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**Functional Health Report**  
**Practitioner Copy**

**JANE DOE**

Lab Test on Jul 31, 2017  
Conventional US Units

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# Product Summary Report



The Product Summary Report takes all the information on this report and provides a summary of the nutritional supplements recommended to help bring the systems of the body back into balance. This plan focuses on the top areas of need as presented in this report.

Protocols	Primary Product	Dosage	<input checked="" type="checkbox"/>
Hypoglycemia	Metabolic Essentials 	Take 3 capsules twice per day with a meal.	<input type="checkbox"/>
Gastric Inflammation	GlucoBalance Plus 	Take 4 capsules per day with meals.	<input type="checkbox"/>
Female Hormonal Support	Pro Balance for Women 	Take 4 capsules per day.	<input type="checkbox"/>
Bacterial Infection	Allium Pro 	Take 1 softgel per day.	<input type="checkbox"/>
Female Testosterone Deficiency	Adrenal Complete 	Take 2 capsules with meals.	<input type="checkbox"/>
Vitamin D Need	Vitamin D 5000 Plus 	Take 1 capsule per day with a meal.	<input type="checkbox"/>
Calcium Need	Calcium Malate Chelate 	Take 2 capsules per day with a meal.	<input type="checkbox"/>
DHEA Need	DHEA 	Take 1 capsule per day with a meal.	<input type="checkbox"/>

## Other Potential Product Recommendations

Protocols	Primary Product	Dosage	<input checked="" type="checkbox"/>
Bacterial Infection	Immune Essentials Plus 	Take 3 capsules per day with meals.	<input type="checkbox"/>
	Silver Max 	Take 5 ml (approx. one teaspoon) orally per day.	<input type="checkbox"/>
Female Testosterone Deficiency	Adrenal Plus 	Take 3 capsules per day with meals.	<input type="checkbox"/>

This Product Summary Report has been prepared for your patient based upon current algorithms. Additional personalized recommendations for nutritional support may be applicable based on this laboratory evaluation, your patient's history and your clinical practice experience.

\* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to

JANE DOE  
41 year old Female - Born Oct 25, 1976

Lab Test on Jul 31, 2017

diagnose, treat, cure or prevent any disease.

## Health Improvement Plan



The Health Improvement Plan takes all the information on this report and creates unique customized recommendations to help bring the systems of your body back into balance. This plan focuses on the top areas of need as presented in this report.

### Hypoglycemia

The results of this blood test indicate a tendency towards hypoglycemia or low blood sugar and a need for blood sugar support. The following provide personalized nutritional support for blood sugar regulation\*:

#### Rationale:

LDH ↓

#### Product Name

Metabolic Essentials

#### Dosage and Directions

Take 3 capsules twice per day with a meal.

#### Details

A nationally prominent medical doctor specializing in blood sugar and endocrine health designed this multivitamin and mineral formula. Metabolic Essentials helps maintain healthy glucose and insulin levels, while supporting the conversion of carbohydrates to be used for energy by providing nutrients for the TCA cycle. The magnesium, chromium, zinc, manganese, and vanadium are true chelates from Albion, the leader in the manufacture of mineral chelates with superior absorption. It also includes our proprietary NatureFolate? blend of active-isomer naturally occurring folates.



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## Gastric Inflammation

The results of this blood test indicate a tendency towards gastric inflammation and a need for support for the stomach lining. The following provide personalized support for the GI Mucosa\*:

### Rationale:

Globulin, total ↓, Protein, total ↓, Hemoglobin, Female ↓, Creatinine ↓, Phosphorus ↓

### Product Name

GlucoBalance Plus

### Dosage and Directions

Take 4 capsules per day with meals.

### Details

GlucoBalance Plus is ideal for supporting healthy insulin and glucose levels. This unique, synergistic formula combines standardized herbs and other botanicals that are shown to support healthy blood sugar through various mechanisms, including cinnamon, corosolic acid from banaba, isoflavones from kudzu, and ginsenosides from ginseng. It also contains Salacia, an ayurvedic herb that supports proper leptin and insulin signaling.



## Female Hormonal Support

The results of this blood test indicate a need for female hormonal support. The following provide personalized female hormone support. Please note that these products may be more suited for either pre-menopausal or peri-menopausal/menopausal support.\*

### Rationale:

DHEA-S, Female ↓, Testosterone, Total Female ↓

### Product Name

Pro Balance for Women

### Dosage and Directions

Take 4 capsules per day.

### Details

Pro Balance for Women supports classic herbal hormonal balancing in the form of vitex, polygonum and black cohosh, along with DIM and chrysin for protection and support of beneficial estrogen aromatase activity. Calcium-D-glucarate promotes the proper elimination of excess estrogens. Rosemary, resveratrol, grape seed extract, and EGCG from green tea are included for maximum antioxidant protection. Vitamins B6, B12, and folates (NatureFolate? blend) promote proper cell differentiation.\* Magnesium and calcium are also included to help support bone and hormone health. Women often use this product with Multi Complex Plus and Osteo-Build Plus.



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## Bacterial Infection

The results of this blood test indicate a tendency towards a bacterial infection and a need for immune support. The following provide personalized nutritional support for the immune system\*:

### Rationale:

Total WBCs ↑, Monocytes ↑

#### Product Name

Allium Pro

#### Dosage and Directions

Take 1 softgel per day.

#### Details

Allium Pro softgels contain 200 mg of Garlicillin?. Garlicillin? is a blend of garlic oil macerate and garlic oil containing 1 mg of ajoene and diithins, the most active compounds formed from garlic. These softgels are enteric coated, so as to lessen the strong garlic odor and repeating that sometimes occurs from supplementing garlic. This formula has been reformulated to replace soy lecithin with sunflower lecithin, and is now non-GMO.



#### Product Name

Immune Essentials Plus

#### Dosage and Directions

Take 3 capsules per day with meals.

#### Details

Immune Essentials Plus is an herbal formula that is designed to support healthy immune system function during cold and flu season. It contains herbs that support normal natural killer (NK) cell activity and the balance of cytokines, which are the regulatory proteins released by immune cells as part of a normal immune system response.\* The standardized herbs in this formula contain optimal and consistent amounts of the most active ingredients. Immune Essentials Plus is suitable for long term use and for all age groups.



#### Product Name

Silver Max

#### Dosage and Directions

Take 5 ml (approx. one teaspoon) orally per day.

#### Details

Silver Max is a highly effective antimicrobial preparation composed of pure silver complexed with purified water. Silver Max uses Silver Sol Technology?, the term ?sol? being a designation of a mineral permanently distributed into the structure of water. The silver becomes a part of that water molecule permanently so it will not fall out of solution or suspension. Silver Max is an incredibly highly powerful, non-toxic form of silver, with zero build-up in the body, so it does not cause argyria (blue man syndrome).



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## Female Testosterone Deficiency

The results of this blood test indicate a trend towards testosterone deficiency and a need for testosterone metabolism support. The following provides personalized nutritional support for testosterone regulation.

### Rationale:

Testosterone, Total Female ↓

#### Product Name

Adrenal Complete

#### Dosage and Directions

Take 2 capsules with meals.

#### Details

Adrenal Complete is a glandular-based product designed to support overall adrenal function. It is fortified with N-acetyl tyrosine, vitamin C and a comprehensive spectrum of B vitamins. Adrenal Complete is ideal for those under chronic stress due to its ability to balance cortisol and replenish catecholamines (dopamine, norepinephrine, and epinephrine).



#### Product Name

Adrenal Plus

#### Dosage and Directions

Take 3 capsules per day with meals.

#### Details

Adrenal Plus is a combination of standardized herbs and nutrients which are known for rejuvenating the adrenals. This product is designed to promote healthy cortisol levels, hypothalamic and pituitary function (HPTA axis), and catecholamine production (dopamine, norepinephrine, and epinephrine).

\*\*Adrenal Plus does not contain glandulars.



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This Health Improvement Plan has been prepared for your patient based upon current algorithms. Additional personalized recommendations for nutritional support may be applicable based on this laboratory evaluation, your patient's history and your clinical practice experience.

## Suggested Individual Nutrient Recommendations

Your Health Improvement Plan takes all the information on this report and creates unique customized recommendations to help bring the systems of your body back into balance. This plan focuses on the top areas of need as presented in this report.

### Vitamin D Need

The results of this blood test indicate that this patient's vitamin D levels might be lower than optimal and shows a need for vitamin D supplementation. The following provide a good source of vitamin D to bring levels back into the optimal range.\*

#### Rationale:

Vitamin D (25-OH) ↓

#### Product Name

Vitamin D 5000 Plus

#### Dosage and Directions

Take 1 capsule per day with a meal.

#### Details

Vitamin D 5000 Plus provides a clinically useful dose of vitamin D3 and vitamin K in both the K1 and MK-7 form of K2. This formula contains higher therapeutic doses than Vitamin D Synergy for situations where more aggressive repletion is required. Vitamins D and K are essential for optimal bone and arterial health and for maintaining the immune system in proper balance. The amount of vitamin D and K in this formula may be beneficial for those who do not get adequate sun exposure and/or dietary sources of these vitamins. Vitamins D & K work as a team. Thus, increasing doses of vitamin D will increase the need for vitamin K.



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## Calcium Need

The results of this blood test indicate that this patient's calcium levels might be lower than optimal and shows a need for calcium supplementation. The following provide a good source of calcium to bring levels back into the optimal range.\*

### Rationale:

Calcium ↓, Vitamin D (25-OH) ↓

### Product Name

Calcium Malate Chelate

### Dosage and Directions

Take 2 capsules per day with a meal.

### Details

Calcium Malate Chelate combines two unique forms of calcium for exceptional absorption and utilization. Calcium glycinate chelate provides calcium that is fully chelated to glycine for superior absorption, while the calcium in di-calcium malate is bound to malic acid for excellent absorption and support of energy production in the Krebs cycle. The recommended dosage of two capsules yields 500 mg of elemental calcium along with 100 IU of vitamin D.



## DHEA Need

The results of this blood test indicate that this patient's DHEA levels might be lower than optimal and shows a need for DHEA supplementation. The following provide a good source of DHEA to bring levels back into the optimal range.\*

### Rationale:

DHEA-S, Female ↓

### Product Name

DHEA

### Dosage and Directions

Take 1 capsule per day with a meal.

### Details

This product supplies 25 mg of DHEA per capsule for the synthesis of important hormones and for a variety of potential physiological responses such as healthy aging, ongoing energy and vitality, a balanced stress response, as well as muscle integrity and fat reduction.



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This Health Improvement Plan has been prepared for your patient based upon current algorithms. Additional personalized recommendations for nutritional support may be applicable based on this laboratory evaluation, your patient's history and your clinical practice experience.



# Blood Test Results Report



The Blood Test Results Report lists the results of the patient's Chemistry Screen and CBC and shows you whether or not an individual element is outside of the optimal range and/or outside of the clinical lab range. The elements appear in the order in which they appear on the lab test form.

<b>Above Optimal Range</b> 2 Current 0 Previous <span style="float: right;">↑</span>	<b>Above Standard Range</b> 2 Current 0 Previous <span style="float: right;">↑</span>	<b>Alarm High</b> 0 Current 0 Previous
<b>Below Optimal Range</b> 16 Current 0 Previous <span style="float: right;">↓</span>	<b>Below Standard Range</b> 1 Current 0 Previous <span style="float: right;">↓</span>	<b>Alarm Low</b> 0 Current 0 Previous

Element	Current	Previous	Impr	Optimal Range	Standard Range	Units
	Jul 31 2017	Not Available				
Glucose	88.00			72.00 - 90.00	65.00 - 99.00	mg/dL
Hemoglobin A1C	4.90 ↓			5.00 - 5.50	0.00 - 5.60	%
Insulin - Fasting	4.60			2.00 - 5.00	2.00 - 19.00	µIU/ml
BUN	12.00			10.00 - 16.00	7.00 - 25.00	mg/dL
Creatinine	0.77 ↓			0.80 - 1.10	0.40 - 1.35	mg/dL
BUN/Creatinine Ratio	15.58			10.00 - 16.00	6.00 - 22.00	Ratio
eGFR Non-Afr. American	97.00			90.00 - 120.00	60.00 - 90.00	mL/min/1.73m2
eGFR African American	112.00			90.00 - 120.00	60.00 - 90.00	mL/min/1.73m2
Sodium	139.00			135.00 - 142.00	135.00 - 146.00	mEq/L
Potassium	4.00			4.00 - 4.50	3.50 - 5.30	mEq/L
Sodium/Potassium Ratio	34.75			30.00 - 35.00	30.00 - 35.00	ratio
Chloride	108.00 ↑			100.00 - 106.00	98.00 - 110.00	mEq/L
CO2	25.00			25.00 - 30.00	19.00 - 30.00	mEq/L
Anion gap	10.00			7.00 - 12.00	6.00 - 16.00	mEq/L
Uric Acid, female	3.60			3.00 - 5.50	2.50 - 7.00	mg/dL
Protein, total	6.40 ↓			6.90 - 7.40	6.10 - 8.10	g/dL
Albumin	4.10			4.00 - 5.00	3.60 - 5.10	g/dL
Globulin, total	2.30 ↓			2.40 - 2.80	2.00 - 3.50	g/dL
Albumin/Globulin Ratio	1.80			1.40 - 2.10	1.00 - 2.50	ratio
Calcium	8.80 ↓			9.40 - 10.10	8.60 - 10.40	mg/dL
Calcium/Albumin Ratio	2.14			0.00 - 2.60	0.00 - 2.70	ratio
Phosphorus	3.20 ↓			3.50 - 4.00	2.50 - 4.50	mg/dL
Calcium/Phosphorous Ratio	2.75 ↑			2.30 - 2.70	2.30 - 2.70	ratio
Magnesium	2.10 ↓			2.20 - 2.50	1.50 - 2.50	mg/dl
Alk Phos	38.00 ↓			70.00 - 100.00	35.00 - 115.00	IU/L
AST (SGOT)	15.00			10.00 - 26.00	10.00 - 35.00	IU/L
ALT (SGPT)	9.00 ↓			10.00 - 26.00	6.00 - 29.00	IU/L

LDH	122.00 ↓		140.00 - 200.00	120.00 - 250.00	IU/L
Bilirubin - Total	0.60		0.10 - 0.90	0.20 - 1.20	mg/dL
Bilirubin - Direct	0.10		0.00 - 0.20	0.00 - 0.19	mg/dL
Bilirubin - Indirect	0.50		0.10 - 0.70	0.20 - 1.20	mg/dL
GGT	11.00		10.00 - 30.00	3.00 - 70.00	IU/L
Iron - Serum	116.00		85.00 - 130.00	40.00 - 160.00	µg/dL
Ferritin	53.00		40.00 - 150.00	10.00 - 232.00	ng/mL
TIBC	273.00		250.00 - 350.00	250.00 - 425.00	µg/dL
% Transferrin saturation	42.00		24.00 - 50.00	15.00 - 50.00	%
Cholesterol - Total	159.00		155.00 - 190.00	125.00 - 200.00	mg/dL
Triglycerides	49.00 ↓		50.00 - 100.00	0.00 - 150.00	mg/dL
LDL Cholesterol	89.00		0.00 - 120.00	0.00 - 130.00	mg/dL
HDL Cholesterol	60.00		55.00 - 70.00	46.00 - 100.00	mg/dL
Cholesterol/HDL Ratio	2.70		0.00 - 3.00	0.00 - 5.00	Ratio
Triglyceride/HDL Ratio	0.81		0.00 - 2.00	0.00 - 3.30	ratio
TSH	0.98 ↓		1.00 - 3.00	0.40 - 4.50	µU/mL
Free T3	3.10		2.80 - 3.50	2.30 - 4.20	pg/ml
Free T4	1.10		1.00 - 1.50	0.80 - 1.80	ng/dL
Reverse T3	12.00		10.00 - 25.00	8.00 - 25.00	ng/dl
Hs CRP, Female	0.30		0.00 - 0.99	0.00 - 2.90	mg/L
Homocysteine	4.70		0.00 - 6.00	0.00 - 10.30	µmol/L
Vitamin D (25-OH)	40.00 ↓		50.00 - 90.00	30.00 - 100.00	ng/ml
DHEA-S, Female	108.00 ↓		275.00 - 400.00	35.00 - 325.00	µg/dl
Sex Hormone Binding Globulin, female	54.00		25.00 - 122.00	17.00 - 124.00	nmol/L
Estradiol, Female	51.00		19.00 - 357.00	19.00 - 357.00	pg/ml
Testosterone, Total Female	18.00 ↓		35.00 - 45.00	2.00 - 45.00	ng/dl
Testosterone, Free Female	1.40		1.00 - 2.20	0.20 - 5.00	pg/ml
Total WBCs	8.10 ↑		5.30 - 7.50	3.80 - 10.80	k/cumm
RBC, Female	3.91		3.90 - 4.50	3.80 - 5.10	m/cumm
Hemoglobin, Female	11.50 ↓		13.50 - 14.50	11.70 - 15.50	g/dl
Hematocrit, Female	35.00 ↓		37.00 - 44.00	35.00 - 45.00	%
MCV	89.50		85.00 - 92.00	80.00 - 100.00	fL
MCH	29.40		27.00 - 31.90	27.00 - 33.00	pg
MCHC	32.90		32.00 - 35.00	32.00 - 36.00	g/dL
Platelets	237.00		150.00 - 400.00	140.00 - 415.00	k/cumm
RDW	12.40		11.70 - 13.00	11.00 - 15.00	%
Neutrophils	55.60		40.00 - 60.00	40.00 - 60.00	%
Lymphocytes	30.70		25.00 - 40.00	25.00 - 40.00	%
Monocytes	11.40 ↑		0.00 - 7.00	0.00 - 7.00	%
Eosinophils	1.90		0.00 - 3.00	0.00 - 3.00	%

Basophils	0.40			0.00 - 1.00	0.00 - 1.00	%
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## % Deviation from Optimal Report



This report shows the elements on the blood test that are farthest from optimal expressed as a %. The elements that appear closest to the top and the bottom are those elements that are farthest from optimal and should be carefully reviewed.

Element	% from Median	Lab Result	Low	High	Optimal Reference Ranges	
					Low	High
Monocytes	113	<b>11.40</b>	0.00	7.00		
Chloride	83	<b>108.00</b>	100.00	106.00		
Total WBCs	77	<b>8.10</b>	5.30	7.50		
Calcium/Phosphorous Ratio	62	<b>2.75</b>	2.30	2.70		
Sodium/Potassium Ratio	45	<b>34.75</b>	30.00	35.00		
BUN/Creatinine Ratio	43	<b>15.58</b>	10.00	16.00		
Cholesterol/HDL Ratio	40	<b>2.70</b>	0.00	3.00		
Glucose	39	<b>88.00</b>	72.00	90.00		
Insulin - Fasting	37	<b>4.60</b>	2.00	5.00		
Calcium/Albumin Ratio	32	<b>2.14</b>	0.00	2.60		
Homocysteine	28	<b>4.70</b>	0.00	6.00		
Neutrophils	28	<b>55.60</b>	40.00	60.00		
LDL Cholesterol	24	<b>89.00</b>	0.00	120.00		
eGFR African American	23	<b>112.00</b>	90.00	120.00		
% Transferrin saturation	19	<b>42.00</b>	24.00	50.00		
Iron - Serum	19	<b>116.00</b>	85.00	130.00		
Bilirubin - Indirect	17	<b>0.50</b>	0.10	0.70		
MCV	14	<b>89.50</b>	85.00	92.00		
Eosinophils	13	<b>1.90</b>	0.00	3.00		
Bilirubin - Total	12	<b>0.60</b>	0.10	0.90		
Anion gap	10	<b>10.00</b>	7.00	12.00		
Sodium	7	<b>139.00</b>	135.00	142.00		
Albumin/Globulin Ratio	7	<b>1.80</b>	1.40	2.10		
RDW	4	<b>12.40</b>	11.70	13.00		
Bilirubin - Direct	0	<b>0.10</b>	0.00	0.20		
MCH	-1	<b>29.40</b>	27.00	31.90		
Free T3	-7	<b>3.10</b>	2.80	3.50		
Triglyceride/HDL Ratio	-10	<b>0.81</b>	0.00	2.00		
Basophils	-10	<b>0.40</b>	0.00	1.00		
Lymphocytes	-12	<b>30.70</b>	25.00	40.00		
Platelets	-15	<b>237.00</b>	150.00	400.00		
Testosterone, Free Female	-17	<b>1.40</b>	1.00	2.20		
HDL Cholesterol	-17	<b>60.00</b>	55.00	70.00		
BUN	-17	<b>12.00</b>	10.00	16.00		
AST (SGOT)	-19	<b>15.00</b>	10.00	26.00		

Hs CRP, Female	-20	<b>0.30</b>	0.00	0.99	
MCHC	-20	<b>32.90</b>	32.00	35.00	
Sex Hormone Binding Globulin, female	-20	<b>54.00</b>	25.00	122.00	
Uric Acid, female	-26	<b>3.60</b>	3.00	5.50	
eGFR Non-Afr. American	-27	<b>97.00</b>	90.00	120.00	
TIBC	-27	<b>273.00</b>	250.00	350.00	
Free T4	-30	<b>1.10</b>	1.00	1.50	
Reverse T3	-37	<b>12.00</b>	10.00	25.00	
Ferritin	-38	<b>53.00</b>	40.00	150.00	
Cholesterol - Total	-39	<b>159.00</b>	155.00	190.00	
Albumin	-40	<b>4.10</b>	4.00	5.00	
Estradiol, Female	-41	<b>51.00</b>	19.00	357.00	
GGT	-45	<b>11.00</b>	10.00	30.00	
RBC, Female	-48	<b>3.91</b>	3.90	4.50	
CO2	-50	<b>25.00</b>	25.00	30.00	
Potassium	-50	<b>4.00</b>	4.00	4.50	
TSH	-51	<b>0.98</b>	1.00	3.00	
Triglycerides	-52	<b>49.00</b>	50.00	100.00	
ALT (SGPT)	-56	<b>9.00</b>	10.00	26.00	
Creatinine	-60	<b>0.77</b>	0.80	1.10	
Hemoglobin A1C	-70	<b>4.90</b>	5.00	5.50	
Vitamin D (25-OH)	-75	<b>40.00</b>	50.00	90.00	
Globulin, total	-75	<b>2.30</b>	2.40	2.80	
Hematocrit, Female	-79	<b>35.00</b>	37.00	44.00	
LDH	-80	<b>122.00</b>	140.00	200.00	
Magnesium	-83	<b>2.10</b>	2.20	2.50	
Phosphorus	-110	<b>3.20</b>	3.50	4.00	
Calcium	-136	<b>8.80</b>	9.40	10.10	
Protein, total	-150	<b>6.40</b>	6.90	7.40	
Alk Phos	-157	<b>38.00</b>	70.00	100.00	
DHEA-S, Female	-184	<b>108.00</b>	275.00	400.00	
Testosterone, Total Female	-220	<b>18.00</b>	35.00	45.00	
Hemoglobin, Female	-250	<b>11.50</b>	13.50	14.50	

# Out of Optimal Range Report



The following results show all of the elements that are out of the optimal reference range. The elements that appear closest to the top of each section are those elements that are farthest from optimal and should be carefully reviewed.

## Above Optimal Range

4 Total



## Below Optimal Range

17 Total



## Above Optimal

### Monocytes ↑ 11.40 % (+ 113 %)

Monocytes are white blood cells that are the body's second line of defense against infection. They are phagocytic cells that are capable of movement and remove dead cells, microorganisms, and particulate matter from circulating blood. Levels tend to rise at the recovery phase of an infection or with chronic infection.

### Chloride ↑ 108.00 mEq/L (+ 83 %)

Chloride plays an important role in human physiology. The amount of serum chloride is carefully regulated by the kidneys. Chloride is involved in regulating acid-base balance in the body. Increased levels are associated with metabolic acidosis and decreased levels are associated with metabolic alkalosis. Chloride is an important molecule in the production of hydrochloric acid in the stomach so decreased levels are associated with hypochlorhydria.

### Total WBCs ↑ 8.10 k/cumm (+ 77 %)

The total White Blood Cell (WBC) count measures the sum of all the WBCs in the peripheral blood. White Blood Cells fight infection, defend the body through a process called phagocytosis, and produce, transport and distribute antibodies as part of the immune process. It is important to look at the WBC differential count (neutrophils, lymphocytes, etc.) to locate the source of an increased or decreased WBC count.

### Calcium/Phosphorous Ratio ↑ 2.75 ratio (+ 62 %)

The Calcium:Phosphorus ratio is determined from the serum calcium and serum phosphorus levels. This ratio is maintained by the parathyroid glands and is also affected by various foods. Foods high in phosphorus and low in calcium tend to disrupt the balance and shift the body toward metabolic acidity, depleting calcium and other minerals and increasing inflammation.

## Below Optimal

### Hemoglobin, Female ↓ 11.50 g/dl (- 250 %)

Hemoglobin is the oxygen carrying molecule in red blood cells. Measuring hemoglobin is useful to determine the cause and type of anemia and for evaluating the efficacy of anemia treatment. Hemoglobin levels may be increased in cases of dehydration.

**Testosterone, Total Female ↓ 18.00 ng/dl (- 220 %)**

In women, total testosterone can help in the evaluation of polycystic ovarian syndrome, testosterone-producing tumors of the ovary, tumors of the adrenal cortices, and congenital adrenal hyperplasia.

Imbalances of testosterone in postmenopausal women are associated with various forms of coronary heart disease and cardiovascular events, including myocardial infarction.

**DHEA-S, Female ↓ 108.00 µg/dl (- 184 %)**

DHEA is produced primarily from the adrenals and is the most abundant circulating steroid in the human body and influences more than 150 known anabolic (repair) functions throughout the body and brain. It is the precursor for the sex hormones: testosterone, progesterone, and estrogen. Decreased levels are associated with many common age-related conditions, including diseases of the nervous, cardiovascular, and immune systems such as metabolic syndrome, coronary artery disease, osteoporosis, mood disorders and sexual dysfunction. Ideally, DHEA levels should be maintained at the level of a healthy 30-year-old to maximize the anti-aging effects.

**Alk Phos ↓ 38.00 IU/L (- 157 %)**

Alkaline phosphatase (ALP) is a group of isoenzymes that originate in the bone, liver, intestines, skin, and placenta. It has a maximal activity at a pH of 9.0-10.0, hence the term alkaline phosphatase. Decreased levels of ALP have been associated with zinc deficiency.

**Protein, total ↓ 6.40 g/dL (- 150 %)**

Total serum protein is composed of albumin and total globulin. Conditions that affect albumin and total globulin readings will impact the total protein value. A decreased total protein can be an indication of malnutrition, digestive dysfunction due to HCl need, or liver dysfunction. Malnutrition leads to a decreased total protein level in the serum primarily from lack of available essential amino acids. An increased total protein is most often due to dehydration.

**Calcium ↓ 8.80 mg/dL (- 136 %)**

Serum calcium levels, which are tightly regulated within a narrow range, are principally regulated by parathyroid hormone (PTH) and vitamin D. A low calcium level indicates that calcium regulation is out of balance and not necessarily that the body is deficient of calcium and needs supplementation. Check vitamin D levels, rule out hypochlorhydria, the need for magnesium, phosphorous, vitamin A, B and C, unsaturated fatty acids, and iodine as some of the reasons for a calcium "need" before supplementing with calcium. An elevated calcium is associated with parathyroid hyperfunction. If significantly elevated (>10.6 mg/dl or 2.65 mmol/L) check serum PTH levels and refer to an endocrinologist.

**Phosphorus ↓ 3.20 mg/dL (- 110 %)**

Phosphorous levels, like calcium, are regulated by parathyroid hormone (PTH). Phosphate levels are closely tied with calcium, but they are not as strictly controlled as calcium. Plasma levels may be decreased after a high carbohydrate meal or in people with a diet high in refined carbohydrates. Serum phosphorous is a general marker for digestion. Decreased phosphorous levels are associated with hypochlorhydria. Serum levels of phosphorous may be increased with a high phosphate consumption in the diet, with parathyroid hypofunction and renal insufficiency.

**Magnesium ↓ 2.10 mg/dl (- 83 %)**

Magnesium is important for many different enzymatic reactions, including carbohydrate metabolism, protein synthesis, nucleic acid synthesis, and muscular contraction. Magnesium is also needed for energy production and is used by the body in the blood clotting mechanism. An increased serum magnesium is associated with kidney dysfunction and thyroid hypofunction. A decreased magnesium is a common finding with muscle cramps.

**LDH ↓ 122.00 IU/L (- 80 %)**

LDH represents a group of enzymes that are involved in carbohydrate metabolism. Decreased levels of LDH often correspond to hypoglycemia (especially reactive hypoglycemia), pancreatic function, and glucose metabolism. Increased levels are used to evaluate the presence of tissue damage to the cell causing a rupture in the cellular cytoplasm. LDH is found in many of the tissues of the body, especially the heart, liver, kidney, skeletal muscle, brain, red blood cells, and lungs. Damage to any of these tissues will cause an elevated serum LDH level.

**Hematocrit, Female ↓ 35.00 % (- 79 %)**

The hematocrit (HCT) measures the percentage of the volume of red blood cells in a known volume of centrifuged blood. It is an integral part of the Complete Blood Count (CBC) or Hematology panel. Low levels of hematocrit are associated with an anemia. The hematocrit should be evaluated with the other elements on a CBC/Hematology panel to determine the cause and type of anemia.

**Vitamin D (25-OH) ↓ 40.00 ng/ml (- 75 %)**

This vitamin D test measures for levels of 25-OH vitamin D and is a very good way to assess vitamin D status. Vitamin D deficiency has been associated with many disorders including many forms of cancer, hypertension, cardiovascular disease, chronic inflammation, chronic pain, mental illness including depression, diabetes, multiple sclerosis to name just a few.

**Globulin, total ↓ 2.30 g/dL (- 75 %)**

Total serum globulin is a measurement of all the individual globulin fractions in the blood. Globulins constitute the body's antibody system. A raised globulin level is associated with hypochlorhydria, liver dysfunction, immune activation, oxidative stress and inflammation. Decreased levels are associated with inflammation in the digestive system and immune insufficiency.

**Hemoglobin A1C ↓ 4.90 % (- 70 %)**

The Hemoglobin A1C test measure the amount of glucose that combines with hemoglobin to form glycohemoglobin during the normal lifespan of a red blood cell, which is about 120 days. The amount of glycohemoglobin formed is in direct proportion to the amount of glucose present in the blood stream during the 120-day red blood cell lifespan. In the presence of high blood glucose levels (hyperglycemia) the amount of hemoglobin that is glycosylated to form glycohemoglobin increases and the hemoglobin A1C level will be high. It is used primarily to monitor long-term blood glucose control and to help determine therapeutic options for treatment and management. Studies have shown that the closer to normal the hemoglobin A1C levels are kept, the less likely those patients are to develop the long-term complications of diabetes.

**Creatinine ↓ 0.77 mg/dL (- 60 %)**

Creatinine is produced primarily from the contraction of muscle and is removed by the kidneys. A disorder of the kidney and/or urinary tract will reduce the excretion of creatinine and thus raise blood serum levels. Creatinine is traditionally used with BUN to assess for impaired kidney function. Elevated levels can also indicate dysfunction in the prostate.

**ALT (SGPT) ↓ 9.00 IU/L (- 56 %)**

SGPT/ALT is an enzyme present in high concentrations in the liver and to lesser extent skeletal muscle, the heart, and kidney. ALT levels may be decreased in vitamin B6 deficiency and early stages of fatty liver.

**Triglycerides ↓ 49.00 mg/dL (- 52 %)**

Serum triglycerides are composed of fatty acid molecules that enter the blood stream either from the liver or from the diet. Patients that are optimally metabolizing their fats and carbohydrates tend to have a triglyceride level about one-half of the total cholesterol level. Levels will be elevated in metabolic syndrome, fatty liver, in patients with an increased risk of cardiovascular disease, hypothyroidism and adrenal dysfunction. Levels will be decreased in liver dysfunction, a diet deficient in fat, and inflammatory processes.

**TSH ↓ 0.98 μU/mL (- 51 %)**

TSH is a hormone produced from the anterior pituitary to control thyroid function. TSH stimulates the thyroid cells to increase the production of thyroid hormone (T-4), to store thyroid hormone and to release thyroid hormone into the bloodstream. TSH synthesis and secretion is regulated by the release of TRH (Thyroid Releasing Hormone) from the hypothalamus. TSH levels describe the body's desire for more thyroid hormone (T4 or T3), which is done in relation to the body's ability to use energy. A high TSH is the body's way of saying "we need more thyroid hormone". A low TSH reflects the body's low need for thyroid hormone. Optimal TSH levels tell us that the thyroid hormone levels match the body's current need and/or ability to utilize the energy.

# Functional Index Report



The indices shown below represent an analysis of this blood test. These results have been converted into your patient's individual Functional Index Report based on our latest research. This report gives you an indication of the level of dysfunction that exists in the various physiological systems in the body. Please use this report in conjunction with the "Practitioner's Only Clinical Dysfunctions Report" to identify which dysfunctions and conditions are causing changes in the Functional Index and to put together a unique treatment plan designed to bring their body back into a state of functional health, wellness and energy.

**Score Guide:** 90% - 100% - Dysfunction Highly Likely, 70% - 90% - Dysfunction Likely, 50% - 70% - Dysfunction Possible, < 50% - Dysfunction Less Likely.

Functional Index	0%	100%
Electrolyte Index		83%
Thyroid Function Index		77%
Sex Hormone Index - Female		75%
Immune Function Index		74%
GI Function Index		56%
Red Blood Cell Index		51%
Acid-Base Index		50%
Heavy Metal Index		46%
Blood Sugar Index		41%
Adrenal Function Index		32%
Gallbladder Function Index		25%
Bone Health Index		24%
Inflammation Index		21%
Liver Function Index		15%
Cardiovascular Risk Index		13%
Oxidative Stress Index	0%	
Allergy Index	0%	
Toxicity Index	0%	
Lipid Panel Index	0%	
Kidney Function Index	0%	

## Electrolyte Index

A high Electrolyte Index indicates that there's a degree of dysfunction in the body's electrolytes: potassium, sodium, chloride, potassium and magnesium. View the Nutrient Index report to identify which electrolytes might be deficient. Based on this blood test, your patient's Electrolyte Index is:

**[ 83% ] - Dysfunction Likely. Improvement required.**

### Rationale:

Calcium↓, Phosphorus↓, Magnesium ↓

### Elements Considered:

Sodium, Potassium, Chloride, Calcium, Phosphorus, Magnesium

### Thyroid Function Index

A high Thyroid Index indicates that there is dysfunction in your patient's thyroid and there is a need for further assessment and treatment. There is a strong likelihood that there's significant distress in the systems that help regulate the thyroid gland in the body. This may be caused by increased levels of stress, adrenal insufficiency, iodine and/or selenium deficiency, liver dysfunction, kidney insufficiency, a low calorie diet etc. Consider that the dysfunction might be a hyperactive thyroid (hyperthyroid) or a hypothyroid situation: primary hypothyroidism (a dysfunction in the thyroid itself), secondary hypothyroidism (dysfunction in the anterior pituitary), or low T3 syndrome (T4 under conversion). Based on this blood test, your patient's Thyroid Function Index is:

**[ 77% ] - Dysfunction Likely. Improvement required.**

#### Rationale:

TSH ↓

#### Elements Considered:

TSH, Free T4, Free T3, Reverse T3

#### Patient Result Not Available - Consider Running In Future Tests:

Total T4, Total T3, T3 Uptake, Free Thyroxine Index (T7)

### Sex Hormone Index - Female

The Female Sex Hormone Index indicates an increasing level of sex hormone deficiencies in your patient. Review the individual levels of hormones to identify which hormones are causing the high index: testosterone, DHEA and estradiol. Based on this blood test, your patient's Female Sex Hormone Index is:

**[ 75% ] - Dysfunction Likely. Improvement required.**

#### Rationale:

DHEA-S, Female ↓, Testosterone, Total Female ↓

#### Elements Considered:

DHEA-S, Female, Estradiol, Female, Testosterone, Total Female, Testosterone, Free Female

#### Patient Result Not Available - Consider Running In Future Tests:

Progesterone, Female

### Immune Function Index

A high reading in the Immune Function Index indicates that there is dysfunction within your patient's immune system and further assessment is needed to pinpoint exactly what that dysfunction is. Some of the factors to consider include immune insufficiency, bacterial or viral infections or GI dysfunction associated with immune function: abnormal mucosal barrier function, secretory IgA dysfunction or dysbiosis. Based on this blood test, your patient's Immune Function Index is:

**[ 74% ] - Dysfunction Likely. Improvement required.**

#### Rationale:

Total WBCs ↑, Globulin, total ↓, Monocytes ↑, Alk Phos ↓

#### Elements Considered:

Total WBCs, Globulin, total, Neutrophils, Lymphocytes, Monocytes, Albumin, Alk Phos, Iron - Serum, Ferritin

### GI Function Index

A high reading in the GI Function Index indicates that there is dysfunction within your patient's GI system and further assessment is needed to pinpoint exactly what that dysfunction is. Some of the factors to consider include hypochlorhydria, gastric inflammation, Helicobacter pylori, pancreatic insufficiency, dysbiosis and intestinal hyperpermeability. Based on this blood test, your patient's Functional GI Index is:

**[ 56% ] - Dysfunction Possible. There may be improvement needed in certain areas.**

#### Rationale:

Protein, total ↓, Globulin, total ↓, Phosphorus ↓, Alk Phos ↓, Creatinine ↓, Calcium ↓, Hemoglobin, Female ↓

#### Elements Considered:

BUN, Protein, total, Globulin, total, Albumin, Phosphorus, Alk Phos, MCV, Eosinophils, Basophils, Iron - Serum, Creatinine, Chloride, Anion gap, Uric Acid, female, Calcium, GGT, Total WBCs, Hemoglobin, Female

### Red Blood Cell Index

The RBC Index is a measure of the degree of anemia in your patient. The higher the index the more likely it is that your patient is dealing with an anemia and you'll need to examine the blood test further to identify the cause of the anemia. One of the main causes is nutrient deficiency: iron, B12/folate, vitamin B6, copper and vitamin C. You must also rule out other causes that are not nutritionally related. Based on this blood test, your patient's Red Blood Cell index is:

**[ 51% ] - Dysfunction Possible. There may be improvement needed in certain areas.**

#### Rationale:

Hemoglobin, Female ↓, Hematocrit, Female ↓

#### Elements Considered:

RBC, Female, Hemoglobin, Female, Hematocrit, Female, MCV, MCHC, RDW, MCH

### Acid-Base Index

A high Acid-Base Index indicates a functional imbalance in the body's pH system. Consider metabolic acidosis or metabolic alkalosis as a cause for this imbalance. Based on this blood test, your patient's Acid-Base Index is:

**[ 50% ] - Dysfunction Possible. There may be improvement needed in certain areas.**

#### Rationale:

Chloride ↑, Calcium ↓

#### Elements Considered:

Anion gap, Potassium, Chloride, CO<sub>2</sub>, Calcium

# Nutrient Index Report



The indices shown below represent an analysis of your patient's blood test results. These results have been converted into their individual Nutrient Assessment Report based on our latest research. This report gives you an indication of their general nutritional status. Nutritional status is influenced by actual dietary intake, digestion, absorption, assimilation and cellular uptake of the nutrients themselves. You can use this information, along with information about individual nutrient deficiencies, to put together a unique treatment plan designed to bring their body back into a state of functional health, wellness and energy.

**Score Guide:** 90% - 100% - Nutrient Status is Poor, 75% - 90% - Nutrient Status is Low, 50% - 75% - Moderate Nutrient Status, < 50% - Optimum Nutrient Status

Nutrient Index	0%	100%
Mineral Index		54%
Vitamin Index		50%
Carbohydrate Index		38%
Protein Index		29%
Fat Index		25%
Hydration Index	0%	

## Mineral Index

The Mineral Index gives us a general indication of the balance of certain minerals in the body based on the results of this blood test. A high Mineral Index indicates a level of deficiency or need in one or more of the minerals reflected in this index, which includes calcium, zinc, copper, potassium, molybdenum, selenium, magnesium, iodine and iron. Factors to consider include the amount in the diet, the ability to digest and breakdown individual minerals from food or supplements consumed, the ability of those minerals to be absorbed, transported and ultimately taken up by the cells themselves. In the case of certain minerals, such as iron and potassium, you must also consider the possibility of a mineral deficiency due to increased excretion or loss, such as increased bleeding causing an iron deficiency. Please use the information at the bottom of this report to identify which mineral or minerals may be deficient. Based on this blood test, your patient's Mineral Index is:

**[ 54% ] - Moderate Nutrient Status. There may be improvement needed in certain areas.**

### Rationale:

Calcium ↓, Alk Phos ↓, Magnesium ↓

### Elements Considered:

Potassium, Uric Acid, female, Calcium, Phosphorus, Alk Phos, GGT, Iron - Serum, Ferritin, TIBC, % Transferrin saturation, Free T3, MCV, Magnesium

### Patient Result Not Available - Consider Running In Future Tests:

Total T3

## Vitamin Index

The Vitamin Index gives us a general indication of the balance of certain vitamins in the body based on the results of this blood test. A high Vitamin Index indicates a level of deficiency or need in one or more of the vitamins reflected in this index, which includes vitamin B12, vitamin B6, folate, thiamin, vitamin D and vitamin C. Factors to consider are the amount in the diet, the ability to digest and breakdown individual vitamins from the food or supplements consumed,

and the ability of those vitamins to be absorbed, transported and ultimately taken up into the cells themselves. Please use the information at the bottom of this report to identify which vitamin or vitamins may be in need. Based on this blood test, your patient's Vitamin Index is:

**[ 50% ] - Moderate Nutrient Status. There may be improvement needed in certain areas.**

**Rationale:**

ALT (SGPT) ↓, Vitamin D (25-OH) ↓

**Elements Considered:**

Anion gap, Albumin, AST (SGOT), ALT (SGPT), GGT, Homocysteine, Vitamin D (25-OH), MCV

### Individual Nutrient Deficiencies

The values below represent the degree of deficiency for individual nutrients based on your patient's blood results. The status of an individual nutrient is based on a number of factors such as actual dietary intake, digestion, absorption, assimilation and cellular uptake of the nutrients themselves. All of these factors must be taken into consideration before determining whether or not your patient/client actually needs an individual nutrient. Use the information in this section to put together an individualized treatment plan to bring your patient back into a state of optimal nutritional function.

**Score Guide:** 90% - 100% - Deficiency Highly Likely, 70% - 90% - Deficiency Likely, 50% - 70% - Deficiency Possible, < 50% - Deficiency Less Likely.

Nutrient Deficiencies	0%	100%
Zinc Need		100%
Calcium Need		100%
Vitamin D Need		100%
DHEA Need		90%
Vitamin B6 Need		60%
Magnesium Need		50%
Thiamine Need		30%
Iron Deficiency		24%
Vitamin B12/Folate Need		24%
Vitamin C Need		22%
Iodine Need	0%	
Molybdenum Need	0%	
Selenium Need	0%	
Glutathione Need	0%	

**Zinc Need**

Consider a zinc need if the **Alk phos** levels are decreased.

**[ 100% ] - Dysfunction Highly Likely. Much improvement required.**

**Rationale:**

#### Alk Phos ↓

##### Elements Considered:

Alk Phos

#### Calcium Need

Suspect a calcium need with a **low serum calcium** along with a **high phosphorous** level, a **decreased calcium/phosphorous ratio** and a **decreased vitamin D level**.

**[ 100% ] - Dysfunction Highly Likely. Much improvement required.**

##### Rationale:

Calcium ↓, Vitamin D (25-OH) ↓

##### Elements Considered:

Calcium, Calcium/Phosphorous Ratio, Phosphorus, Vitamin D (25-OH)

#### Vitamin D Need

The results of this blood test indicate that this patient's Vitamin D levels might be lower than optimal.

**[ 100% ] - Dysfunction Highly Likely. Much improvement required.**

##### Rationale:

Vitamin D (25-OH) ↓

##### Elements Considered:

Vitamin D (25-OH)

#### DHEA Need

The results of this blood test indicate that this patient's DHEA levels might be lower than optimal.

**[ 90% ] - Dysfunction Highly Likely. Much improvement required.**

##### Rationale:

DHEA-S, Female ↓

##### Elements Considered:

DHEA-S, Female

#### Vitamin B6 Need

Consider a B6 need if there is a decreased **MCV, MCH, MCHC, HGB** and/or **HCT** and an increased or normal **serum iron** and/or **ferritin**. You may also see a decreased **SGOT/AST, SGPT/ALT** or **GGTP**.

**[ 60% ] - Dysfunction Possible. There may be improvement needed in certain areas.**

##### Rationale:

ALT (SGPT) ↓, Hemoglobin, Female ↓, Hematocrit, Female ↓

**Elements Considered:**

AST (SGOT), ALT (SGPT), GGT, Hemoglobin, Female, Hematocrit, Female, MCV, MCH, MCHC, Ferritin, Iron - Serum

**Magnesium Need**

A magnesium need is associated with a **decreased serum magnesium**, a **decreased GGTP** and a **decreased serum potassium**.

**[ 50% ] - Dysfunction Possible. There may be improvement needed in certain areas.**

**Rationale:**

Magnesium ↓

**Elements Considered:**

Magnesium, GGT, Potassium

## Recommended Further Testing



### Advanced Practitioner Only Report

Based on the results of the analysis of this blood test, the following areas may require further investigation. The suggestions for further testing are merely examples and do not attempt to provide you with an exhaustive list of further evaluation methods.

#### Zinc Deficiency

The results of this blood test indicate that this patient may be dealing with a zinc deficiency because the alk phos level is decreased. We cannot tell categorically that your patient has a zinc deficiency because there are no tests specifically testing for zinc levels on a common Chemistry Screen. The likelihood of zinc deficiency increases with the presence of clinical signs of zinc deficiency: white spots on nails, reduced sense of smell or taste, cuts that are slow to heal, acne, increased susceptibility to colds, infections, and flu, and for our male patients prostatic hypertrophy. If you suspect zinc deficiency, you may want to follow up with an in-office Zinc Taste Test or check White Blood cell or Red Blood cell zinc levels, which may be decreased.

#### Rationale:

Alk Phos ↓

#### DHEA Imbalance

The results of this blood test indicate that this patient may be dealing with a DHEA deficiency. This may or may not be accompanied by an adrenal imbalance. A blood test can show a low DHEA level but it doesn't tell us why. You may want to do an Adrenal Salivary test to give you more information on the DHEA level in relation to cortisol levels and adrenal function.

#### Rationale:

DHEA-S, Female ↓

#### Helicobacter pylori

The results of this blood test indicate that this patient may be dealing with an *Helicobacter pylori* infection because a number of elements on a blood test, such as the ones listed below, may be out of optimal range in association with an *H. pylori* infection. We cannot tell categorically that your patient has an *H. pylori* infection because there are no tests specifically for *H. pylori* on a common Chemistry Screen. The likelihood of *H. pylori* increases with symptoms of upper GI discomfort, burning, bloating, nausea etc. If you suspect *H. pylori* then you should follow up with more advanced testing to rule it out: *H. pylori* stool antigen test, which measures *H. pylori* antigens in the stool, or an *H. pylori* blood test, which measures the protein antibodies against the *H. pylori*. The presence of antibodies to *H. pylori* in the blood can mean one of 2 things: the *H. pylori* infection is currently present or that there was an infection in the past that has now resolved. You may want to consider a Digestive Stool Analysis, which will give you not only an *H. pylori* stool antigen but also a whole range of tests that will help you evaluate the terrain of the GI tract.

#### Rationale:

Protein, total ↓, Globulin, total ↓, Phosphorus ↓, Total WBCs ↑, Monocytes ↑

## Female Hormone Dysfunction

The results of this blood test indicate that this patient may be dealing with an imbalance in female hormone regulation because a number of the elements below are out of the optimal range. We cannot tell from a blood test what kind of condition this patient is dealing with because the tests are not specific for a particular time in the menstrual cycle and we have no way of determining whether or not this patient is pre-menopausal, peri-menopausal or menopausal. A blood test can tell us about trends towards female hormone dysfunction but you may want to consider doing one of the Female Hormone Salivary panels to get more information on the type and severity of the issue.

### Rationale:

DHEA-S, Female ↓, Testosterone, Total Female ↓

# Blood Test History Report



The Blood Test History Report lists the results of your patient's Chemistry Screen and CBC tests side by side with the latest test listed on the left hand side. This report allows you to compare results over time and see where improvement has been made and allows you to track progress.

Element	Latest Test Result
	Jul 31 2017
Glucose	88.00
Hemoglobin A1C	4.90 ↓
Insulin - Fasting	4.60
Fructosamine	
C-Peptide	
BUN	12.00
Creatinine	0.77 ↓
Creatinine, 24-hour urine	
Creatinine Clearance	
eGFR Non-Afr. American	97.00
eGFR African American	112.00
BUN/Creatinine Ratio	15.58
Sodium	139.00
Potassium	4.00
Sodium/Potassium Ratio	34.75
Chloride	108.00 ↑
CO2	25.00
Anion gap	10.00
Uric Acid, female	3.60
Protein, total	6.40 ↓
Albumin	4.10
Globulin, total	2.30 ↓
Albumin/Globulin Ratio	1.80
Calcium	8.80 ↓
Calcium/Albumin Ratio	2.14
Phosphorus	3.20 ↓
Calcium/Phosphorous Ratio	2.75 ↑
Collagen Cross-Linked NTx	
Magnesium	2.10 ↓

Element	Latest Test Result
	Jul 31 2017
Alk Phos	38.00 ↓
LDH	122.00 ↓
AST (SGOT)	15.00
ALT (SGPT)	9.00 ↓
GGT	11.00
Bilirubin - Total	0.60
Bilirubin - Direct	0.10
Bilirubin - Indirect	0.50
Iron - Serum	116.00
Ferritin	53.00
TIBC	273.00
% Transferrin saturation	42.00
Cholesterol - Total	159.00
Triglycerides	49.00 ↓
LDL Cholesterol	89.00
HDL Cholesterol	60.00
VLDL Cholesterol	
Cholesterol/HDL Ratio	2.70
Triglyceride/HDL Ratio	0.81
Leptin, Female	
TSH	0.98 ↓
Total T4	
Total T3	
Free T4	1.10
Free T3	3.10
T3 Uptake	
Free Thyroxine Index (T7)	
Thyroid Peroxidase (TPO) Abs	
Thyroglobulin Abs	
Reverse T3	12.00
C-Reactive Protein	
Hs CRP, Female	0.30
ESR, Female	
Homocysteine	4.70
Fibrinogen	

Element	Latest Test Result
	Jul 31 2017
Creatine Kinase	
Vitamin D (25-OH)	40.00 ↓
Vitamin B12	
Folate	
DHEA-S, Female	108.00 ↓
Cortisol - AM	
Cortisol - PM	
Testosterone, Free Female	1.40
Testosterone, Total Female	18.00 ↓
Sex Hormone Binding Globulin, female	54.00
Estradiol, Female	51.00
Progesterone, Female	
Total WBCs	8.10 ↑
RBC, Female	3.91
Reticulocyte count	
Hemoglobin, Female	11.50 ↓
Hematocrit, Female	35.00 ↓
MCV	89.50
MCH	29.40
MCHC	32.90
Platelets	237.00
RDW	12.40
Neutrophils	55.60
Bands	
Lymphocytes	30.70
Monocytes	11.40 ↑
Eosinophils	1.90
Basophils	0.40

# Clinical Dysfunctions Report



## Advanced Practitioner Only Report

The Clinical Dysfunctions Report shows a list of likely Health Concerns and Nutrient Deficiencies that your patient may be suffering from based on an analysis of their Chemistry Screen and CBC results. Health Concerns that are most likely are listed at the top of the report and the least likely at the bottom.

**Score Guide:** 90% - 100% - Dysfunction Highly Likely, 70% - 90% - Dysfunction Likely, 50% - 70% - Dysfunction Possible, < 50% - Dysfunction Less Likely.

Health Concerns	0%	100%
Gastric Inflammation		100%
Hypoglycemia		100%
Helicobacter pylori		75%
Hyperthyroidism		67%
Bacterial Infection		64%
Testosterone Deficiency		60%
Fatty Liver - Early Stage		55%
Viral Infection		54%
Anemia		51%
Hypochlorhydria		47%
Hypothyroidism - Secondary		45%
Immune Insufficiency		44%
Muscle Atrophy/Breakdown		33%
Intestinal Parasites		30%
Metabolic Alkalosis		30%
Metabolic Acidosis		29%
Biliary Insufficiency/Stasis		27%
Adrenal Stress		24%
Adrenal Insufficiency		20%
Metabolic Syndrome		19%
Gout		17%
Liver Dysfunction		15%
Hyperinsulinemia		14%
Hypothyroidism - Primary	0%	
Biliary Obstruction	0%	
Fatty Liver/Steatosis	0%	
Hypothyroidism - T4 under conversion	0%	
Liver Cell Damage	0%	
Pancreatic Insufficiency	0%	
Renal Disease	0%	
Renal Insufficiency	0%	

Health Concerns	0%	100%
Endothelial Dysfunction	0%	
Liver Cirrhosis	0%	
Intestinal Hyperpermeability	0%	
Dysglycemia	0%	

### Gastric Inflammation

Gastric inflammation or gastritis is often secondary to hypochlorhydria where the pattern is similar but the total globulin level may be decreased unless inflammation is severe, which may lead to an increased **globulin** level due to the increased production of inflammatory immunoglobulins. Consider gastric inflammation or gastritis with a decreased **total globulin**, a decreased serum **protein**, a decreased **phosphorous**, a decreased **hemoglobin** and an increased **BUN**. Additional elements that may be out of range with gastric inflammation include an increased **basophil** count, an increased **ESR**, a decreased **albumin** and a decreased **creatinine**.

[ 100% ] - Dysfunction Highly Likely. Much improvement required.

#### Rationale:

Globulin, total ↓, Protein, total ↓, Hemoglobin, Female ↓, Creatinine ↓, Phosphorus ↓

#### Elements Considered:

Globulin, total, Protein, total, Hemoglobin, Female, BUN, Creatinine, Albumin, Phosphorus, Basophils

#### Patient Result Not Available - Consider Running In Future Tests:

ESR, Female, Gastrin

### Hypoglycemia

Consider hypoglycemia with a decreased fasting **blood glucose** along with a decreased **LDH**. Additional elements that may be out of range with hypoglycemia include a decreased **Hemoglobin A1C** and an increased **SGPT/ALT** level.

[ 100% ] - Dysfunction Highly Likely. Much improvement required.

#### Rationale:

LDH ↓

#### Elements Considered:

Glucose, LDH, Hemoglobin A1C

### Helicobacter pylori

Helicobacter pylori infection is strongly associated with hypochlorhydria. Although there are no tests specifically for H. pylori on a blood chemistry screen you should suspect it if you see the the following pattern: an increased or decreased **total globulin**, an increased or decreased **total protein**, an increased or decreased **BUN**, a decreased serum **phosphorous**, an Increased **WBC count**, an increased **neutrophil count**, a decreased **lymphocyte count**, and a normal or increased **monocyte count**. If you see a high score for H. pylori consider doing further testing.

[ 75% ] - Dysfunction Likely. Improvement required.

#### Rationale:

Protein, total ↓, Globulin, total ↓, Phosphorus ↓, Total WBCs ↑, Monocytes ↑

#### Elements Considered:

BUN, Protein, total, Globulin, total, Phosphorus, Total WBCs, Neutrophils, Lymphocytes, Monocytes

### Hyperthyroidism

Consider hyperthyroidism with a decreased **TSH**. The likelihood increases when there is also an increased **Total T3**, an increased **Free T3**, an increased **T3 uptake**, an increased **Total T4** and an increased **Free T4**. Additional elements that may be out of range with hyperthyroidism include a decreased **total cholesterol** and a decreased **triglyceride**. If the score for hyperthyroidism is high consider running thyroid antibody studies to rule out Hashimoto's thyroiditis and Grave's disease. Rule-out food allergy/sensitivities, environmental sensitivities, recent immunizations/inoculations, viral infections, and other auto-immune problems in any cases of suspected hyperthyroidism.

[ 67% ] - Dysfunction Possible. There may be improvement needed in certain areas.

#### Rationale:

TSH ↓, Triglycerides ↓

#### Elements Considered:

TSH, Cholesterol - Total, Triglycerides, Free T4, Free T3

#### Patient Result Not Available - Consider Running In Future Tests:

Total T4, Total T3, T3 Uptake, Free Thyroxine Index (T7)

### Bacterial Infection

Consider a bacterial infection if theres an **increased total WBC count** along with an **increased Neutrophil count**, a **normal or decreased Lymphocyte count**. **Increased Monocytes** indicate the recovery period of the infection. Additional elements that may be out of range with a bacterial infection include an **increased bands** and an **increased serum iron**. Expect to see increased Band cells in the acute phase as the body is pumping out immature neutrophils to cope with the infection.

[ 64% ] - Dysfunction Possible. There may be improvement needed in certain areas.

#### Rationale:

Total WBCs ↑, Monocytes ↑

#### Elements Considered:

Neutrophils, Total WBCs, Monocytes, Iron - Serum, Lymphocytes

### Testosterone Deficiency

Consider a functional testosterone deficiency with a decreased **total testosterone** and a decreased **free testosterone**.

[ 60% ] - Dysfunction Possible. There may be improvement needed in certain areas.

#### Rationale:

Testosterone, Total Female ↓

#### Elements Considered:

Testosterone, Free Female, Testosterone, Total Female

### Fatty Liver - Early Stage

Steatosis or fatty liver is caused by the accumulation of fat in the functional units of the liver. The beginning stages of fat accumulation in the liver is one of the main causes of "liver congestion". If the **SGPT/ALT** is decreased with a decreased **albumin**, an increased **total cholesterol**, an increased **LDL**, an increased **blood glucose**, an increased **triglyceride**, and a decreased **HDL** level, then the early development of fatty liver is possible.

[ 55% ] - Dysfunction Possible. There may be improvement needed in certain areas.

#### Rationale:

ALT (SGPT) ↓

#### Elements Considered:

ALT (SGPT), Glucose, Cholesterol - Total, Triglycerides, LDL Cholesterol, HDL Cholesterol

### Viral Infection

Consider a viral infection with increased **lymphocytes** and an elevated **total WBC count**. **Neutrophils** may be normal or decreased. Increased **monocytes** indicate the recovery period. Expect to see increased **band cells** in the acute phase. Additional elements that may be out of range with a viral infection include an increased serum **iron** and an increased **LDH**.

[ 54% ] - Dysfunction Possible. There may be improvement needed in certain areas.

#### Rationale:

Total WBCs ↑, Monocytes ↑

#### Elements Considered:

Lymphocytes, Total WBCs, LDH, Monocytes, Iron - Serum, Neutrophils

## Anemia

Anemia is a condition in which there is a decreased amount of hemoglobin, a decreased number of circulating RBCs, and a decrease in the hematocrit. Anemia is a symptom not a disease, and the cause of an anemia must be sought out. Some of the common causes of anemia include deficiencies of iron and certain vitamins (B12, folate, B6, copper), blood loss and increased destruction of red blood cells. If anemia shows high on this report, the underlying cause must be ruled out and treated.

**[ 51% ] - Dysfunction Possible. There may be improvement needed in certain areas.**

### Rationale:

Hemoglobin, Female ↓, Hematocrit, Female ↓

### Elements Considered:

RBC, Female, Hemoglobin, Female, Hematocrit, Female, MCV, MCHC, RDW, MCH

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