

## Lab Analysis Report



Lynn Toohey

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## Patient

Patient : 12

**Date of Analysis:** September  
10, 2013

**Gender:** Male**Age:** 52**Blood type:** Unknown

## Parkway Clinical Labs Summary

Test description	Lab: Parkway Clinical		BLOOD TEST RESULTS		
	Current result	Current rating	Lab Ranges	Optimal	Units
WBC	6.8	Optimal	4-10.5	5.5-8.5	10 <sup>3</sup> /μL
RBC	5.57	High	3.8-5.1	4.1-4.7	10e6 c/μl
Hemoglobin	16.6	High	11.5-15	14.5-16	g/dl
Hematocrit	48.7	High	34-44	42-48	Pct
MCV	87.0	Optimal	80-98	83-91	fl
MCH	29.8	Optimal	27-34	28-31	pg
MCHC	34.1	Optimal	32-35	32.5-35	g/dl
RDW	13.9	High	11.7-15	11-13	Pct
Platelets	186.0	Optimal	140-415	165-340	10 <sup>3</sup> /μL
Neutrophils (Absolute)	4.1	Optimal	1.8-7.8	2-6	10 <sup>3</sup> /μL
Lymphocytes (Absolute)	1.9	Optimal	0.7-4.5	1.5-3	10 <sup>3</sup> /μL
Monocyte (Absolute)	0.5	Optimal	0.1-1	0.25-0.75	10 <sup>3</sup> /μL
Eos (Absolute)	0.2	Optimal	0-0.4	0.01-0.3	10 <sup>3</sup> /μL
Baso (Absolute)	0.0	Low	0-0.2	0.01-0.1	10 <sup>3</sup> /μL
Neutrophils	61.0	Optimal	40-74	45-65	Pct
Lymphs	28.0	Optimal	14-46	25-35	Pct
Monocytes	7.0	Optimal	4-13	3-7	Pct
Eos	3.0	Optimal	0-7	1-3	Pct
Basos	1.0	Optimal	0-3	0-1	Pct
ESR	2.0	Low	0-20	4-14	mm/hr
Glucose, Serum	84.0	Optimal	65-99	75-89	mg/dl
BUN	15.0	Optimal	5-26	12-19	mg/dl
Creatinine, Serum	1.11	High	0.57-1	0.7-1.1	mg/dl
eGFR	76.0	Optimal	60-150	60-150	mL/min/1.73m <sup>2</sup>
BUN / Creatinine Ratio	14.0	Optimal	6-25	12-18	Calc
Sodium, Serum	139.0	Normal	135-145	-	mmol/L
Potassium, Serum	4.4	Normal	3.5-5.2	-	mmol/L
Chloride, Serum	100.0	Optimal	97-108	100-107	mmol/L
Carbon Dioxide, Total	26.0	Optimal	20-32	22-28	mg/dl
Phosphorus, Serum	3.3	Optimal	2.5-4.5	3.2-4	mg/dl

This is a computer program based on logarithms, and as such is limited in its ability to report. The program makes absolutely no health claims whatsoever; the program does not prevent, diagnose, treat or cure disease, and is not liable in the area of preventing, diagnosing, treating or curing disease. Nutritional supplement recommendations are made solely for the purpose of supporting health.

Calcium, Serum	9.8	Optimal	8.6-10.2	9.2-9.8	mg/dl
Uric Acid, Serum	5.3	Optimal	2.4-8.2	4-6.5	mg/dl
Protein Total, Serum	7.5	Optimal	6-8.5	6.9-7.5	g/dl
Albumin, Serum	4.5	Optimal	3.6-4.8	4-4.7	g/dl
Globulin, Total	3.0	Optimal	1.5-4.5	2.5-3.2	g/dl
A/G Ratio	1.5	Optimal	1.1-2.5	1.4-1.8	Calc
Bilirubin, Total	0.9	Optimal	0-1.2	0.4-1	mg/dl
Alkaline Phosphatase, Serum	84.0	Optimal	25-165	60-90	IU/L
GGT	16.0	Optimal	3-55	10-40	U/L
LD, Serum	165.0	Optimal	100-250	125-175	IU/L
AST (SGOT)	28.0	High	0-40	12-27	IU/L
ALT (SGPT)	23.0	Optimal	0-40	12-27	IU/L
Iron Binding Capacity (TIBC)	282.0	Optimal	250-450	275-375	µg/dl
Iron, Serum	118.0	Optimal	35-155	60-135	µg/dl
Iron Saturation	42.0	Optimal	15-55	15-50	Pct
Cholesterol, Total	198.0	High	100-199	120-185	mg/dl
LDL Cholesterol Calc	115.0	High	0-99	0-90	mg/dl
Triglycerides	92.0	High	0-149	30-75	mg/dl
Bilirubin, Direct	0.21	Normal	0.1-0.3	-	mg/dl
HDL Cholesterol	65.0	Optimal	39-200	60-200	mg/dl
CK, Total	160.0	Normal	44-196	-	U/L
Ferritin, Serum	504.0	High	13-150	25-170	ng/dl
Hemoglobin A1c	5.3	Optimal	4.8-5.6	4.7-5.4	Pct
T3 Uptake	32.0	Optimal	24-39	27-33	Pct
Thyroxine (T4)	8.1	Optimal	4.5-12	7.5-11	µg/dl
Free Thyroxine Index	2.6	High	1.2-4.9	1-1.4	µg/dl
TSH	1.72	Optimal	0.45-4.5	1.5-2.9	µU/ml
T-3, Total	97.0	Low	90-200	115-185	ng/dl
Triiodothyronine, Free, Serum	3.5	Normal	2-4.4	-	pg/ml
C-Reactive Protein, Cardio	0.48	Normal	0-3	-	mg/L
Homocysteine, Plasma	9.4	Normal	0-15	-	µmol/L
LDL/HDL Ratio	1.8	Optimal	0-3.2	0-3	number
VLDL Cholesterol Calc	18.0	Normal	5-40	-	mg/dl
UIBC	164.0	Optimal	150-375	150-375	µg/dl

## Lab Analysis

### The summary of findings lead to the following considerations:

Hemochromatosis  
 Dehydration  
 Thyroid Hypofunction-Primary  
 Cardiovascular Disease Risk  
 Thyroid Hypofunction-Secondary Due to Anterior Pituitary Dysfunction  
 Adrenal Hypofunction  
 Metabolic Syndrome

## Hemochromatosis

Your lab results are strongly suggestive of the above consideration and is supported by:

### High Analytes

Ferritin, Serum  
 AST (SGOT)

### Definition

Hemochromatosis is a disorder of iron metabolism characterized by excess deposition of iron in the tissues, especially in the liver and pancreas, and by bronze pigmentation of the skin, cirrhosis, diabetes mellitus, and associated bone and joint changes. The hereditary form is called idiopathic (classic) hemochromatosis. The exogenous forms are observed in patients who have received transfusions and/or iron compounds over a prolonged period, resulting in iron overload. It is also referred to as bronze or bronzed diabetes, iron storage disease, and Recklinghausen-Applebaum disease. Hemosiderosis indicates an increase in iron stores without associated tissue trauma. The onset of hemochromatosis requires a very long time in order to produce organ damage and is delayed to the age of 40 to 60. It is seen in males earlier than in menstruating females.

#### **Dietary and Lifestyle Applications**

Avoid foods high in iron: cereals fortified with iron, Farina, Raisin Bran, 40% Bran, calves liver, chicken livers, kidney beans. Avoid European wines, which contain significant quantities of iron. Many foods, beverages and supplements have been shown to affect the absorption of iron. Foods, beverages and supplements that interfere with iron absorption include: Tea (including green tea), drinking green tea (Camellia sinensis) with meals has been shown to reduce the absorption of iron from food by about 70%. This effect may be desirable for people with iron overload diseases. Also inhibiting iron is coffee, red wine, phytate (phytic acid), found in unleavened wheat products such as matzoh, pita, and some rye crackers; wheat germ, oats, nuts, cacao powder, vanilla extract, beans and many other foods, and IP-6 supplements. Whole wheat bran, independent of its phytate content, has been shown to inhibit iron absorption. Calcium from food and supplements interferes with heme-iron absorption. Soy Protein and eggs also inhibit iron. Meat, poultry and fish increase iron absorption. Iron rich foods combined with foods high in vitamin C will increase iron absorption. Vitamin C is contraindicated in iron overload disease - vitamin C increases the absorption of minerals such as iron. Blood letting (donating blood) is one method of decreasing iron stores.

#### **Product Recommendations**

Total Chelate

#### **Nutrient Recommendations**

Red Algae  
EDTA  
Garlic  
Apple Pectin  
Mineral Repletion

## **Dehydration**

**Your lab results are strongly suggestive of the above consideration and is supported by:**

#### **High Analytes**

Hematocrit  
Hemoglobin  
RBC

#### **Definition**

Dehydration is a deficiency of fluid within an organism. Mild dehydration is quite common, and is usually due to a lack of adequate fluid intake. Dehydration can involve primarily a loss of electrolytes, (sodium in particular), primarily a loss of water, or an equal loss of water and electrolytes, the most common type.

#### **Dietary and Lifestyle Applications**

Hydrate constantly, and especially during times of exertion, with plenty of filtered water. At least 8 eight oz. glasses should be consumed daily; more depending on the degree of dehydration. Eat a healthy diet, and refrain from substances which drain water from the body, such as caffeine and alcohol.

#### **Product Recommendations**

Core Level Kidney  
DSF Herbal

#### **Nutrient Recommendations**

Astragalus  
Red Clover  
Uva Ursi  
Vitamin C  
American Ginseng  
Kidney Glandular  
Minerals

## **Thyroid Hypofunction-Primary**

**Your lab results are suggestive of the above consideration and is supported by:**

#### **High Analytes**

Cholesterol, Total

Triglycerides

### Low Analytes

T-3, Total

#### Definition

Hypothyroidism is defined as low thyroid function, due to a deficiency of thyroid hormone. There are two classifications of hypothyroidism:

**Subclinical or functional hypothyroidism:** Blood levels in normal ranges, but temperature tests and other indicators show a mild deficiency state, which can still cause dramatic symptoms.

**Clinical hypothyroidism:** Blood level abnormalities of the thyroid hormones (T3 and T4) show up on standard diagnostic tests. Hypothyroidism can be primary, where it has to do with the thyroid gland (Hashimoto's or radioactive destruction of the gland, for instance) or secondary, where the pituitary gland is not secreting enough of the hormone that stimulates the thyroid to produce thyroid hormones, or tertiary, where the hypothalamus is not producing the hormone (TRH, or Thyrotropin-releasing hormone ) that causes the pituitary to secrete its thyroid stimulating hormone (TSH).

#### Dietary and Lifestyle Applications

Eat a healthy diet. Avoid processed and refined foods. Consume foods high in iodine (fish, kelp, dulse, vegetables and potatoes), B vitamins (whole grains, nuts and seeds) and vitamin A (dark, green and yellow vegetables). Limit foods that slow down thyroid function including broccoli, brussel sprouts, cabbage, spinach, kale, peaches and pears. (Burton Goldberg Group, Alternative Medicine: The Definitive Guide, Future Medicine Publishing, Inc. WA, 1993 p. 937). Limit foods that prevent utilization of iodine (turnips, cabbage, mustard, soybean, peanuts, pine nuts and millet (when cooked these foods are inactivated)). These foods contain goitrogens, which prevent the utilization of iodine. (Murray, M. and Pizzorno, J. Encyclopedia of Natural Medicine, Prima Publishing, CA, 1991 p. 389). Use iodized salt. Mercury interferes with thyroid hormones. Drink plenty of filtered water, and eat organic foods high in fiber and detoxifying nutrients, such as broccoli, cauliflower, cabbage, etc. Estrogen-containing medications (the pill, tranquilizers) will decrease T-3 uptake. Avoid antihistamines and sulfa drugs which aggravate the problem. Thyroid medication will increase bone loss significantly, thus a calcium supplement should be taken to counteract bone loss. Mild exercise is important. It stimulates the thyroid gland. Drink filtered water. Chlorine and fluoride will compete with iodine and block iodine receptor sites in the thyroid gland.

#### Product Recommendations

Total Thyroid

Iodine Rescue

Thyro Plus

#### Nutrient Recommendations

Ashwagandha

Potassium Iodide

Blue Flag

Coleus Forskohlii

Eleuthero (Siberian Ginseng)

Ginkgo Biloba

Gotu Kola

Hawthorn Berries

Larch Arabinogalactan

## Cardiovascular Disease Risk

**Your lab results are suggestive of the above consideration and is supported by:**

### High Analytes

Cholesterol, Total

LDL Cholesterol Calc

AST (SGOT)

Triglycerides

#### Definition

Heart disease, or cardiovascular disease, accounts for over 50% of all deaths in the United States and over 50 billion dollars per year in medical expenses. It is the leading cause of death in the United States even though it is one of the most preventable degenerative diseases. Heart disease includes such problems as angina (chest pain), arteriosclerosis (hardening of the arteries), myocardial infarction (heart attack) and stroke (brain deprived of oxygen).

#### Dietary and Lifestyle Applications

Stress reduction is beneficial, including meditation, massage, biofeedback, yoga and any other forms of relaxation. Stress increases the production of cholesterol that is made by the body. Good dietary habits are essential. A vegetarian based diet, high in vegetables, fruits and grains and low in fat and cholesterol is good. Vegetarians demonstrate lower cholesterol levels than meat-eaters, although if lean meat is substituted into a vegetarian diet and enough fruits and vegetables are consumed, a beneficial effect on cholesterol is still seen. Recent research

indicates that organic elk meat can lower cholesterol (Cordain, L. FASEB abstract, San Francisco, Ca. 1998). Also, vegetarian diets are low in methionine and homocysteine. Homocysteine comes from methionine. Methionine is not necessarily a "bad amino acid" to have around, especially in the presence of enough B-6, folic acid, B-12 and betaine to facilitate pathways, and make sure that it is metabolized and does not "stick" as homocysteine in the pathway. NOTE: High levels of homocysteine have been shown to increase free radical production, which in turn oxidizes cholesterol. Studies have shown that men with increased homocysteine in their blood have a three time greater risk of having a heart attack. (Peng, S.K. and Taylor, C.B. "Cholesterol Autooxidation, Health and arteriosclerosis. World Reviews of Nutrition and Diet. 1984; 44:117-154). Avoid saturated fats - they raise cholesterol levels more than dietary cholesterol does. Gamma linolenic acid, found in black currant seed oil, decreases stickiness of platelets. Fish oils (omega-3 fatty acids - i.e. EPA/DHA) found in salmon, mackerel and herring have been shown to: 1) decrease VLDL production. 2) decrease blood pressure. 3) increase prostaglandins (namely PGI3) that favor vasodilation. 4) lower blood cholesterol. 5) decrease triglyceride levels. These are the same effects that are reported with aspirin ingestion, but without the added risks, including ulcers (PGs control mucous production). A study done in the Netherlands suggested that two fish meals per week would lower risk of fatal heart attacks by 50%. Avoid chemical preservatives and additives. Crushed garlic and onions may also be helpful. They have been shown to lower triglyceride levels and decrease platelet aggregation. Garlic contains alliin, the substance partially responsible for garlic's potent odor. When garlic is crushed, alliinase (an enzyme), is released that combines with alliin to form ajoene. The ajoene is the isolated fraction of garlic responsible for prevention of the platelet aggregation. Garlic taken every day seems to be effective in reducing risk for heart disease. Fiber is very important, since fiber binds cholesterol and bile acids and promotes their excretion. Rice bran is an excellent source of fiber due to decreased risk of allergies. Avoid saturated fats and hydrogenated fats, which raise cholesterol. Also avoid trans fatty acids. On the other hand, monounsaturated fats (olive oil) and polyunsaturated fats (vegetable oils) have been shown to lower cholesterol levels. A detoxification program is beneficial. Acupuncture and chelation therapy may be beneficial in heart disease. Obtain optimal weight. Reduce weight if necessary. Avoid smoking. A dry brush massage will aid in increasing circulation. Avoid coffee. Epidemiological studies believe that coffee consumption increases cholesterol levels. In a recent nine week study, roasted, ground coffee showed a strong correlation to hypercholesterolemia. The drip filter method, made by boiling and steeping, did not show this correlation. (Bak, AA and Grobbee, DE: New England Journal of Medicine 1989; 321:1132). Avoid alcohol. Moderate amounts of alcohol have been associated with increased HDL levels, but this study has been refuted by other researchers. There are safer, more accepted methods for lowering cholesterol. Sugar and alcohol have been shown to increase natural cholesterol production by the body. Moderate exercise is important. Exercise has been shown to increase HDL.

#### **Product Recommendations**

Total Heart  
 Total Lipotropic  
 Complete Omega-3 Co-Factors (Adult formula)  
 Complete Omega-3 Essentials (Adult formula)

#### **Nutrient Recommendations**

Policosanol  
 Vitamin E  
 Beta Glucan  
 Co-Enzyme Q 10  
 Fish Oil  
 Garlic  
 Hawthorn Berries  
 Heart Glandular  
 Apple Pectin  
 L-Carnitine

## **Thyroid Hypofunction-Secondary Due to Anterior Pituitary Dysfunction**

**Your lab results are suggestive of the above consideration and is supported by:**

#### **High Analytes**

Cholesterol, Total  
 Triglycerides

#### **Low Analytes**

T-3, Total

#### **Definition**

Hypothyroidism is defined as low thyroid function, due to a deficiency of thyroid hormone. There are two classifications of hypothyroidism:

**Subclinical or functional hypothyroidism:** Blood levels in normal ranges, but temperature tests and other indicators show a mild deficiency state, which can still cause dramatic symptoms.

**Clinical hypothyroidism:** Blood level abnormalities of the thyroid hormones (T3 and T4) show up on standard diagnostic tests. Hypothyroidism can be primary, where it has to do with the thyroid gland (Hashimoto's or

radioactive destruction of the gland, for instance) or secondary, where the pituitary gland is not secreting enough of the hormone that stimulates the thyroid to produce thyroid hormones, or tertiary, where the hypothalamus is not producing the hormone (TRH, or Thyrotropin-releasing hormone ) that causes the pituitary to secrete its thyroid stimulating hormone (TSH).

#### **Dietary and Lifestyle Applications**

Eat a healthy diet. Avoid processed and refined foods. Consume foods high in iodine (fish, kelp, dulse, vegetables and potatoes), B vitamins (whole grains, nuts and seeds) and vitamin A (dark, green and yellow vegetables). Limit foods that slow down thyroid function including broccoli, brussel sprouts, cabbage, spinach, kale, peaches and pears. (Burton Goldberg Group, Alternative Medicine: The Definitive Guide, Future Medicine Publishing, Inc. WA, 1993 p. 937). Limit foods that prevent utilization of iodine (turnips, cabbage, mustard, soybean, peanuts, pine nuts and millet (when cooked these foods are inactivated)). These foods contain goitrogens, which prevent the utilization of iodine. (Murray, M. and Pizzorno, J. Encyclopedia of Natural Medicine, Prima Publishing, CA, 1991 p. 389). Use iodized salt. Mercury interferes with thyroid hormones. Drink plenty of filtered water, and eat organic foods high in fiber and detoxifying nutrients, such as broccoli, cauliflower, cabbage, etc. Estrogen-containing medications (the pill, tranquilizers) will decrease T-3 uptake. Avoid antihistamines and sulfa drugs which aggravate the problem. Thyroid medication will increase bone loss significantly, thus a calcium supplement should be taken to counteract bone loss. Mild exercise is important. It stimulates the thyroid gland. Drink filtered water. Chlorine and fluoride will compete with iodine and block iodine receptor sites in the thyroid gland.

#### **Product Recommendations**

Total Thyroid  
Iodine Rescue  
Thyro Plus

#### **Nutrient Recommendations**

Ashwagandha  
Potassium Iodide  
Blue Flag  
Coleus Forskohlii  
Eleuthero (Siberian Ginseng)  
Ginkgo Biloba  
Gotu Kola  
Hawthorn Berries  
Larch Arabinoglactan

## **Adrenal Hypofunction**

**Your lab results are suggestive of the above consideration and is supported by:**

#### **High Analytes**

Cholesterol, Total  
Triglycerides

#### **Definition**

Low adrenal function

#### **Dietary and Lifestyle Applications**

Check for thyroid and/or pituitary imbalances. In any chronic inflammatory condition (any "itis"), hypoadrenia needs to be addressed. Eat a healthy diet, with no refined carbohydrates. Caffeine, the bromine in tea and chocolate all cause sodium excretion and interfere with the sodium/potassium balance, thus should be avoided. A diet rich in potassium foods (bananas, potatoes, dried fruit and asparagus) is suggested. Avoid alcohol, smoking and environmental toxins when possible. Relaxation exercises and de-stressing activities are a must. Biofeedback, meditation, massage and yoga are suggested. Moderate exercise is beneficial.

#### **Product Recommendations**

DSF Formula (60)  
Adreno Plus

#### **Nutrient Recommendations**

B Vitamins  
Adrenal Glandular  
Dulse  
Eleuthero (Siberian Ginseng)  
Fo-Ti  
Ginkgo Biloba  
Gotu Kola  
Grape Seed Extract  
Korean Ginseng  
L-Tyrosine

## Metabolic Syndrome

Your lab results are mildly suggestive of the above consideration and is supported by:

### High Analytes

Cholesterol, Total  
LDL Cholesterol Calc  
Triglycerides

### Definition

Insulin resistance is a feature of Syndrome X; not everyone who has insulin resistance has Syndrome X, however, everyone who has Syndrome X does have insulin resistance. Syndrome X was first described by Gerald Reaven, MD, at Stanford University Medical Center. His theory is that the main characteristics of syndrome X, mainly hyperinsulinemia and insulin resistance, contribute to the secondary features of syndrome X, which include: high sugar levels, increased LDL and VLDL (the "bad" cholesterols), decreased HDL (the "good" cholesterol), elevated triglycerides, obesity and hypertension. Insulin resistance occurs when the cells lose the ability to utilize insulin correctly; sometimes the insulin receptors or the ability to mobilize receptors to the cell surface are affected. Since insulin is a fuel-regulating hormone that moves glucose into the cells for energy, insulin resistance can cause an increase in blood sugar and a decrease in available energy to the cells. Individuals with Syndrome X sometimes need 300-400% more insulin to maintain normal blood sugar levels, compared to healthy individuals.

### Dietary and Lifestyle Applications

Low-fat, unrefined carbohydrate diet, i.e. mostly organic vegetables, legumes, yogurt, lean meats, and whole fruits (as opposed to juices) like apples and pears, that have a lower glycemic index (don't turn to sugar as quickly), which result in a more sustained release of insulin. Breads and potatoes are fairly high glycemic foods. Insulin resistance results from poor dietary and lifestyle habits that wear down the body's ability to take insulin into the cell, leaving in the bloodstream to elevate blood levels, but not allowing it in the cell where it can be utilized. Good dietary habits and exercise have been demonstrated to reverse many cases of Type 2 diabetes by increasing insulin sensitivity. Losing weight also increases sensitivity. Regular exercise is suggested (at least three days per week). Avoid fructose corn sweeteners. Avoid artificial sweeteners, such as aspartame (NutraSweet, Equal), and diet sodas. Avoid processed grains.

### Product Recommendations

Vana-Chrom  
Complete Gluco-D  
Carbo-Met

### Nutrient Recommendations

Acetyl-L-Carnitine  
Pancreas Glandular  
B Vitamins  
Turmeric  
Vanadyl Sulfate  
Zinc  
Benfotiamine  
Chromium  
Cinnamon  
Alpha Lipoic Acid  
Fenugreek  
Gymnema Sylvestre  
Minerals