

Functional Health Report
Clinician Copy

JANE DOE

Lab Test on Apr 01, 2018
Conventional US Units

Table of Contents











Health Improvement Plan	5
This report shows customized recommendations based on the blood test results.	
Product Summary Report	3
This report provides a summary of the nutritional supplement recommendations.	
Blood Test Results Report	12
This report lists the blood test results and shows whether or not an individual element is outside of the optimal range and/or outside of the clinical lab range.	
% Deviation from Optimal Report	14
This report shows the elements on this blood test that are farthest from optimal expressed as a % deviation from the median.	
Out Of Optimal Range Report	16
This report will give you background details about the elements on this blood test that are outside the optimal range high and low.	
Functional Index Report	21
This report presents the 20 Indices of Functional Health.	
Nutrient Index Report	26
This report presents the 6 Indices of Nutrient Health and areas of nutrient need.	
Clinical Dysfunctions Report	35
This report shows the likely health concerns and dysfunctions based on an analysis of this blood test.	
Blood Test History Report	32
This report gives an historical view of the last 7 blood tests side by side highlighting elements that are outside the optimal range.	
Recommended Further Testing	30
A report showing areas that may require further evaluation, testing and investigation.	
Disclaimer Page	41




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"/>
Metabolic Syndrome	Diaplex	 3 capsules per meal, or as directed.	<input type="checkbox"/>
Hypoglycemia	Diaplex	 Two capsules per meal, or as directed. This product has already been recommended earlier in this report. Please do not increase the dosage because the product has been listed more than once.	<input type="checkbox"/>
Hyperlipidemia	Cholaplex	 3 capsules per meal, or as directed.	<input type="checkbox"/>
Red Blood Cell Support	Chlorophyll Complex	 3 perles per meal, or as directed.	<input type="checkbox"/>
Detoxification Need	SP Cleanse	 Seven capsules, three times per day on an empty stomach or with a nutritional supplement shake, or as directed.	<input type="checkbox"/>
Iron Deficiency	Ferrofood	 One capsule per day with food or directed.	<input type="checkbox"/>
Magnesium Need	Magnesium Lactate	 Three capsules per day, or as directed.	<input type="checkbox"/>
Glutathione Need	Collagen C	 2 tablets per meal, or as directed.	<input type="checkbox"/>

Other Potential Product Recommendations

Protocols	Additional Product	Dosage	<input checked="" type="checkbox"/>
Metabolic Syndrome	Betafood	 2 tablets per meal, or as directed.	<input type="checkbox"/>
	Gymnema	 1 tablet 3 times daily, or as directed.	<input type="checkbox"/>
Hypoglycemia	Licorice High Grade 1:1	 Dilute 2.5 mL (approx. 125 drops) in water or juice once per day, or as directed.	<input type="checkbox"/>

Protocols	Additional Product	Dosage	<input checked="" type="checkbox"/>
Hyperlipidemia	A-F Betafood 	Two tablets per meal, or as directed.	<input type="checkbox"/>
	Cod Liver Oil 	Three perles per day, or as directed. Store in cool, dark place.	<input type="checkbox"/>
Red Blood Cell Support	Fe-Max Iron Tonic Phytosynergist 	Dilute 5 mL (approx. 1 teaspoon) in water or juice 2 - 3 times daily, or as directed.	<input type="checkbox"/>
Detoxification Need	Whole Food Fiber 	One level tablespoon (approximately 6 grams) in a blender drink per day, or as directed.	<input type="checkbox"/>
	SP Green Food 	3 capsules three times per day, or as directed.	<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 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.

Metabolic Syndrome

The results of this blood test indicate a tendency towards metabolic syndrome and a need for blood sugar support. The following provide personalized nutritional support for blood sugar regulation*:

Rationale:

Glucose ↑, Triglycerides ↑, Hemoglobin A1C ↑, Cholesterol - Total ↑, HDL Cholesterol ↓

Product Name

[Diaplex](#)

Dosage and Directions

3 capsules per meal, or as directed.

Details

Diaplex supports healthy sugar handling.



Product Name

[Betafood](#)

Dosage and Directions

2 tablets per meal, or as directed.

Details

Contains naturally occurring betaine for liver and cardiovascular health.



Product Name

[Gymnema](#)

Dosage and Directions

1 tablet 3 times daily, or as directed.

Details

Helps reduce blood glucose levels and suppresses appetite. **Caution: Not to be used during pregnancy and lactation unless otherwise directed by a qualified health care professional.**



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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

[Diaplex](#)

Dosage and Directions

Two capsules per meal, or as directed.

This product has already been recommended earlier in this report. Please do not increase the dosage because the product has been listed more than once.

Details

Diaplex supports healthy sugar handling.



Product Name

[Licorice High Grade 1:1](#)

Dosage and Directions

Dilute 2.5 mL (approx. 125 drops) in water or juice once per day, or as directed.

Details

Promotes healthy adrenal gland function. **Caution: Contraindicated in high blood pressure, edema (water retention), congestive heart failure, low blood potassium, pregnancy and lactation.**



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Hyperlipidemia

The results of this blood test indicate a tendency towards hyperlipidemia, which has been shown to increase the risk of developing atherosclerotic coronary artery disease. There is a need for cardiovascular support, especially support to help lower excessive blood fats. The following provide personalized nutritional support for helping to lower excessive blood fats*:

Rationale:

Cholesterol - Total ↑, Triglycerides ↑, Cholesterol/HDL Ratio ↑, HDL Cholesterol ↓

Product Name

[Cholaplex](#)

Dosage and Directions

3 capsules per meal, or as directed.

Details

Encourages healthy fat processing by the liver



Product Name

[A-F Betafood](#)

Dosage and Directions

Two tablets per meal, or as directed.

Details

A-F Betafood uses an array of ingredients, including beet juice, which is a natural source of betaine, to support healthy fat digestion.



Product Name

[Cod Liver Oil](#)

Dosage and Directions

Three perles per day, or as directed. Store in cool, dark place.

Details

Provides EPA and DHA omega-3 fatty acids that, according to the United States Food and Drug Administration, may reduce the risk of coronary heart disease



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Red Blood Cell Support

The results of this blood test indicate a tendency towards anemia and a need for red blood cell support. The following provides personalized nutritional support for the red blood cells. Further specific nutrient support may be indicated below in the "Suggested Individual Nutrient Recommendations" section:

Rationale:

Hemoglobin, Female ↓, MCV ↓, MCHC ↓, RDW ↑, MCH ↓

Product Name

[Chlorophyll Complex](#)

Dosage and Directions

3 perles per meal, or as directed.

Details

Chlorophyll Complex supports multiple body systems.



Product Name

[Fe-Max Iron Tonic Phytosynergist](#)

Dosage and Directions

Dilute 5 mL (approx. 1 teaspoon) in water or juice 2 - 3 times daily, or as directed.

Details

Promotes and supports normal blood production.



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Detoxification Need

The results of this blood test indicate that this patient may be dealing with an increased toxicity and needs detoxification support. The following provides personalized nutritional support for supporting phase I and II detoxification in the body:

Rationale:

Globulin, total ↑, HDL Cholesterol ↓, GGT ↑, MCH ↓, MCHC ↓

Product Name

[SP Cleanse](#)

Dosage and Directions

Seven capsules, three times per day on an empty stomach or with a nutritional supplement shake, or as directed.

Details

SP Cleanse combines 20 unique whole food and botanical ingredients designed to support the body's normal toxin-removal processes.



Product Name

[Whole Food Fiber](#)

Dosage and Directions

One level tablespoon (approximately 6 grams) in a blender drink per day, or as directed.

Details

Whole Food Fiber is a good source of fiber from nutrient-rich whole foods.



Product Name

[SP Green Food](#)

Dosage and Directions

3 capsules three times per day, or as directed.

Details

Supports the body's normal toxin-elimination function



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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.

Iron Deficiency

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

Rationale:

Iron - Serum ↓, Ferritin ↓, Hemoglobin, Female ↓, MCV ↓, MCHC ↓, % Transferrin saturation ↓, MCH ↓, TIBC ↑, RDW ↑

Product Name

[Ferrofood](#)

Dosage and Directions

One capsule per day with food or directed.

Details

Ferrofood contains iron to support the body's need for this mineral.



Magnesium Need

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

Rationale:

Magnesium ↓, Potassium ↓

Product Name

[Magnesium Lactate](#)

Dosage and Directions

Three capsules per day, or as directed.

Details

Magnesium Lactate contains magnesium to support cellular functions.



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Glutathione Need

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

Rationale:

GGT ↑

Product Name

[Collagen C](#)

Dosage and Directions

2 tablets per meal, or as directed.

Details

Provides ingredients with antioxidant activity



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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.

Above Optimal Range 5 Current 6 Previous ↑	Above Standard Range 10 Current 9 Previous ↑	Alarm High 3 Current 5 Previous
Below Optimal Range 9 Current 11 Previous ↓	Below Standard Range 4 Current 6 Previous ↓	Alarm Low 1 Current 1 Previous

Element	Current	Previous		Impr	Optimal Range	Standard Range	Units
	May 24 2018	Mar 22 2018					
Glucose	142.00 ↑	189.00 ↑			72.00 - 90.00	65.00 - 99.00	mg/dL
Hemoglobin A1C	7.90 ↑	8.20			5.00 - 5.50	0.00 - 5.60	%
BUN	14.00	10.00			10.00 - 16.00	7.00 - 25.00	mg/dL
Creatinine	0.61 ↓	0.64 ↓			0.80 - 1.10	0.40 - 1.35	mg/dL
BUN/Creatinine Ratio	22.95 ↑	15.62			10.00 - 16.00	6.00 - 22.00	Ratio
eGFR Non-Afr. American	104.00	102.00 ↑			90.00 - 120.00	60.00 - 90.00	mL/min/1.73m2
eGFR African American	120.00	118.00 ↑			90.00 - 120.00	60.00 - 90.00	mL/min/1.73m2
Sodium	140.00	138.00			135.00 - 142.00	135.00 - 146.00	mEq/L
Potassium	3.90 ↓	3.40 ↓			4.00 - 4.50	3.50 - 5.30	mEq/L
Sodium/Potassium Ratio	35.89 ↑	40.58 ↑			30.00 - 35.00	30.00 - 35.00	ratio
Chloride	102.00	98.00 ↓			100.00 - 106.00	98.00 - 110.00	mEq/L
CO2	27.00	29.00			25.00 - 30.00	19.00 - 30.00	mEq/L
Anion gap	14.90 ↑	14.40 ↑			7.00 - 12.00	6.00 - 16.00	mEq/L
Uric Acid, female	4.90	7.20 ↑			3.00 - 5.50	2.50 - 7.00	mg/dL
Protein, total	7.50 ↑	7.40			6.90 - 7.40	6.10 - 8.10	g/dL
Albumin	4.50	4.50			4.00 - 5.00	3.60 - 5.10	g/dL
Globulin, total	3.00 ↑	2.90 ↑			2.40 - 2.80	2.00 - 3.50	g/dL
Albumin/Globulin Ratio	1.50	1.60			1.40 - 2.10	1.00 - 2.50	ratio
Calcium	10.00	10.10			9.40 - 10.10	8.60 - 10.40	mg/dL
Calcium/Albumin Ratio	2.22	2.24			0.00 - 2.60	0.00 - 2.70	ratio
Phosphorus	4.00	3.20 ↓			3.50 - 4.00	2.50 - 4.50	mg/dL
Calcium/Phosphorous Ratio	2.50	3.15 ↑			2.30 - 2.70	2.30 - 2.70	ratio
Magnesium	1.80 ↓	1.50 ↓			2.20 - 2.50	1.50 - 2.50	mg/dl
Alk Phos	64.00 ↓	69.00 ↓			70.00 - 100.00	35.00 - 115.00	IU/L
AST (SGOT)	23.00	24.00			10.00 - 26.00	10.00 - 35.00	IU/L
ALT (SGPT)	32.00 ↑	35.00 ↑			10.00 - 26.00	6.00 - 29.00	IU/L

LDH	126.00 ↓	123.00 ↓	👍	140.00 - 200.00	120.00 - 250.00	IU/L
Bilirubin - Total	0.40	0.40		0.10 - 0.90	0.20 - 1.20	mg/dL
GGT	45.00 ↑	51.00 ↑	👍	10.00 - 30.00	3.00 - 70.00	IU/L
Iron - Serum	41.00 ↓	49.00 ↓	👎	85.00 - 130.00	40.00 - 160.00	µg/dL
Ferritin	12.00 ↓	11.00 ↓	👍	40.00 - 150.00	10.00 - 232.00	ng/mL
TIBC	502.00 ↑	482.00 ↑	👎	250.00 - 350.00	250.00 - 425.00	µg/dL
% Transferrin saturation	8.00 ↓	10.00 ↓	👎	24.00 - 50.00	15.00 - 50.00	%
Cholesterol - Total	207.00 ↑	168.00	👎	155.00 - 190.00	125.00 - 200.00	mg/dL
Triglycerides	431.00 ⚠️	709.00 ⚠️	👍	50.00 - 100.00	0.00 - 150.00	mg/dL
HDL Cholesterol	29.00 ⚠️	25.00 ⚠️	👍	55.00 - 70.00	46.00 - 100.00	mg/dL
Cholesterol/HDL Ratio	7.10 ⚠️	6.70 ⚠️	👎	0.00 - 3.00	0.00 - 5.00	Ratio
Triglyceride/HDL Ratio	14.86 ⚠️	28.36 ⚠️	👍	0.00 - 2.00	0.00 - 3.30	ratio
TSH	0.87 ↓	0.67 ↓	👍	1.00 - 3.00	0.40 - 4.50	µU/mL
Total T3	108.00	112.00		90.00 - 168.00	76.00 - 181.00	ng/dL
Total T4	9.00	10.80		6.00 - 11.90	4.50 - 12.00	µg/dL
T3 Uptake	27.00	26.00 ↓	👍	27.00 - 37.00	22.00 - 37.00	%
Free Thyroxine Index (T7)	2.43	2.80		1.70 - 4.60	1.40 - 3.80	Index
C-Reactive Protein	1.80	5.90 ↑	👍	0.00 - 5.00	0.00 - 7.90	mg/L
Homocysteine	7.90 ↑	7.80 ↑	👎	0.00 - 6.00	0.00 - 10.30	µmol/L
Vitamin D (25-OH)	72.00	65.00		50.00 - 90.00	30.00 - 100.00	ng/ml
Total WBCs	5.90	7.30		5.30 - 7.50	3.80 - 10.80	k/cumm
RBC, Female	5.20 ↑	5.00 ↑	👎	3.90 - 4.50	3.80 - 5.10	m/cumm
Hemoglobin, Female	12.50 ↓	12.10 ↓	👍	13.50 - 14.50	11.70 - 15.50	g/dl
Hematocrit, Female	39.90	38.40		37.00 - 44.00	35.00 - 45.00	%
MCV	76.70 ↓	76.80 ↓	👎	85.00 - 92.00	80.00 - 100.00	fL
MCH	24.00 ↓	24.20 ↓	👎	27.00 - 31.90	27.00 - 33.00	pg
MCHC	31.30 ↓	31.50 ↓	👎	32.00 - 35.00	32.00 - 36.00	g/dL
RDW	15.80 ↑	16.90 ⚠️	👍	11.70 - 13.00	11.00 - 15.00	%
Neutrophils	54.30	67.30 ↑	👍	40.00 - 60.00	40.00 - 60.00	%
Lymphocytes	33.40	23.90 ↓	👍	25.00 - 40.00	25.00 - 40.00	%
Monocytes	9.40 ↑	7.00	👎	0.00 - 7.00	0.00 - 7.00	%
Eosinophils	2.20	1.10		0.00 - 3.00	0.00 - 3.00	%
Basophils	0.70	0.70		0.00 - 1.00	0.00 - 1.00	%

% 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
Triglycerides	712	431.00	50.00	100.00		
Triglyceride/HDL Ratio	693	14.86	0.00	2.00		
Hemoglobin A1C	530	7.90	5.00	5.50		
Glucose	339	142.00	72.00	90.00		
RDW	265	15.80	11.70	13.00		
TIBC	202	502.00	250.00	350.00		
Cholesterol/HDL Ratio	187	7.10	0.00	3.00		
RBC, Female	167	5.20	3.90	4.50		
BUN/Creatinine Ratio	166	22.95	10.00	16.00		
GGT	125	45.00	10.00	30.00		
Anion gap	108	14.90	7.00	12.00		
Globulin, total	100	3.00	2.40	2.80		
Cholesterol - Total	99	207.00	155.00	190.00		
ALT (SGPT)	88	32.00	10.00	26.00		
Monocytes	84	9.40	0.00	7.00		
Homocysteine	82	7.90	0.00	6.00		
Protein, total	70	7.50	6.90	7.40		
Sodium/Potassium Ratio	68	35.89	30.00	35.00		
eGFR African American	50	120.00	90.00	120.00		
Phosphorus	50	4.00	3.50	4.00		
Calcium	36	10.00	9.40	10.10		
Calcium/Albumin Ratio	35	2.22	0.00	2.60		
AST (SGOT)	31	23.00	10.00	26.00		
Uric Acid, female	26	4.90	3.00	5.50		
Eosinophils	23	2.20	0.00	3.00		
Neutrophils	22	54.30	40.00	60.00		
Sodium	21	140.00	135.00	142.00		
Basophils	20	0.70	0.00	1.00		
BUN	17	14.00	10.00	16.00		
Lymphocytes	6	33.40	25.00	40.00		
Vitamin D (25-OH)	5	72.00	50.00	90.00		
Total T4	1	9.00	6.00	11.90		
Albumin	0	4.50	4.00	5.00		
Calcium/Phosphorous Ratio	0	2.50	2.30	2.70		
eGFR Non-Afr. American	-3	104.00	90.00	120.00		

Hematocrit, Female	-9	39.90	37.00	44.00	
CO2	-10	27.00	25.00	30.00	
Bilirubin - Total	-12	0.40	0.10	0.90	
C-Reactive Protein	-14	1.80	0.00	5.00	
Chloride	-17	102.00	100.00	106.00	
Total WBCs	-23	5.90	5.30	7.50	
Free Thyroxine Index (T7)	-25	2.43	1.70	4.60	
Total T3	-27	108.00	90.00	168.00	
Albumin/Globulin Ratio	-36	1.50	1.40	2.10	
T3 Uptake	-50	27.00	27.00	37.00	
TSH	-56	0.87	1.00	3.00	
Alk Phos	-70	64.00	70.00	100.00	
Potassium	-70	3.90	4.00	4.50	
LDH	-73	126.00	140.00	200.00	
MCHC	-73	31.30	32.00	35.00	
Ferritin	-75	12.00	40.00	150.00	
MCH	-111	24.00	27.00	31.90	
% Transferrin saturation	-112	8.00	24.00	50.00	
Creatinine	-113	0.61	0.80	1.10	
Iron - Serum	-148	41.00	85.00	130.00	
Hemoglobin, Female	-150	12.50	13.50	14.50	
MCV	-169	76.70	85.00	92.00	
Magnesium	-183	1.80	2.20	2.50	
HDL Cholesterol	-223	29.00	55.00	70.00	

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

18 Total



Below Optimal Range

14 Total



Above Optimal

Triglycerides ↑ 431.00 mg/dL (+ 712 %)

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.

Triglyceride/HDL Ratio ↑ 14.86 ratio (+ 693 %)

The Triglyceride:HDL ratio is determined from serum triglyceride and HDL levels. Increased ratios are associated with an increased risk of developing insulin resistance and Type II Diabetes. A decreased ratio is associated with a decreased risk of developing insulin resistance and Type II Diabetes.

Hemoglobin A1C ↑ 7.90 % (+ 530 %)

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.

Glucose ↑ 142.00 mg/dL (+ 339 %)

Blood glucose levels are regulated by several important hormones including insulin and glucagon. Glucose is also directly formed in the body from carbohydrate digestion and from the conversion in the liver of other sugars, such as fructose, into glucose. Increased blood glucose is associated with type 1 & 2 diabetes, metabolic syndrome, and insulin resistance. Decreased levels of blood glucose are associated with hypoglycemia.

RDW ↑ 15.80 % (+ 265 %)

The Red Cell Distribution Width (RDW) is essentially an indication of the degree of abnormal variation in the size of red blood cells (called anisocytosis). Although the RDW will increase with vitamin B12 deficiency, folic acid, and iron anemia, it is increased most frequently with vitamin B12 deficiency anemia.

TIBC ↑ 502.00 µg/dL (+ 202 %)

Total Iron Binding Capacity is an approximate estimation of the serum transferrin level. Transferrin is the protein that carries most of the iron in the blood. Elevated levels are associated with iron deficiency anemia.

Cholesterol/HDL Ratio ↑ 7.10 Ratio (+ 187 %)

The ratio of total cholesterol to HDL is a far better predictor of cardiovascular disease than cholesterol by itself. A lower ratio is ideal because you want to lower cholesterol (but not too low) and raise HDL. A level below 3.0 would be ideal. Every increase of 1.0, i.e. 3.0 to 4.0 increases the risk of heart attack by 60%.

RBC, Female ↑ 5.20 m/cumm (+ 167 %)

The red blood cell functions to carry oxygen from the lungs to the body tissues and to transfer carbon dioxide from the tissues to the lungs where it is expelled. The RBC Count determines the total number of cells or erythrocytes found in a cubic millimeter of blood. Increased levels are associated with dehydration, stress, a need for vitamin C and respiratory distress such as asthma. Decreased levels are primarily associated with anemia.

BUN/Creatinine Ratio ↑ 22.95 Ratio (+ 166 %)

The BUN/Creatinine is a ratio between the BUN and Creatinine levels. An increased level is associated with renal dysfunction. A decreased level is associated with a diet low in protein.

GGT ↑ 45.00 IU/L (+ 125 %)

Gamma Glutamyl Transferase (GGTP) is an enzyme that is present in highest amounts in the liver cells and to a lesser extent the kidney, prostate, and pancreas. It is also found in the epithelial cells of the biliary tract. GGTP will be liberated into the bloodstream following cell damage or destruction and/or biliary obstruction. GGTP is induced by alcohol and can be elevated following chronic alcohol consumption and in alcoholism. Decreased levels are associated with vitamin B6 and magnesium deficiency.

Anion gap ↑ 14.90 mEq/L (+ 108 %)

The anion gap is the measurement of the difference between the sum of the sodium and potassium levels and the sum of the serum CO₂/bicarbonate and chloride levels. Increased levels are associated with thiamine deficiency and metabolic acidosis.

Globulin, total ↑ 3.00 g/dL (+ 100 %)

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.

Cholesterol - Total ↑ 207.00 mg/dL (+ 99 %)

Cholesterol is a steroid found in every cell of the body and in the plasma. It is an essential component in the structure of the cell membrane where it controls membrane fluidity. It provides the structural backbone for every steroid hormone in the body, which includes adrenal and sex hormones and vitamin D. The myelin sheaths of nerve fibers are derived from cholesterol and the bile salts that emulsify fats are composed of cholesterol. Cholesterol is made in the body by the liver and other organs, and from dietary sources. The liver, the intestines, and the skin produce between 60-80% of the body's cholesterol. The remainder comes from the diet. An increased cholesterol is just one of many independent risk factors for cardiovascular disease. It is also associated with metabolic syndrome, hypothyroidism, biliary stasis, and fatty liver. Decreased cholesterol levels are a strong indicator of gallbladder dysfunction, oxidative stress, inflammatory process, low fat diets and an increased heavy metal burden.

ALT (SGPT) ↑ 32.00 IU/L (+ 88 %)

SGPT/ALT is an enzyme present in high concentrations in the liver and to lesser extent skeletal muscle, the heart, and kidney. SGPT/ALT will be liberated into the bloodstream following cell damage or destruction. Any condition or situation that causes damage to the hepatocytes will cause a leakage of SGPT/ALT into the bloodstream. These include exposure to chemicals, viruses (viral hepatitis, mononucleosis, cytomegalovirus, Epstein Barr, etc.), alcoholic hepatitis. The most common non-infectious cause of an increased ALT is a condition called steatosis (fatty liver).

Monocytes ↑ 9.40 % (+ 84 %)

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.

Homocysteine ↑ 7.90 μmol/L (+ 82 %)

Homocysteine is a molecule formed from the incomplete metabolism of the amino acid methionine. Deficiencies in Vitamins B6, B12 and folate cause methionine to be converted into homocysteine. Homocysteine increases the risk of cardiovascular disease by causing damage to the endothelial lining of the arteries, especially in the heart. Increased levels of homocysteine are associated with an increased risk of cardiovascular disease and stroke, as well as cancer, depression and inflammatory bowel disease.

Protein, total ↑ 7.50 g/dL (+ 70 %)

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.

Sodium/Potassium Ratio ↑ 35.89 ratio (+ 68 %)

The Sodium:Potassium ratio is determined from the serum sodium and serum potassium levels. Both elements are under the influence of the adrenal glands. An increased Sodium:Potassium ratio is associated with acute stress and a decreased Sodium:Potassium ratio is associated with chronic stress and adrenal insufficiency.

Below Optimal

HDL Cholesterol ↓ 29.00 mg/dL (- 223 %)

HDL functions to transport cholesterol from the peripheral tissues and vessel walls to the liver for processing and metabolism into bile salts. It is known as "good cholesterol" because it is thought that this process of bringing cholesterol from the peripheral tissue to the liver is protective against atherosclerosis. Decreased HDL is considered atherogenic, increased HDL is considered protective.

Magnesium ↓ 1.80 mg/dl (- 183 %)

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.

MCV ↓ 76.70 fL (- 169 %)

The MCV is a measurement of the volume in cubic microns of an average single red blood cell. MCV indicates whether the red blood cell size appears normal (normocytic), small (microcytic), or large (macrocytic). An increase or decrease in MCV can help determine the type of anemia present. An increased MCV is associated with B12, folate, or vitamin C deficiency. A decreased MCV is associated with iron and B6 deficiency.

Hemoglobin, Female ↓ 12.50 g/dl (- 150 %)

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.

Iron - Serum ↓ 41.00 µg/dL (- 148 %)

Serum iron reflects iron that is bound to serum proteins such as transferrin. Serum iron levels will begin to fall somewhere between the depletion of the iron stores and the development of anemia. Increased iron levels are associated with liver dysfunction, conditions of iron overload (hemochromatosis and hemosiderosis) and infections. Decreased iron levels are associated with iron deficiency anemia, hypochlorhydria and internal bleeding. The degree of iron deficiency is best appreciated with ferritin, TIBC and % transferrin saturation levels.

Creatinine ↓ 0.61 mg/dL (- 113 %)

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.

% Transferrin saturation ↓ 8.00 % (- 112 %)

The % transferrin saturation index is a calculated value that tells how much serum iron is bound to the iron-carrying protein transferrin. A % transferrin saturation value of 15% means that 15% of iron-binding sites of transferrin is being occupied by iron. It is a sensitive screening test for iron deficiency anemia if it is below the optimal range.

MCH ↓ 24.00 pg (- 111 %)

The Mean Corpuscular Hemoglobin (MCH) is a calculated value and is an expression of the average weight of hemoglobin per red blood cell. MCH, along with MCV can be helpful in determining the type of anemia present.

Ferritin ↓ 12.00 ng/mL (- 75 %)

Ferritin is the main storage form of iron in the body. Decreased levels are strongly associated with iron deficiency where it is the most sensitive test to detect iron deficiency. Increased levels are associated with iron overload, an increasing risk of cardiovascular disease, inflammation and oxidative stress.

LDH ↓ 126.00 IU/L (- 73 %)

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.

MCHC ↓ 31.30 g/dL (- 73 %)

The Mean Corpuscular Hemoglobin Concentration (MCHC) measures the average concentration of hemoglobin in the red blood cells. It is a calculated value. It is elevated with B12/folate deficiency and hypochlorhydria. Decreased levels are associated with a vitamin C need, vitamin B6 and iron deficiencies, and a heavy metal body burden.

Potassium ↓ 3.90 mEq/L (- 70 %)

Potassium is one of the main electrolytes in the body. Due to the critical functions of potassium for human metabolism and physiology it is essential for the body to maintain optimum serum levels even though a small concentration is found outside of the cell. Potassium levels should always be viewed in relation to the other electrolytes. Potassium concentration is greatly influenced by adrenal hormones. As such, potassium levels can be a marker for adrenal dysfunction.

Alk Phos ↓ 64.00 IU/L (- 70 %)

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.

TSH ↓ 0.87 μU/mL (- 56 %)

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%
Blood Sugar Index		86%
Red Blood Cell Index		85%
Lipid Panel Index		82%
Toxicity Index		75%
Thyroid Function Index		71%
Electrolyte Index		67%
Adrenal Function Index		61%
Gallbladder Function Index		58%
GI Function Index		56%
Cardiovascular Risk Index		54%
Acid-Base Index		50%
Liver Function Index		45%
Heavy Metal Index		38%
Inflammation Index		33%
Immune Function Index		32%
Bone Health Index		18%
Oxidative Stress Index		17%
Kidney Function Index		17%
Allergy Index	0%	
Sex Hormone Index - Female	0%	

Blood Sugar Index

A high Blood Sugar Index indicates that there is dysfunction in this patient's blood sugar regulation. Blood sugar dysregulation is affected by genetics, diet, lifestyle, nutrition and environment. Some factors to consider include hypoglycemia, metabolic syndrome, insulin resistance, hyperinsulinemia, and type 2 Diabetes. Based on this blood test, your patient's Blood Sugar Index is:

[86%] - Dysfunction Likely. Improvement required.

Rationale:

Glucose ↑, LDH ↓, Hemoglobin A1C ↑, Cholesterol - Total ↑, Triglycerides ↑, HDL Cholesterol ↓

Elements Considered:

Glucose, LDH, Hemoglobin A1C, Cholesterol - Total, Triglycerides, HDL Cholesterol

Patient Result Not Available - Consider Running In Future Tests:

Insulin - Fasting, LDL Cholesterol, DHEA-S, Female, Leptin, 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:

[85%] - Dysfunction Likely. Improvement required.

Rationale:

Hemoglobin, Female ↓, MCV ↓, MCHC ↓, RDW ↑, MCH ↓

Elements Considered:

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

Lipid Panel Index

A high Lipid Panel Index indicates that there is a strong clinical indication of hyperlipidemia, which has been shown to indicate a potential risk of developing atherosclerotic coronary artery disease. Although hyperlipidemia is a cause, it's important to look at many other risks for this disease including smoking, blood sugar dysregulation, hypertension, elevated homocysteine and other diet and lifestyle considerations. Based on this blood test, your patient's Lipid Panel is:

[82%] - Dysfunction Likely. Improvement required.

Rationale:

Cholesterol - Total ↑, Triglycerides ↑, Cholesterol/HDL Ratio ↑, HDL Cholesterol ↓

Elements Considered:

Cholesterol - Total, Triglycerides, Cholesterol/HDL Ratio, HDL Cholesterol

Patient Result Not Available - Consider Running In Future Tests:

LDL Cholesterol

Toxicity Index

The Toxicity Index gives us an indication of whether or not this patient is dealing with an increased toxicity body burden. Toxins can accumulate in the body from an increased exposure from food, water, or the environment. Toxins can also increase because the body's detoxification and excretory functions may be compromised. Whereas a simple blood test cannot tell us which toxins might be a burden to the body we can measure elements in the blood that are affected by the presence of toxins, giving us a functional index for toxicity. Based on this blood test, your patient's Toxicity Index is:

[75%] - Dysfunction Likely. Improvement required.

Rationale:

Globulin, total ↑, HDL Cholesterol ↓, GGT ↑, MCH ↓, MCHC ↓

Elements Considered:

Uric Acid, female, Globulin, total, Cholesterol - Total, HDL Cholesterol, Lymphocytes, GGT, MCH, MCHC

Patient Result Not Available - Consider Running In Future Tests:

Platelets, Bilirubin - Direct

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:

[71%] - Dysfunction Likely. Improvement required.

Rationale:

TSH ↓

Elements Considered:

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

Patient Result Not Available - Consider Running In Future Tests:

Free T4, Free T3, Reverse T3

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:

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

Rationale:

Potassium ↓, Magnesium ↓

Elements Considered:

Sodium, Potassium, Chloride, Calcium, Phosphorus, Magnesium

Adrenal Function Index

A high Adrenal Function Index indicates that there is dysfunction within your patient's adrenal system and further assessment is needed to find out what the dysfunction is. Consider factors that contribute to adrenal hyperactivity, stress, or adrenal insufficiency. Based on this blood test, your patient's Adrenal Function Index is:

[61%] - Dysfunction Possible. There may be improvement needed in certain areas.

Rationale:

Potassium ↓, Sodium/Potassium Ratio ↑, Cholesterol - Total ↑, Triglycerides ↑

Elements Considered:

Sodium, Potassium, Sodium/Potassium Ratio, Glucose, BUN, Chloride, CO2, Cholesterol - Total, Triglycerides

Patient Result Not Available - Consider Running In Future Tests:

DHEA-S, Female, Cortisol - AM, Cortisol - PM

Gallbladder Function Index

A high Gallbladder Function Index indicates that there is dysfunction within your patient's hepato-biliary system and further assessment is needed to find out what the dysfunction is. Some factors to consider include problems in the liver that compromises the production of bile (biliary insufficiency), the progressive thickening of the bile itself within the gallbladder (biliary stasis) or biliary obstruction that causes cholestasis, a condition of impaired bile flow. Biliary obstruction can occur in the liver but more often occurs outside the liver where it is most often due to a common calculi and usually occurs on a spectrum of mild to severe. Biliary obstruction usually has a genesis in biliary stasis. Based on this blood test, your patient's Gallbladder Function Index is:

[58%] - Dysfunction Possible. There may be improvement needed in certain areas.

Rationale:

GGT ↑, Cholesterol - Total ↑, ALT (SGPT) ↑

Elements Considered:

GGT, Alk Phos, Cholesterol - Total, ALT (SGPT), LDH, Bilirubin - Total, Triglycerides

Patient Result Not Available - Consider Running In Future Tests:

Bilirubin - Direct

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:

Globulin, total ↑, Alk Phos ↓, MCV ↓, Iron - Serum ↓, Creatinine ↓, Anion gap ↑, GGT ↑, 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

Cardiovascular Risk Index

The Cardiovascular Risk Index is based on the measurement of 15 elements in a blood test that indicate an increase risk of this patient developing cardiovascular disease (heart attack, coronary artery disease and stroke). A high Cardiovascular Risk Index indicates that your patient may have an increased risk of cardiovascular disease, atherosclerosis, endothelial dysfunction, and inflammation. Based on this blood test, your patient's Cardiovascular Risk Index is:

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

Rationale:

Glucose ↑, Cholesterol - Total ↑, Triglycerides ↑, HDL Cholesterol ↓, Homocysteine ↑

Elements Considered:

Glucose, AST (SGOT), LDH, Cholesterol - Total, Triglycerides, HDL Cholesterol, Ferritin, Homocysteine, Hemoglobin A1C, Vitamin D (25-OH)

Patient Result Not Available - Consider Running In Future Tests:

LDL Cholesterol, Fibrinogen, Hs CRP, Female, Testosterone, Free Female, Insulin - Fasting

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:

Anion gap ↑, Potassium ↓

Elements Considered:

Anion gap, Potassium, Chloride, CO2, 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		100%
Carbohydrate Index		88%
Vitamin Index		62%
Protein Index	24%	
Hydration Index	20%	
Fat Index	12%	

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:

[100%] - Nutrient Status is Poor. Much improvement required.

Rationale:

Potassium ↓, Alk Phos ↓, Iron - Serum ↓, Ferritin ↓, TIBC ↑, % Transferrin saturation ↓, MCV ↓, Magnesium ↓

Elements Considered:

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

Patient Result Not Available - Consider Running In Future Tests:

Free T3

Carbohydrate Index

The Carbohydrate Index gives us an assessment of your patient's dietary intake of carbohydrates, especially refined carbohydrates and sugars. A diet high in refined carbohydrates and sugars will deplete phosphorus stores and other important co-factors for carbohydrate metabolism. It may also increase serum glucose and serum triglyceride levels. Follow up a high Carbohydrate Index with a thorough assessment of blood sugar regulation and also an investigation

into this patient's dietary consumption of sugars and refined carbohydrates. Based on this blood test, your patient's Carbohydrate Index is:

[88%] - Nutrient Status is Low. Improvement required.

Rationale:

Glucose ↑, LDH ↓, Triglycerides ↑, HDL Cholesterol ↓

Elements Considered:

Glucose, Phosphorus, LDH, Cholesterol - Total, Triglycerides, HDL Cholesterol, Total WBCs

Patient Result Not Available - Consider Running In Future Tests:

LDL Cholesterol

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:

[62%] - Moderate Nutrient Status. There may be improvement needed in certain areas.

Rationale:

Anion gap ↑, Homocysteine ↑, MCV ↓

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%
Iron Deficiency		100%
Magnesium Need		100%
Glutathione Need		90%
Zinc Need		80%
Thiamine Need		70%
Vitamin B12/Folate Need		53%
Vitamin C Need		44%
Vitamin B6 Need		40%
Iodine Need	0%	
Calcium Need	0%	
DHEA Need	0%	
Molybdenum Need	0%	
Selenium Need	0%	

Iron Deficiency

Consider an iron deficiency if there is a **decreased serum iron** with a **decreased MCH, MCV, and MCHC**, ferritin, % **transferrin saturation** and/or **HGB** and/or **HCT**, and increased **RDW** and an increased **TIBC**.

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

Rationale:

Iron - Serum ↓, Ferritin ↓, Hemoglobin, Female ↓, MCV ↓, MCHC ↓, % Transferrin saturation ↓, MCH ↓, TIBC ↑, RDW ↑

Elements Considered:

Iron - Serum, Ferritin, RBC, Female, Hemoglobin, Female, Hematocrit, Female, MCV, MCHC, % Transferrin saturation, MCH, TIBC, RDW

Magnesium Need

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

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

Rationale:

Magnesium ↓, Potassium ↓

Elements Considered:

Magnesium, GGT, Potassium

Glutathione Need

Suspect a glutathione need if the **GGT** is elevated. An elevated **GGT** is most commonly associated with alcohol consumption or gallbladder issues but suspect a glutathione need if **GGT** is elevated and there is no evidence of gallbladder dysfunction.

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

Rationale:

GGT ↑

Elements Considered:

GGT

Zinc Need

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

[80%] - Dysfunction Likely. Improvement required.

Rationale:

Alk Phos ↓

Elements Considered:

Alk Phos

Thiamine Need

Consider Thiamine deficiency with an **increased anion gap** along with a **decreased CO₂. Hemoglobin** and **hematocrit** levels may be normal or decreased. Due to thiamine's role in glycolysis, **LDH** levels may be decreased and **glucose** levels may be normal to increased.

[70%] - Dysfunction Likely. Improvement required.

Rationale:

Anion gap ↑, Glucose ↑, LDH ↓, Hemoglobin, Female ↓

Elements Considered:

Anion gap, CO₂, Glucose, LDH, Hemoglobin, Female, Hematocrit, Female

Vitamin B12/Folate Need

Consider a Vitamin B12 and folate need if the **MCV** is increased along with an increased **MCH**. If there is also an increased **RDW**, **MCHC**, and **LDH** (especially the LDH-1 isoenzyme fraction), and a decreased **uric acid** level the probability of vitamin B-12 or folic acid anemia is very high. Serum Vitamin B12 and serum folate may also decreased.

[53%] - Dysfunction Possible. There may be improvement needed in certain areas.

Rationale:

Homocysteine ↑, Hemoglobin, Female ↓, RDW ↑

Elements Considered:

MCV, LDH, Homocysteine, Uric Acid, female, Albumin, Total WBCs, RBC, Female, Hemoglobin, Female, Hematocrit, Female, MCH, MCHC, RDW, Neutrophils

Patient Result Not Available - Consider Running In Future Tests:

Folate, Vitamin B12

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 ↓

Additional Lipid Testing

The results of this blood test indicate that this patient may be dealing with hyperlipidemia, which may be causing the elements listed below to be outside the optimal range. If you haven't done so already, you may want to consider running additional lipid tests such as the Cardio IQ (TM) Lipoprotein Fractionation Test to get more information on the nature of the hyperlipidemia and its associated cardiovascular disease risk. The Cardio IQ (TM) Lipoprotein Fractionation Test precisely quantifies lipoprotein fractions across the entire lipoprotein spectrum; this comprises VLDL, IDL, LDL, and HDL particles.

Rationale:

Cholesterol - Total ↑, Triglycerides ↑, Cholesterol/HDL Ratio ↑, HDL Cholesterol ↓

Toxic Body Burden

The results of this blood test indicate that this patient may be dealing with an increased toxicity body burden because a number of elements on a blood test, such as the ones listed below, are affected by the presence of toxins in the body and may be out of optimal range. A blood test cannot tell what toxins your patient may be dealing with or even if your patient has an issue with increased toxicity so you may want to do further testing or evaluation to rule this out. If you suspect increased toxins or decreased detoxification function in this patient then you should follow up with more advanced testing to rule it out: testing for volatile solvents or environmental organotoxins if you think that is what's going on and/or an organic acids profile to screen for detox function and oxidative stress related issues. Porphyrin testing in the urine serve as biomarkers for toxin effects in the body.

Rationale:

Globulin, total ↑, HDL Cholesterol ↓, GGT ↑, MCH ↓, MCHC ↓

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 2 Test Results	
	Mar 22 2018	May 24 2018
Glucose	189.00 ↑	142.00 ↑
Hemoglobin A1C	8.20 ⚠	7.90 ↑
Insulin - Fasting		
Fructosamine		
C-Peptide		
BUN	10.00	14.00
Creatinine	0.64 ↓	0.61 ↓
Creatinine, 24-hour urine		
Creatinine Clearance		
eGFR Non-Afr. American	102.00	104.00
eGFR African American	118.00	120.00
BUN/Creatinine Ratio	15.62	22.95 ↑
Sodium	138.00	140.00
Potassium	3.40 ↓	3.90 ↓
Sodium/Potassium Ratio	40.58 ↑	35.89 ↑
Chloride	98.00 ↓	102.00
CO2	29.00	27.00
Anion gap	14.40 ↑	14.90 ↑
Uric Acid, female	7.20 ↑	4.90
Protein, total	7.40	7.50 ↑
Albumin	4.50	4.50
Globulin, total	2.90 ↑	3.00 ↑
Albumin/Globulin Ratio	1.60	1.50
Calcium	10.10	10.00
Calcium/Albumin Ratio	2.24	2.22
Phosphorus	3.20 ↓	4.00
Calcium/Phosphorous Ratio	3.15 ↑	2.50
Collagen Cross-Linked NTx		
Magnesium	1.50 ↓	1.80 ↓

Element	Latest 2 Test Results	
	Mar 22 2018	May 24 2018
Alk Phos	69.00 ↓	64.00 ↓
LDH	123.00 ↓	126.00 ↓
AST (SGOT)	24.00	23.00
ALT (SGPT)	35.00 ↑	32.00 ↑
GGT	51.00 ↑	45.00 ↑
Bilirubin - Total	0.40	0.40
Bilirubin - Direct		
Bilirubin - Indirect		
Iron - Serum	49.00 ↓	41.00 ↓
Ferritin	11.00 ↓	12.00 ↓
TIBC	482.00 ↑	502.00 ↑
% Transferrin saturation	10.00 ↓	8.00 ↓
Cholesterol - Total	168.00	207.00 ↑
Triglycerides	709.00 ⚠	431.00 ⚠
LDL Cholesterol		
HDL Cholesterol	25.00 ▼	29.00 ▼
VLDL Cholesterol		
Cholesterol/HDL Ratio	6.70 ⚠	7.10 ⚠
Triglyceride/HDL Ratio	28.36 ⚠	14.86 ⚠
Leptin, Female		
TSH	0.67 ↓	0.87 ↓
Total T4	10.80	9.00
Total T3	112.00	108.00
Free T4	1.20	
Free T3	3.00	
T3 Uptake	26.00 ↓	27.00
Free Thyroxine Index (T7)	2.80	2.43
Thyroid Peroxidase (TPO) Abs	2.00	
Thyroglobulin Abs		
Reverse T3	20.00	
C-Reactive Protein	5.90 ↑	1.80
Hs CRP, Female		
ESR, Female		
Homocysteine	7.80 ↑	7.90 ↑

Element	Latest 2 Test Results	
	Mar 22 2018	May 24 2018
Fibrinogen	232.00	
Creatine Kinase		
Vitamin D (25-OH)	65.00	72.00
Vitamin B12		
Folate		
DHEA-S, Female		
Cortisol - AM		
Cortisol - PM		
Testosterone, Free Female		
Testosterone, Total Female		
Sex Hormone Binding Globulin, female		
Estradiol, Female		
Progesterone, Female		
Total WBCs	7.30	5.90
RBC, Female	5.00 ↑	5.20 ↑
Reticulocyte count		
Hemoglobin, Female	12.10 ↓	12.50 ↓
Hematocrit, Female	38.40	39.90
MCV	76.80 ↓	76.70 ↓
MCH	24.20 ↓	24.00 ↓
MCHC	31.50 ↓	31.30 ↓
Platelets		
RDW	16.90 ⚠	15.80 ↑
Neutrophils	67.30 ↑	54.30
Bands		
Lymphocytes	23.90 ↓	33.40
Monocytes	7.00	9.40 ↑
Eosinophils	1.10	2.20
Basophils	0.70	0.70

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%
Hyperinsulinemia	100%	
Dysglycemia	100%	
Metabolic Syndrome	92%	
Anemia	90%	
Hypoglycemia	80%	
Muscle Atrophy/Breakdown	67%	
Hypothyroidism - Secondary	64%	
Hypochlorhydria	59%	
Fatty Liver/Steatosis	57%	
Biliary Insufficiency/Stasis	55%	
Gastric Inflammation	53%	
Adrenal Stress	47%	
Endothelial Dysfunction	45%	
Liver Dysfunction	45%	
Pancreatic Insufficiency	40%	
Fatty Liver - Early Stage	36%	
Metabolic Acidosis	35%	
Liver Cell Damage	33%	
Intestinal Parasites	30%	
Hyperthyroidism	29%	
Bacterial Infection	27%	
Metabolic Alkalosis	25%	
Immune Insufficiency	25%	
Liver Cirrhosis	24%	
Viral Infection	23%	
Adrenal Insufficiency	21%	
Biliary Obstruction	21%	
Gout	17%	
Hypothyroidism - Primary	16%	
Iron Overload	7%	
Hypothyroidism - T4 under conversion	0%	

Health Concerns	0%	100%
Renal Disease	0%	
Renal Insufficiency	0%	
Testosterone Deficiency	0%	
Intestinal Hyperpermeability	0%	

Hyperinsulinemia

Insulin resistance is the condition in which people lose sensitivity to the hormone insulin. As the cells become resistant to insulin, levels of insulin and blood glucose will rise. Consider insulin resistance with an increased **fasting insulin** and an increased **fasting blood glucose**, an increased **Hemoglobin A1C**, an increased **triglyceride** and an increased **Triglyceride/HDL ratio**. You may also see an increased **total cholesterol**, an increased **C-Peptide**, a decreased **HDL** and a decreased **phosphorous**.

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

Rationale:

Glucose ↑, Cholesterol - Total ↑, Triglycerides ↑, HDL Cholesterol ↓, Triglyceride/HDL Ratio ↑

Elements Considered:

Glucose, Phosphorus, Cholesterol - Total, Triglycerides, HDL Cholesterol, Triglyceride/HDL Ratio

Patient Result Not Available - Consider Running In Future Tests:

Insulin - Fasting, C-Peptide

Dysglycemia

Dysglycemia is an imbalance in the ability of the body to regulate blood glucose levels causing unhealthy blood glucose levels that can lead to Diabetes, Metabolic Syndrome, Obesity, Insulin Resistance and Hyperinsulinemia. Consider dysglycemia with an **elevated blood glucose level** and an **elevated hemoglobin A1C level**.

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

Rationale:

Glucose ↑, Hemoglobin A1C ↑

Elements Considered:

Glucose, Hemoglobin A1C

Patient Result Not Available - Consider Running In Future Tests:

Leptin, Female

Metabolic Syndrome

Consider metabolic syndrome with an increased **triglyceride**, an increased **total cholesterol**, an increased **LDL cholesterol**, a decreased **HDL**, an increased fasting **blood glucose** and an increased **hemoglobin A1C**. Additional elements that may be out of range with metabolic syndrome include an increased fasting **insulin**, an increased **uric acid** and decreased **DHEA**.

[92%] - Dysfunction Highly Likely. Much improvement required.

Rationale:

Glucose ↑, Triglycerides ↑, Hemoglobin A1C ↑, Cholesterol - Total ↑, HDL Cholesterol ↓

Elements Considered:

Glucose, Triglycerides, Hemoglobin A1C, Uric Acid, female, Cholesterol - Total, HDL Cholesterol

Patient Result Not Available - Consider Running In Future Tests:

Insulin - Fasting, LDL Cholesterol, DHEA-S, Female, Leptin, Female

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.

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

Rationale:

Hemoglobin, Female ↓, MCV ↓, MCHC ↓, RDW ↑, MCH ↓

Elements Considered:

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

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.

[80%] - Dysfunction Likely. Improvement required.

Rationale:

LDH ↓

Elements Considered:

Glucose, LDH, Hemoglobin A1C

Muscle Atrophy/Breakdown

Consider muscle atrophy or muscle breakdown with a decreased serum **creatinine** along with an increased **SGPT/ALT** and **SGOT/AST**.

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

Rationale:

Creatinine ↓, ALT (SGPT) ↑

Elements Considered:

Creatinine, AST (SGOT), ALT (SGPT)

Patient Result Not Available - Consider Running In Future Tests:

Creatine Kinase

Hypothyroidism - Secondary

Thyroid hypofunction is often secondary to an anterior pituitary hypofunction (Secondary Hypothyroidism). Suspect anterior pituitary dysfunction if the subjective indications of thyroid hypofunction are present and the following pattern is seen: A decreased **TSH**, a decreased or normal **Total T4**, a decreased or normal **Free T4** and a decreased or normal **Free T3**. The likelihood increases if serum **triglycerides** are elevated and **total cholesterol** is increased. Additional elements that may be out of range with secondary hypothyroidism include an increased **BUN** above the "normal" range and an increased **calcium**. Anterior pituitary hypofunction is a common problem and one that is frequently mistaken for thyroid hypofunction (the subjective indications are usually identical and the patient's axillary temperature will frequently be below normal).

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

Rationale:

TSH ↓, Cholesterol - Total ↑, Triglycerides ↑

Elements Considered:

TSH, BUN, Calcium, Cholesterol - Total, Triglycerides, Total T4, Free Thyroxine Index (T7)

Patient Result Not Available - Consider Running In Future Tests:

Free T4, Free T3

Hypochlorhydria

Consider hypochlorhydria with an increased total **globulin** level and a normal or decreased **total protein** and/or **albumin**, an increased **BUN**, a decreased serum **phosphorous**. Other values that may be reflective of a developing or chronic hypochlorhydria include an increased **MCV** and **MCH**, a decreased **calcium** and **iron**, a decreased **chloride**, an increased **anion gap** and a decreased **alkaline phosphatase**.

[59%] - Dysfunction Possible. There may be improvement needed in certain areas.

Rationale:

Globulin, total ↑, Alk Phos ↓, MCV ↓, Iron - Serum ↓, Anion gap ↑

Elements Considered:

BUN, Protein, total, Globulin, total, Albumin, Phosphorus, Alk Phos, MCV, Iron - Serum, Anion gap, Calcium, MCH

Patient Result Not Available - Consider Running In Future Tests:

Gastrin

Fatty Liver/Steatosis

Steatosis or fatty liver is caused by the accumulation of fat in the functional units of the liver. Non Alcoholic Steatotic Hepatitis is one of the most common causes of elevated liver enzymes. Fatty liver will cause extensive liver cell damage, so early detection is essential. Consider steatosis/fatty liver if the **SGPT/ALT** is increased above the **SGOT/AST** and **GGTP** levels, which may be elevated. Advanced steatosis will cause the **SGPT/ALT** to be elevated as much as 4 times the upper limit of normal. Consider it more likely if the **LDH** and **alkaline phosphatase** levels are also increased.

[57%] - Dysfunction Possible. There may be improvement needed in certain areas.

Rationale:

ALT (SGPT) ↑, GGT ↑

Elements Considered:

ALT (SGPT), Alk Phos, AST (SGOT), GGT, LDH, Ferritin

Biliary Insufficiency/Stasis

Biliary stasis or insufficiency can often be caused by a mild obstruction in the extra-hepatic biliary duct. **GGTP** levels will frequently be increased above optimal but not necessarily. **Bilirubin** levels (total and/or direct) will also be elevated along with **alkaline phosphatase**, **LDH**, **triglycerides** and **total cholesterol**. **SGPT/ALT** may be normal or increased. Many cases of biliary stasis will show normal lab values. In these situations suspect biliary stasis or insufficiency if there are strong subjective indicators. If the score for Biliary Insufficiency/Stasis is elevated consider further testing or treat accordingly.

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

Rationale:

GGT ↑, Cholesterol - Total ↑, ALT (SGPT) ↑

Elements Considered:

GGT, Cholesterol - Total, Alk Phos, ALT (SGPT), LDH, Bilirubin - Total, Triglycerides

Patient Result Not Available - Consider Running In Future Tests:

Bilirubin - Direct

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**.

[53%] - Dysfunction Possible. There may be improvement needed in certain areas.

Rationale:

Globulin, total ↑, Hemoglobin, Female ↓, Creatinine ↓

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

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