Standard Process Event 100 Main Street Rochester, NY 14564 123-555-0123

For Patient: Bacon, Claire

Doctor: Dr. Seminar

**Evaluation Date:** 10/14/2017 **Blood Test Date:** 10/14/2017

# **Blood Panel - Markers Out of Range and Patterns**

(Pattern: proprietary formula using one or more Blood Markers)

Blood Panel: Check for Markers that are out of Lab Range \_\_\_\_\_

\*\*\*NOTE\*\*\* Only one supplement is pre-checked for each Marker, you can select more as needed.

Marker "Cholesterol, Total" is out of lab range but no supplements were added because this marker is used in pattern "Lipid Dysfunction" below. Also consider starting with the 21 Day Purification.

Marker "LDL Cholesterol" is out of lab range (the Total Score is 490). Also consider starting with the 21 Day Purification.

Marker "TSH" is out of lab range but no supplements were added because this marker is used in pattern "Hyperthyroidism" below.

Marker "Thyroxine (T4)" is out of lab range but no supplements were added because this marker is used in pattern "Hyperthyroidism" below.

Marker "Creatinine, Serum" is out of lab range (the Total Score is 480).

Marker "eGFR" is out of lab range (the Total Score is 470).

\_\_\_\_\_ Blood Panel: Check for Patterns WITH Markers that are out of Lab Range \_\_\_\_\_

A pattern for "Thyroid - TSH Only" was found (the Total Score is 460).

A pattern for "Lipid Dysfunction" was found (the Total Score is 450). Consider starting with the 21 Day Purification plus Adrenal Tonic Phytosynergist<sup>®</sup>. Add A-F Betafood if on a PPI or acid blocker, or if bloating.

Blood Panel: Check for Patterns WITH NO Markers that are out of Lab Range

A pattern for "Digestion: Hypochlorhydria" was found (the Total Score is 440). Zypan may be used in place of DiGest Forte (if on a PPI or acid blocker).

A pattern for "Decreased Alkaline Phosphatase" was found (the Total Score is 430).

A pattern for "Elevated Eosinophils (EOS)" was found (the Total Score is 420).

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Above Optimal > Below Optimal < Below Lab Above Lab Marker Value **Optimal Range** Lab Range Units Chemistries Glucose. Serum 86 75 - 86 65 - 99 mg/dL 2.5 - 7.1 Uric Acid, Serum 5.1 3.0 - 5.5 mg/dL BUN ..... 18 10 - 16 6 - 24 mg/dL > 1.15 Creatinine, Serum >> 0.80 - 1.00 0.57 - 1.00 mg/dL eGFR ..... 58 > 59 > 59 ml/min/1.73 << 16 10 - 16 BUN/Creatinine Ratio 11 - 26 Sodium, Serum 139 135 - 142 134 - 144 mmol/L Potassium, Serum 4.7 4.0 - 4.53.5 - 5.2mmol/L > 100 - 106 Chloride, Serum 101 97 - 108 mmol/L Carbon Dioxide, Total 26 21 - 26 18 - 29 mmol/L Calcium, Serum 9.4 9.2 - 10.0 8.7 - 10.2 mg/dL Phosphorus, Serum 3.3 3.0 - 4.02.5 - 4.5 mg/dL Magnesium, Serum 1.6 - 2.3 mg/dL 2.1 > 2.0 Protein, Total, Serum 6.3 6.9 - 7.46.0 - 8.5g/dL < Albumin, Serum 4.3 4.0 - 4.83.5 - 5.5 g/dL Globulin, Total 2.0 24 - 281.5 - 4.5g/dL < Albumin/Globulin Ratio 2.2 1.4 - 2.1 1.1 - 2.5 0.4 0.1 - 1.2 0.0 - 1.2 mg/dL Bilirubin Total 43 70 - 100 39 - 117 IU/L Alkaline Phosphatase < LDH (Lactate dehydrogenase) ..... 149 140 - 200 119 - 226 IU/L AST (SGOT) (Aspartate aminotransferase) ..... 22 10 - 30 0 - 40 IU/L ALT (SGPT) (Alanine Aminotransferase) 14 10 - 30 0 - 32 IU/L GGT ..... 8 10 - 30 0 - 60 IU/L Iron, Serum 150 85 - 130 27 - 159 ug/dL 41 10 - 122 15 - 150 ng/mL Ferritin, Serum Lipids 230 >> 100 - 199 Cholesterol, Total 180 - 220 mg/dL 75 70 - 100 0 - 149Triglycerides ..... mg/dL HDL Cholesterol 113 > 55 > 39 mg/dL 5 - 40 5 - 40 mg/dL VLDL Cholesterol 15 80 - 120 0 - 99 mg/dL LDL Cholesterol 102 >> T. Chol/HDL Ratio 2.0 0.0 - 3.5 0.0 - 4.4 0.0 - 7.2 0.0 - 15.0 8.4 > umol/L Homocyst(e)ine, Plasma

These statements have not been evaluated by the Food & Drug Administration. Be advised that the suggested nutritional program is <u>not intended as a treatment for any disease</u>. This adjunctive schedule of nutrients is provided with the intent of supporting the physiological and biochemical processes of the human body, and <u>not to diagnose, treat, cure, or prevent any disease or condition</u>. The Blood Panel Optimal Ranges have not been approved by the Food & Drug Administration and are noted for professional use only.

# Blood Panel - Detail

on, Claire

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Blood Panel - Detail						
Below Optimal < Above Optimal >	Below La	b < Above La	ab >			
Marker	Value	Optimal Range	Lab Range	Units		
Thyroid						
TSH Thyroxine (T4) T4, Free (Direct) Reverse T3	4.710 >> 1.1 << 1.06 16.8	1.000 - 2.000 7.5 - 8.1 1.00 - 1.50 14.9 - 24.0	0.450 - 4.500 4.5 - 12.0 0.82 - 1.77 9.2 - 24.1	ulU/ml ug/dL ng/dL ng/dL		
CBC, Platelet Ct, and Dif	54.5 >	35.0 - 50.0	30.0 - 100.0	ng/mL		
WBC (White Blood Cells) RBC (Red Blood Cells)	6.3 4.26	5.0 - 7.5 4.00 - 4.50 13 5 - 14 5	3.4 - 10.8 3.77 - 5.28 11 1 - 15 9	x10E3/uL x10E6/uL g/dl		
Hematocrit MCV (Mean Corpuscular Volume)	39.2 92.0 >	37.0 - 44.0 82.0 - 89.9 28.0 - 31.9	34.0 - 46.6 79.0 - 97.0 26.6 - 33.0	g/dL % fL		
MCHC (Mean Corpuscular Hemoglobin) MCHC (Mean Corpuscular Hemoglobin Concentratio RDW (Random Distribution of RBC Weight)	33.2 13.6 >	32.0 - 35.0 0.0 - 13.0	31.5 - 35.7 12.3 - 15.4	g/dL %		
Neutrophils	44 43	40 - 60 24 - 44	40 - 74 14 - 46	x10E3/uL % %		
Monocytes Eosinophils (Eos) Basophils (Basos)	8 <mark>4 &gt;</mark> 1	4 - 13 0 - 3 0 - 1	4 - 12 0 - 5 0 - 3	% %		
Neutrophils (Absolute) Lymphs (Absolute) Monocytes (Absolute)	2.8 2.7 0.5	1.8 - 7.8 0.7 - 4.5 0.1 - 1.0	1.4 - 7.0 0.7 - 3.1 0.1 - 0.9	x10E3/uL x10E3/uL x10E3/uL		
Eosinophils (Eos) (Absolute)	0.3 0.1	0.0 - 0.4 0.0 - 0.2	0.0 - 0.4 0.0 - 0.2	x10E3/uL x10E3/uL		
Immature Granulocytes Immature Granulocytes (Absolute)	0 0.0	0 - 1 0.0 - 0.1	0 - 2 0.0 - 0.1	% x10E3/uL		

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# > Albumin/Globulin Ratio (2.2)

The Albumin/Globulin Ratio is used to measure the levels of protein in your body. Each of these proteins are very important and have different functions or jobs to do. This test provides information about the ratio between the two, ensuring you don't have more of one kind than another.

## Alkaline Phosphatase (43 IU/L)

Alkaline phosphatase is a certain kind of protein found in all body tissues. It is made from zinc and is primarily produced in bone, liver, intestines and skin. When Alkaline Phosphatase levels are low, this can indicate a possible zinc deficiency.

## > BUN (18 mg/dL)

BUN stands for "Blood Urea Nitrogen" but can also be referred to as Urea. It is removed almost entirely by the kidneys so it is very useful as an initial indicator of kidney dysfunction. However, levels outside of the functional ranges can point to other areas of deficiency in the body as well.

## **Notes to Clinician**

General Comment: Waste product formed by the liver as byproduct of protein metabolism; can indicate kidney insufficiency or intestinal dysbiosis.

Marker is high: Always consider the Bowel Flora Protocol and/or upper digestive support. Livaplex or Livco can also be helpful. Evaluate other kidney markers in conjunction with BUN.

# >> Cholesterol, Total (230 mg/dL)

Cholesterol is a fat-like substance that circulates in your blood. Because cholesterol can't dissolve in blood, it has to be carried to cells by special proteins called lipoproteins (LDL's, VLDL's and HDL's). Your body needs adequate amounts of some cholesterol in order to stay healthy.

## >> Creatinine, Serum (1.15 mg/dL)

Creatinine is a normal waste product that builds up in your blood from using your muscles. This blood marker can be elevated in individuals who participate in excessive physical activity or exercise. Women usually have a lower creatinine levels than men, most commonly due to a lower amount of muscle mass. Your body produces creatinine at a fairly constant rate throughout the day and is eventually excreted through the kidneys.

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# << eGFR (58 ml/min/1.73)</pre>

Estimated Glomerular Filtration Rate (eGFR) is a test used to check how well the kidneys are working. Specifically, it estimates how much blood passes through the glomeruli each minute. Glomeruli are the tiny filters in the kidneys that filter waste from the blood.

# > Eosinophils (Eos) (4 %)

Your immune system has white blood cells that help detect and defend your body from germs and other foreign matter that can make you sick. One of these types of white blood cells is called an eosinophil. Eosinophils help protect your body from harmful bacteria, as well as from parasites that can steal important nutrients from your body. Eosinophils are formed in the bone marrow and then released into the blood. They are also found in the tissues of the esophagus, intestines, stomach, heart, lungs, and skin. Being at these locations makes them closer to the sites where germs try to enter the body and thus better prepared to destroy them.

# < GGT (8 IU/L)

This test measures an enzyme, or protein, called gamma-glutamyl transpeptidase (GGT). GGT is found in liver cells and is useful for helping detect diseases of the liver or bile ducts. It can also indicate possible blood sugar issues and should be evaluated in combination with other related blood markers such as ALT, ALP, and bilirubin tests.

## Notes to Clinician

General Comment: Enzyme produced in the liver, kidney and pancreas; can indicate liver/biliary/pancreatic dysfunctions; easily influenced by alcohol consumption; early indicator of liver or biliary tree dysfunctions. Marker is low: Decreased levels most commonly due to nutrient deficiencies: A, K, mag, B6, protein. Also consider HCI support.

## < Globulin, Total (2.0 g/dL)

Globulin is made up of different proteins called alpha, beta, and gamma types. Some of these globulins are made by the liver while others are made by the immune system. Certain globulins bind with hemoglobin. Other globulins transport metals, such as iron, in the blood stream and can also help fight infection.

## **Notes to Clinician**

General Comment: Component of immune system; part of total protein; key indicator for liver or digestive dysfunctions.

Marker is low: Decreased levels can indicate immune deficiency; support GI tract, immune, liver and kidney. Also decreased with chronic viral or bacterial infections.

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# < Hemoglobin (13.0 g/dL)

This is a blood test to find out how much hemoglobin is in your blood. Hemoglobin is the main part of your red blood cells. Hemoglobin is made up of a protein called globin and a compound called heme. Heme consists of iron and a pigment called porphyrin, which gives your blood its red color. Hemoglobin serves the important role of carrying oxygen and carbon dioxide through your blood. If your hemoglobin is too low, you may not be able to supply the cells in your body with the oxygen they need to survive.

# Notes to Clinician

General Comment: Key marker for anemia and dehydration; can involve vitamin C deficiency, increased testosterone and adrenal dysfuction.

Marker is low: Key anemia marker; can also be due to vitamin C deficiency or digestive inflammation.

## > Homocyst(e)ine, Plasma (8.4 umol/L)

Elevated levels of homocysteine can cause damage to the inner lining of the arteries. Over time, this can cause cholesterol to accumulate in an effort to help heal that damage. In order to prevent an accumulation of homocysteine, adequate levels of B vitamins must be present. This helps convert homocysteine into its safer form, cysteine. Risk factors that can contribute to elevated levels include smoking, poor diet, lack of exercise or other nutritional deficiencies.

## Notes to Clinician

General Comment: Formed from incomplete metabolism of methionine; normal levels require adequate B vitamins and folic acid; important to support diet, HCl production and methylation in the liver. Marker is high: Elevated levels can be caused by B deficiency, impaired kidney function or genetic mutation of MTHFR enzyme.

## Iron, Serum (150 ug/dL)

Iron comes from the food you eat and requires adequate hydrochloric acid in the stomach to be fully utilized and absorbed. When your iron levels are low, this can indicate digestive insufficiency or reduced iron intake or both. Women are more likely to have reduced iron levels due to monthly menstrual blood loss or because of increased demand during pregnancy. Because iron is needed to help deliver oxygen to the cells, ensuring you have adequate iron is crucial. This test measures the amount of iron in your blood stream that is available for use by your body.

## **Notes to Clinician**

General Comment: Measures serum-bound iron; adequate levels require dietary intake of iron-containing foods and adequate hydrochloric acid.

Marker is high: Rule out excessive iron intake just prior to phlebotomy; consider iron cookware or iron-rich water.

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# >> LDL Cholesterol (102 mg/dL)

LDL is a very important blood protein that helps transport cholesterol from the liver out into the body for use wherever it is needed. It is not "bad" cholesterol as is commonly reported. LDL is how your body is able to obtain and use cholesterol in order to manufacture hormones, help manage stress, keep your brain healthy, metabolize vitamin D and a variety of other functions.

## > MCV (Mean Corpuscular Volume) (92.0 fL)

Mean corpuscular volume (abbreviated as MCV) is the average amount of space occupied (size) by each a single red blood cell. This indicates whether the cell is too small (microcytic) or too large (macrocytic). As such, it is a very useful marker for determining if anemia is present.

## Notes to Clinician

General Comment: Part of anemia screening; distinguishes between iron deficient and folic acid/B12 anemia; can be normal with concomitant findings; also affected by insufficient hydrochloric acid. Marker is high: Most likely either hypochlorhydria or Folic Acid B2 anemia. Hypothyroidism and vitamin C deficiency may also be involved.

# Potassium, Serum (4.7 mmol/L)

This mineral is one of the primary electrolytes in the body and is very important for heart function and kidney health. Potassium levels can be affected if you are taking diuretics, blood pressure or heart medication or receiving any kind of IV therapy or dialysis. Excessive diarrhea, vomiting or even dehydration can cause a reduction in potassium levels.

## **Notes to Clinician**

General Comment: Must take in context with sodium; adrenals help regulate potassium levels. Marker is high: Rule out dehydration.

## Protein, Total, Serum (6.3 g/dL)

Your body is made of protein so ensuring protein levels in the blood are at their optimal levels is very important. Total protein in the blood is composed of albumin and globulin. Lack of dietary intake or inadequate hydrochloric acid in the stomach can lead to decreased protein levels. Normal protein values also help maintain fluid balance in the tissues, preventing edema.

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Values Outside of the Optimal and/or Laboratory Range							
Bolow Optin	hal <	Bolow Lab	Abova Lab ss				

# > RDW (Random Distribution of RBC Weight) (13.6 %)

RDW measures the consistency of the size of red blood cells. When RDW levels deviate, this is an indicator of possible anemia.

#### **Notes to Clinician**

General Comment: Key marker for various types of anemia. Marker is high: Can be either iron-deficient or folic acid/B12 anemia.

## Thyroxine (T4) (1.1 ug/dL)

Thyroxine is the primary hormone released by the thyroid gland. Once it is released, it is bound to certain proteins in the blood. This blood test shows how much T4 has been produced and released by your thyroid. Altered levels can indicate thyroid insufficiency, iodine deficiency or even hyperthyroid conditions.

## >> TSH (4.710 ulU/ml)

TSH stands for Thyroid Stimulating Hormone and is produced by the pituitary. TSH is not a thyroid hormone but instead, helps provide a clue as to how well your thyroid hormones are working in the body. If downstream levels of T3 are low, TSH signals the thyroid gland to release more thyroid hormone into the blood.

## Vitamin D, 25-Hydroxy (54.5 ng/mL)

The most accurate way to measure how much vitamin D is in your body is the 25-hydroxy vitamin D blood test. In the kidney, 25-hydroxy vitamin D changes into an active form of the vitamin. The active form of vitamin D helps control calcium and phosphate levels in the body as well as a large number of other very important functions.

## **Notes to Clinician**

General Comment: 25-Hydroxy vitamin D is the inactive form; active form is 1-25 D calcitriol which is a steroid hormone and converted in the small intestine, liver and kidneys. Marker is high: Rule out excess intake from dietary supplements.