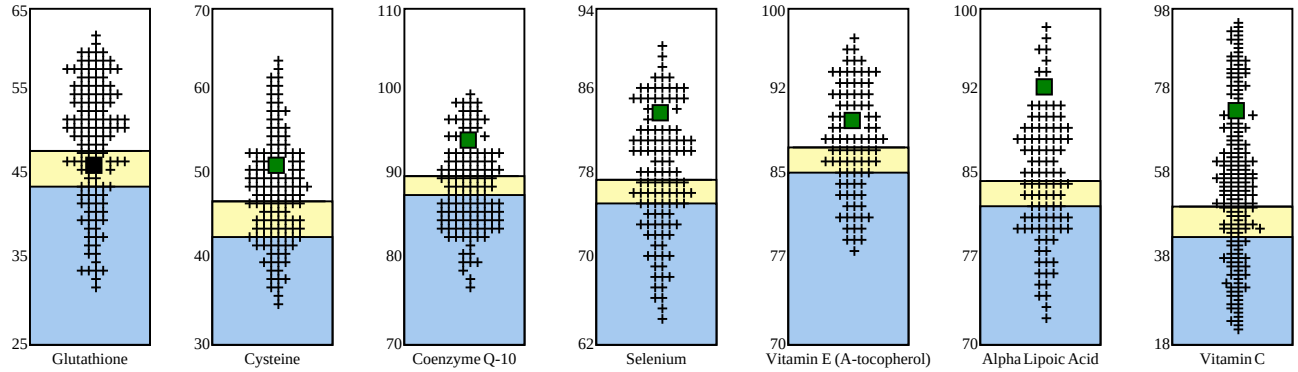


A Spectrox value above 65%-
indicates a desirable status for apparently healthy individuals. Since antioxidants are protective nutrients, the most desired status would be the greatest ability to resist oxidative stress.

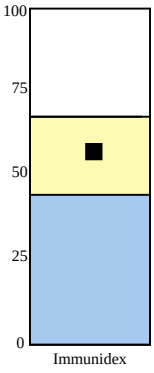
A Spectrox value between 40% and 65%-
indicates an average antioxidant function for apparently healthy individuals. An average status means the ability to resist oxidative stress similar to the majority of persons. However, average status is not ideal, nor is it clearly deficient.

A Spectrox value below 40%-
indicates a deficient antioxidant function resulting in a decreased ability to resist oxidative stress or an increased antioxidant load.

Individual Antioxidants



Immunidex



The Immunidex is an indication of the patient's T-Lymphoproliferative response to mitogen stimulation relative to the response of a control population. An average or weakened immune response may improve with correction of the nutritional deficiencies determined by the micronutrient testing.

An Immunidex above 65% indicates a strong response, a measurement of cell-mediated immune function.

An Immunidex between 40% and 65% - indicates an average response.

An Immunidex below 40% may indicate a weakened cell mediated immune response.

Accession Number:

Vitamin B2 (Riboflavin)

Status:

The patient's lymphocytes have shown a deficiency status for Vitamin B2 (riboflavin)

Function:

Riboflavin helps to metabolize foodstuffs into energy. Riboflavin is converted into its active forms, flavin adenine dinucleotide (FAD) and flavin mononucleotide (FMN). FAD and FMN are primarily involved as cofactors in oxidation-reduction reactions for flavoproteins, essential for cellular energy production and respiration. Riboflavin has a role in antioxidant status by activating glutathione reductase, which regenerates reduced glutathione.

Deficiency Symptoms:

Clinical signs of riboflavin deficiency are less clear-cut than other B Vitamins, but include depression, dizziness, sore or burning lips, mouth, and tongue, photophobia, burning, itching or teary eyes, and loss of visual acuity in early stages. More severe deficiency symptoms for riboflavin are dermatitis (nasal, scrotal), glossitis, cheilosis, angular stomatitis, and corneal vascularization. Frequently, riboflavin deficiencies overlap with niacin, pyridoxine, or iron deficiencies. There is no specific name for riboflavin deficiency disease.

Repletion Information:

Dietary Sources rich in riboflavin (per serving) include:

Nutritional Supplements	Nutritional Yeasts
Meats and Dairy Products	Green Leafy Vegetables
Grain Products	Enriched Grains

The 1989 RDA for riboflavin is 1.2-1.8 mg for adults. There is no evidence of toxicity from oral administration of riboflavin, except for rare cases of sensitivity.

Accession Number:

Folate

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Status:

The patient's lymphocytes have shown a deficient status for Folate (Folic Acid).

Function:

Folate (Folic Acid) is needed to produce blood cells and other new tissue cells. Folate is a generic term for a group of pteridine compounds essential for one-carbon unit metabolism. Folates are involved in the synthesis of DNA, RNA, and tRNA necessary for cell growth. Folates are required for metabolism of methionine, histidine, tryptophan, glycine, serine, and formate. Interactions with Vitamin B6 and B12 also occur from common metabolic pathways. Folate function is necessary to prevent accumulation of homocysteine. Deficient folate status of pregnant females is also directly linked to incidence of birth defects, especially neural tube defects such as spina bifida.

Deficiency Symptoms:

Symptoms of folate deficiency include birth defects (neural tube defects, spina bifida), fatigue, anorexia, constipation, glossitis, headaches, insomnia, restless legs, paranoia, memory impairment, megaloblastic anemia (identical in appearance to Vitamin B12 deficiency), hypersegmentation of neutrophils and with severe deficiency, intestinal lesions. However the neurological complications of vitamin B12 deficiency do not occur with folate deficiency. Thus, a regulatory limit on folate levels in dietary supplements of 400 mcg per unit is in effect, to prevent a potential missed diagnosis of Vitamin B12 deficiency.

Those at risk for folate deficiency include: Vitamin B12 deficiency, malnourished, malabsorption, pregnant and lactating women, increased rate of cellular division (burns, trauma, malignancies, hemolytic anemias), alcoholics, anti-convulsant therapy (phenytoin, barbiturates, primidone), folate antagonist therapy (nethotrezate, 5-fluoroacul, pyrimethamine), tuberculosis therapy (isoniazid plus cycloserine), oral contraceptive users, sulfasalzine therapy, elderly, infants, inherited folate disorders.

Repletion Information:

Dietary sources richest in folate (per serving) include:

Nutritional supplements	Legumes
Vitamin-Fortified Cereals	Green Leafy Vegetables
Wheat Germ	Seeds
Nuts	Liver

The 1989 RDA for folate is 400 mcg per day. No adverse effects from long-term folate supplementation of up to 10mg daily for five years have been reported, indicating a high tolerance level for folate