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

For Patient: Landers, Cathleen
Doctor: Dr. Seminar

Blood Test 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 "BUN" is out of lab range (the Total Score is 490).

Marker "RDW (Random Distribution of RBC Weight)" is out of lab range (but no supplements are added when it's Low).

Marker "BUN/Creatinine Ratio" is out of lab range (the Total Score is 480).

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

A pattern for "Thyroid - TSH Only" was found (the Total Score is 470).

A pattern for "Decreased Alkaline Phosphatase" was found (the Total Score is 460).

A pattern for "Elevated Eosinophils (EOS)" was found (the Total Score is 450).

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.

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## **Blood Panel - Detail**

Below Optimal < Above Optimal >	Below Lab < Above Lab >				
Marker	Value	Optimal Range	Lab Range	Units	
Chemistries					
BUN	28 >>	10 - 16	6 - 24	mg/dL	
Creatinine, Serum	0.81	0.80 - 1.00	0.57 - 1.00	mg/dL	
eGFR	91	> 59	> 59	ml/min/1.73	
BUN/Creatinine Ratio	35 >>	10 - 16	11 - 26	,	
Sodium, Serum	142	135 - 142	134 - 144	mmol/L	
Potassium, Serum	4.8 >	4.0 - 4.5	3.5 - 5.2	mmol/L	
Chloride, Serum	101	100 - 106	97 - 108	mmol/L	
Carbon Dioxide, Total	27 >	21 - 26	18 - 29	mmol/L	
Calcium, Serum	10.0	9.2 - 10.0	8.7 - 10.2	mg/dL	
Protein, Total, Serum	7.8 >	6.9 - 7.4	6.0 - 8.5	g/dL	
				•	
Albumin, Serum	4.9 >	4.0 - 4.8	3.5 - 5.5	g/dL	
Globulin, Total	2.9 >	2.4 - 2.8	1.5 - 4.5	g/dL	
Bilirubin Total	0.3	0.1 - 1.2	0.0 - 1.2	mg/dL	
Alkaline Phosphatase	44 <	70 - 100	39 - 117	IU/L	
AST (SGOT) (Aspartate aminotransferase)	32 >	10 - 30	0 - 40	IU/L	
ALT (SGPT) (Alanine Aminotransferase)	27	10 - 30	0 - 32	IU/L	
Ferritin, Serum	121	10 - 122	15 - 150	ng/mL	
Lipids					
Cholesterol, Total	184	180 - 220	100 - 199	mg/dL	
Triglycerides	60 <	70 - 100	0 - 149	mg/dL	
HDL Cholesterol	76	> 55	> 39	mg/dL	
VLDL Cholesterol	12	5 - 40	5 - 40	mg/dL	
LDL Cholesterol	96	80 - 120	0 - 99	mg/dL	
T. Chol/HDL Ratio	2.4	0.0 - 3.5	0.0 - 4.4	g/ u_	
Homocyst(e)ine, Plasma	6.3	0.0 - 7.2	0.0 - 15.0	umol/L	
Thyroid	0.0	0.0 7.2	0.0 10.0	arrior, E	
· · · · · · · · · · · · · · · · · · ·	0.000	4 000 0 000	0.4504.500		
TSH	2.930 >	1.000 - 2.000	0.450 - 4.500	uIU/ml	
Free Thyroxine Index	1.2	1.2 - 4.9	1.2 - 4.9		
Triiodothyronine (T3), Free, Serum	2.80 <	3.00 - 3.25	2.00 - 4.40	pg/mL	
Immunoassay					
Vitamin D, 25-Hydroxy	59.0 >	35.0 - 50.0	30.0 - 100.0	ng/mL	
Fibrinogen Activity	267	200 - 300	193 - 507	mg/dL	

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## **Blood Panel - Detail**

Below Optimal < Above Optimal >	Below Lab	< Above La	ıb >	
Marker	Value	Optimal Range	Lab Range	Units
CBC, Platelet Ct, and Dif				
WBC (White Blood Cells)	4.4 <	5.0 - 7.5	3.4 - 10.8	x10E3/uL
RBC (Red Blood Cells)	4.50	4.00 - 4.50	3.77 - 5.28	x10E6/uL
Hemoglobin	14.4	13.5 - 14.5	11.1 - 15.9	g/dL
Hematocrit	42.2	37.0 - 44.0	34.0 - 46.6	%
MCV (Mean Corpuscular Volume)	93.8 >	82.0 - 89.9	79.0 - 97.0	fL
MCH (Mean Corpuscular Hemoglobin)	32.0 >	28.0 - 31.9	26.6 - 33.0	pg
MCHC (Mean Corpuscular Hemoglobin Concentration	34.1	32.0 - 35.0	31.5 - 35.7	g/dL
RDW (Random Distribution of RBC Weight)	11.7 <<	0.0 - 13.0	12.3 - 15.4	%
Platelets	273	185 - 385	150 - 379	x10E3/uL
Lymphs	33	24 - 44	14 - 46	%
Monocytes	9	4 - 13	4 - 12	%
Eosinophils (Eos)	4 >	0 - 3	0 - 5	%
Basophils (Basos)	1	0 - 1	0 - 3	%

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### Values Outside of the Optimal and/or Laboratory Range

Below Optimal <

Above Optimal >

Below Lab <<

Above Lab >>

## > Albumin, Serum (4.9 g/dL)

Albumin is the most abundant transport protein in the body, representing 60% of total plasma proteins. It moves vitamins, proteins, hormones, amino acids, and minerals, including calcium and magnesium through the blood stream. It is produced in the liver from amino acids which come from dietary protein and is essential for proper immune system function. It can be affected by poor digestion or insufficient protein intake.

#### **Notes to Clinician**

General Comment: Produced by the liver from protein in the diet; needed for optimal immune function. Marker is high: Ensure adequate hydration, lymphatic movement and endocrine function. If well above 4.8, outside referral may be indicated.

### < Alkaline Phosphatase (44 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.

#### > AST (SGOT) (Aspartate aminotransferase) (32 IU/L)

AST is an enzyme found in high amounts in liver, heart, and muscle cells. It is produced in muscle tissue. It is used more frequently to evaluate possible cardiovascular issues rather than liver dysfunction (but can show correlation).

#### Notes to Clinician

General Comment: Enzyme produced primarily in muscle tissue (skeletal and heart) after damage. Not as indicative of liver dysfunction.

Marker is high: Consider excessive muscle turnover or early onset congestive heart disease.

## >> BUN (28 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.

## BUN/Creatinine Ratio (35)

BUN/Creatinine ratio provides the relationship between blood urea nitrogen (BUN) and serum creatinine.

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## Carbon Dioxide, Total (27 mmol/L)

This test measures the amount of carbon dioxide in your blood. When you digest food, your body makes carbon dioxide as a waste product in the form of a gas. Your blood carries this gas to your lungs, where you exhale it and exchange it for oxygen throughout the day. In the body, most of the CO2 is in the form of a substance called bicarbonate. Therefore, the CO2 blood test is really a measure of your blood bicarbonate level.

#### **Notes to Clinician**

General Comment: Supplementation may not be needed. Rule out other contributing dietary and lifestyle factors. Marker is high: Rule out antacid use, excessive diarrhea or vomiting, or respiratory issues.

## 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.

## Slobulin, Total (2.9 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 high: Elevated levels can indicate inflammation or infection in the GI tract; important to support overall digestion.

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Above Lab >>

> MCH (Mean Corpuscular Hemoglobin) (32.0 pg)

This marker measures the average weight of hemoglobin in red blood cells. It can be an indicator of several types of anemia or even digestive insufficiency.

#### **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.

> MCV (Mean Corpuscular Volume) (93.8 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 (4.8 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.

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## > Protein, Total, Serum (7.8 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.

#### **Notes to Clinician**

General Comment: Comprised of albumin and globulin.

Marker is high: Affected by dehydration and liver/biliary issues.

## RDW (Random Distribution of RBC Weight) (11.7 %)

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

## Triglycerides (60 mg/dL)

Serum (blood) triglycerides are an indicator of the amount of stored fat in the body. Levels of triglycerides can vary with age, sex, glucose metabolism and health of the liver. Excess calories from food that your body doesn't immediately use are converted into triglycerides and stored as fat for later use.

#### **Notes to Clinician**

General Comment: >90% consumed via diet; appropriate dietary changes are mandatory; should be 1/2 of total cholesterol if fats are metabolized correctly.

Marker is low: Most often indicates need for increased saturated fat intake; may also be poor protein intake or liver/biliary dysfunction.

#### Triiodothyronine (T3), Free, Serum (2.80 pg/mL)

Free T3 shows how much of this important hormone is free or "unbound" and ready to enter the cells. Only the unbound hormone is able to exert its effect on the cell, influencing rate of growth, metabolism, temperature regulation, and much more.

#### **Notes to Clinician**

General Comment: Measurement of active/bioavailable thyroid hormone. Excellent indicator of T4 conversion downstream.

Marker is low: Consider elevated RT3, selenium deficiency or primary hypothyroidism.

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## > TSH (2.930 uIU/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 (59.0 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.

## WBC (White Blood Cells) (4.4 x10E3/uL)

There are 5 types of white blood cells which make up approximately 1% of the total blood volume. Their life span is approximately 13-20 days and their production is regulated by the endocrine system. All white blood cells are involved in a large number of immune system activities, depending on which type of white blood cell is needed (Neutrophils, Lymphycytes, Monocytes, Eosinophils and Basophils). Each of these are formed in the bone marrow on a daily basis.

#### **Notes to Clinician**

General Comment: Immune system cells regulated by endocrine system; affected by elevated blood sugar. Marker is low: Often a chronic viral or bacterial infection; may also be folic acid/B12 anemia, vitamin or mineral deficiencies or elevated blood sugar.