



Integrative Dentistry of New Mexico

INTEGRATIVE DENTISTRY OF NEW MEXICO/C. Brookover

# Functional Health Report

## Clinician Copy

Lab Test on Sep 12, 2022  
Conventional US Units

## 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> 7 Current 12 Previous	<b>Above Standard Range</b> 2 Current 6 Previous	<b>Alarm High</b> 3 Current 1 Previous
<b>Below Optimal Range</b> 5 Current 3 Previous	<b>Below Standard Range</b> 2 Current 1 Previous	<b>Alarm Low</b> 1 Current 1 Previous

Element	Current	Previous	Impr	Optimal Range	Standard Range	Units
	Sep 12 2022	Mar 10 2022				
Glucose	81.00	90.00		72.00 - 90.00	65.00 - 99.00	mg/dL
Hemoglobin A1C	5.40	5.50		5.00 - 5.50	0.00 - 5.60	%
Insulin - Fasting	7.20	↑ 11.20	↑	2.00 - 5.00	2.00 - 19.00	µIU/ml
BUN	16.00	↑ 18.00	↑	10.00 - 16.00	7.00 - 25.00	mg/dL
Creatinine	0.80	0.90		0.80 - 1.10	0.40 - 1.35	mg/dL
BUN/Creatinine Ratio	20.00	↑ 20.00	↑	10.00 - 16.00	6.00 - 22.00	Ratio
Sodium	138.00	142.00		135.00 - 142.00	135.00 - 146.00	mEq/L
Chloride	107.00	↑ 107.00	↑	100.00 - 106.00	98.00 - 110.00	mEq/L
CO2	23.00	↓ 24.00	↓	25.00 - 30.00	19.00 - 30.00	mEq/L
Uric Acid, female	5.20	4.90		3.00 - 5.50	2.50 - 7.00	mg/dL
Protein, total	6.10	↓ 7.80	↑	6.90 - 7.40	6.10 - 8.10	g/dL
Albumin	3.90	↓ 4.70		4.00 - 5.00	3.60 - 5.10	g/dL
Globulin, total	2.20	↓ 3.10	↑	2.40 - 2.80	2.00 - 3.50	g/dL
Albumin/Globulin Ratio	1.80	1.50		1.40 - 2.10	1.00 - 2.50	ratio
Calcium	8.90	↓ 9.50		9.40 - 10.10	8.60 - 10.40	mg/dL
Calcium/Albumin Ratio	2.28	2.02		0.00 - 2.60	0.00 - 2.70	ratio
Phosphorus	5.40	↑ 4.20	↑	3.50 - 4.00	2.50 - 4.50	mg/dL
Calcium/Phosphorous Ratio	1.64	↓ 2.26	↓	2.30 - 2.80	1.90 - 4.20	ratio
Magnesium	2.20	2.30		2.20 - 2.50	1.50 - 2.50	mg/dl
Alk Phos	75.00	82.00		70.00 - 100.00	35.00 - 115.00	IU/L
AST (SGOT)	19.00	24.00		10.00 - 26.00	10.00 - 35.00	IU/L
ALT (SGPT)	13.00	18.00		10.00 - 26.00	6.00 - 29.00	IU/L
LDH	220.00	↑ 228.00	↑	140.00 - 200.00	120.00 - 250.00	IU/L
Bilirubin - Total	0.40	0.60		0.10 - 0.90	0.20 - 1.20	mg/dL
GGT	13.00	18.00		10.00 - 30.00	3.00 - 70.00	IU/L
Iron - Serum	107.00	↑ 142.00	↑	85.00 - 130.00	40.00 - 160.00	µg/dL

Ferritin	70.40	67.60			40.00 - 150.00	10.00 - 232.00	ng/mL
TIBC	298.00	334.00			250.00 - 350.00	250.00 - 425.00	µg/dL
% Transferrin saturation	36.00	43.00			24.00 - 50.00	20.00 - 48.00	%
Cholesterol - Total	175.00	178.00			155.00 - 190.00	125.00 - 200.00	mg/dL
Triglycerides	57.00	69.00			50.00 - 100.00	0.00 - 150.00	mg/dL
LDL Cholesterol	109.00	105.00	↑	👍	0.00 - 120.00	0.00 - 100.00	mg/dL
HDL Cholesterol	55.00	60.00			55.00 - 70.00	46.00 - 100.00	mg/dL
Cholesterol/HDL Ratio	3.20	3.00	↑	👎	0.00 - 3.00	0.00 - 5.00	Ratio
Triglyceride/HDL Ratio	1.03	1.15			0.00 - 2.00	0.00 - 3.30	ratio
TSH	1.17	4.98	↑	👍	1.00 - 3.00	0.40 - 4.50	µU/mL
Total T3	99.00	97.00			90.00 - 168.00	76.00 - 181.00	ng/dL
Total T4	8.80	6.80			6.00 - 11.90	4.50 - 12.00	µg/dL
T3 Uptake	36.00	28.00	↑	👎	27.00 - 35.00	22.00 - 35.00	%
Free Thyroxine Index (T7)	3.16	1.90			1.70 - 4.60	1.40 - 3.80	Index
Hs CRP, Female	0.80	0.60			0.00 - 0.99	0.00 - 2.90	mg/L
Homocysteine	9.70	8.90	↑	👎	0.00 - 6.00	0.00 - 10.30	µmol/L
Vitamin D (25-OH)	50.00	39.00	↓	👍	50.00 - 90.00	30.00 - 100.00	ng/ml
Total WBCs	6.20	6.60			5.30 - 7.50	3.80 - 10.80	k/cumm
RBC, Female	4.44	4.92	↑	👍	3.90 - 4.50	3.80 - 5.10	m/cumm
Hemoglobin, Female	13.90	15.30	↑	👍	13.50 - 14.50	11.70 - 15.50	g/dl
Hematocrit, Female	45.30	51.00	↑	👍	37.00 - 44.00	35.00 - 45.00	%
MCV	102.00	104.00	⚠️	👍	85.00 - 92.00	80.00 - 100.00	fL
MCH	31.20	31.10			27.00 - 31.90	27.00 - 33.00	pg
MCHC	30.60	29.90	↓	👍	32.00 - 35.00	32.00 - 36.00	g/dL
Platelets	289.00	278.00			150.00 - 400.00	140.00 - 400.00	k/cumm
RDW	13.10	12.90	↑	👎	11.70 - 13.00	11.00 - 15.00	%
Neutrophils	82.30	77.30	↑	👎	40.00 - 60.00	38.00 - 74.00	%
Lymphocytes	9.80	12.90	⚠️	👎	25.00 - 40.00	14.00 - 46.00	%
Monocytes	6.20	7.40	↑	👍	0.00 - 7.00	0.00 - 7.00	%
Eosinophils	0.90	1.30			0.00 - 3.00	0.00 - 3.00	%
Basophils	0.90	1.20	↑	👍	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
Phosphorus	330	<b>5.40</b>	3.50	4.00		
MCV	193	<b>102.00</b>	85.00	92.00		
Neutrophils	162	<b>82.30</b>	40.00	60.00		
Insulin - Fasting	123	<b>7.20</b>	2.00	5.00		
BUN/Creatinine Ratio	117	<b>20.00</b>	10.00	16.00		
Homocysteine	112	<b>9.70</b>	0.00	6.00		
LDH	83	<b>220.00</b>	140.00	200.00		
Hematocrit, Female	69	<b>45.30</b>	37.00	44.00		
Chloride	67	<b>107.00</b>	100.00	106.00		
T3 Uptake	62	<b>36.00</b>	27.00	35.00		
RDW	58	<b>13.10</b>	11.70	13.00		
Cholesterol/HDL Ratio	57	<b>3.20</b>	0.00	3.00		
BUN	50	<b>16.00</b>	10.00	16.00		
LDL Cholesterol	41	<b>109.00</b>	0.00	120.00		
Basophils	40	<b>0.90</b>	0.00	1.00		
RBC, Female	40	<b>4.44</b>	3.90	4.50		
Monocytes	39	<b>6.20</b>	0.00	7.00		
Uric Acid, female	38	<b>5.20</b>	3.00	5.50		
Calcium/Albumin Ratio	38	<b>2.28</b>	0.00	2.60		
MCH	36	<b>31.20</b>	27.00	31.90		
Hs CRP, Female	31	<b>0.80</b>	0.00	0.99		
Hemoglobin A1C	30	<b>5.40</b>	5.00	5.50		
Cholesterol - Total	7	<b>175.00</b>	155.00	190.00		
Albumin/Globulin Ratio	7	<b>1.80</b>	1.40	2.10		
AST (SGOT)	6	<b>19.00</b>	10.00	26.00		
Platelets	6	<b>289.00</b>	150.00	400.00		
Triglyceride/HDL Ratio	2	<b>1.03</b>	0.00	2.00		
Free Thyroxine Index (T7)	0	<b>3.16</b>	1.70	4.60		
Glucose	0	<b>81.00</b>	72.00	90.00		
Iron - Serum	-1	<b>107.00</b>	85.00	130.00		
TIBC	-2	<b>298.00</b>	250.00	350.00		
Total T4	-3	<b>8.80</b>	6.00	11.90		
% Transferrin saturation	-4	<b>36.00</b>	24.00	50.00		
Sodium	-7	<b>138.00</b>	135.00	142.00		
Total WBCs	-9	<b>6.20</b>	5.30	7.50		

Hemoglobin, Female	-10	<b>13.90</b>	13.50	14.50	
Bilirubin - Total	-12	<b>0.40</b>	0.10	0.90	
Eosinophils	-20	<b>0.90</b>	0.00	3.00	
Ferritin	-22	<b>70.40</b>	40.00	150.00	
ALT (SGPT)	-31	<b>13.00</b>	10.00	26.00	
Alk Phos	-33	<b>75.00</b>	70.00	100.00	
GGT	-35	<b>13.00</b>	10.00	30.00	
Triglycerides	-36	<b>57.00</b>	50.00	100.00	
Total T3	-38	<b>99.00</b>	90.00	168.00	
TSH	-42	<b>1.17</b>	1.00	3.00	
HDL Cholesterol	-50	<b>55.00</b>	55.00	70.00	
Creatinine	-50	<b>0.80</b>	0.80	1.10	
Magnesium	-50	<b>2.20</b>	2.20	2.50	
Vitamin D (25-OH)	-50	<b>50.00</b>	50.00	90.00	
Albumin	-60	<b>3.90</b>	4.00	5.00	
CO2	-90	<b>23.00</b>	25.00	30.00	
MCHC	-97	<b>30.60</b>	32.00	35.00	
Globulin, total	-100	<b>2.20</b>	2.40	2.80	
Calcium	-121	<b>8.90</b>	9.40	10.10	
Lymphocytes	-151	<b>9.80</b>	25.00	40.00	
Calcium/Phosphorous Ratio	-182	<b>1.64</b>	2.30	2.80	
Protein, total	-210	<b>6.10</b>	6.90	7.40	

## 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

12 Total



### Below Optimal Range

8 Total



### Above Optimal

#### Phosphorus ↑ 5.40 mg/dL (+ 330 %)

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.

#### MCV ↑ 102.00 fL (+ 193 %)

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.

#### Neutrophils ↑ 82.30 % (+ 162 %)

Neutrophils are the white blood cells used by the body to combat bacterial infections. They are the most numerous and important white cell in the body's reaction to inflammation. Levels will be raised in bacterial infections. Decreased levels are often seen in chronic viral infections.

#### Insulin - Fasting ↑ 7.20 μIU/ml (+ 123 %)

insulin is the hormone released in response to rising blood glucose levels and decreases blood glucose by transporting glucose into the cells. Often people lose their ability to utilize insulin to effectively drive blood glucose into energy-producing cells. This is commonly known as "insulin resistance" and is associated with increasing levels of insulin in the blood. Excess insulin is associated with greater risks of heart attack, stroke, metabolic syndrome and diabetes.

#### BUN/Creatinine Ratio ↑ 20.00 Ratio (+ 117 %)

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.

**Homocysteine ↑ 9.70 μmol/L (+ 112 %)**

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.

**LDH ↑ 220.00 IU/L (+ 83 %)**

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 ↑ 45.30 % (+ 69 %)**

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.

**Chloride ↑ 107.00 mEq/L (+ 67 %)**

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.

**T3 Uptake ↑ 36.00 % (+ 62 %)**

The T-3 uptake test has nothing to do with actual T-3 levels, as the name might suggest. Increased levels are associated with hyperthyroidism and people on thyroid hormone. Decreased levels are associated with hypothyroidism and deficiencies of iodine and selenium.

**RDW ↑ 13.10 % (+ 58 %)**

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.

**Cholesterol/HDL Ratio ↑ 3.20 Ratio (+ 57 %)**

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%.

**Below Optimal**

**Protein, total ↓ 6.10 g/dL (- 210 %)**

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/Phosphorous Ratio ↓ 1.64 ratio (- 182 %)**

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.

**Lymphocytes ↓ 9.80 % (- 151 %)**

Lymphocytes are a type of white blood cell. An increase in lymphocyte concentration is usually a sign of a viral infection but can also be a sign of increased toxicity in the body or inflammation. Decreased levels are often seen in a chronic viral infection and oxidative stress.

**Calcium ↓ 8.90 mg/dL (- 121 %)**

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.

**Globulin, total ↓ 2.20 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.

**MCHC ↓ 30.60 g/dL (- 97 %)**

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.

**CO2 ↓ 23.00 mEq/L (- 90 %)**

Carbon Dioxide is a measure of bicarbonate in the blood. CO<sub>2</sub>, as bicarbonate, is available for acid-base balancing. Bicarbonate neutralizes metabolic acids in the body. Elevated levels of CO<sub>2</sub> are associated with metabolic alkalosis and hypochlorhydria. Decreased levels are associated with metabolic acidosis.

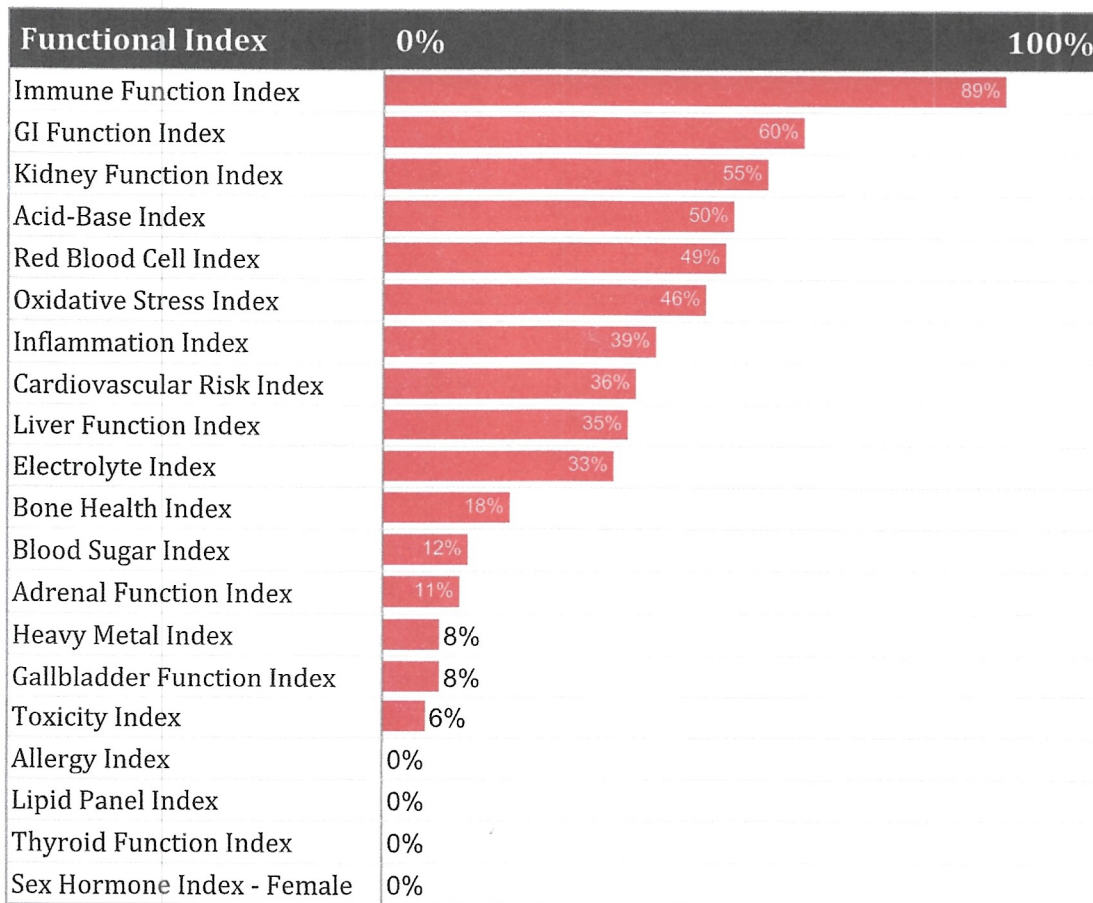
**Albumin ↓ 3.90 g/dL (- 60 %)**

Albumin is one of the major blood proteins. Produced primarily in the liver, Albumin plays a major role in water distribution and serves as a transport protein for hormones and various drugs. Albumin levels are affected by digestive dysfunction and a decreased albumin can be an indication of malnutrition, digestive dysfunction due to HCl need (hypochlorhydria), or liver dysfunction. Malnutrition leads to a decreased albumin level in the serum primarily from lack of available essential amino acids. Decreased albumin can also be a strong indicator of oxidative stress and excess free radical activity.

# 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.



**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:

**[ 89% ] - Dysfunction Likely. Improvement required.**

**Rationale:**

Globulin, total ↓, Neutrophils ↑, Lymphocytes ↓, Albumin ↓

**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:

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

**Rationale:**

Protein, total ↓, Globulin, total ↓, Albumin ↓, MCV ↑, Calcium ↓

**Elements Considered:**

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

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

Anion gap

**Kidney Function Index**

A high Kidney Function Index reflects a decrease in renal function in this patient, which can be due to renal insufficiency or if the BUN and Creatinine are grossly elevated the beginning stages of conditions that can greatly impair renal function. Factors such as dehydration, heavy metal toxicity, over the counter or prescription drugs, impaired liver function or renal infections should be considered. Based on this blood test, your patient's Kidney Function Index is:

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

**Rationale:**

BUN/Creatinine Ratio ↑, Phosphorus ↑, LDH ↑

**Elements Considered:**

BUN, Creatinine, BUN/Creatinine Ratio, Phosphorus, Uric Acid, female, AST (SGOT), LDH, Magnesium

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

eGFR Non-Afr. American, eGFR African American

### 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 ↑, CO2 ↓, Calcium ↓

#### Elements Considered:

Chloride, CO2, Calcium

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

Anion gap, Potassium

## 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%
Vitamin Index		88%
Protein Index		47%
Hydration Index	10%	
Mineral Index	8%	
Fat Index	0%	
Carbohydrate Index	0%	

### 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:

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

#### Rationale:

Albumin ↓, Homocysteine ↑, MCV ↑

#### Elements Considered:

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

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

Anion gap

## 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%
Vitamin B12/Folate Need		100%
Calcium Need		86%
Vitamin C Need		33%
Thiamine Need		20%
Iron Deficiency		14%
Vitamin B6 Need		10%
Iodine Need	0%	
Magnesium Need	0%	
DHEA Need	0%	
Molybdenum Need	0%	
Selenium Need	0%	
Glutathione Need	0%	

**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.

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

**Rationale:**

MCV ↑, LDH ↑, Homocysteine ↑, Albumin ↓, 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

**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**.

**[ 86% ] - Dysfunction Likely. Improvement required.**

**Rationale:**

Calcium ↓, Calcium/Phosphorous Ratio ↓, Phosphorus ↑

**Elements Considered:**

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

## 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 right 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 10 2022	Sep 12 2022
Glucose	90.00	81.00
Hemoglobin A1C	5.50	5.40
Insulin - Fasting	11.20 ↑	7.20 ↑
Fructosamine		
C-Peptide		
BUN	18.00 ↑	16.00
Creatinine	0.90	0.80
Creatinine, 24-hour urine		
Creatinine Clearance		
eGFR Non-Afr. American		
eGFR African American		
BUN/Creatinine Ratio	20.00 ↑	20.00 ↑
Sodium	142.00	138.00
Potassium	6.20 ⚠	
Sodium/Potassium Ratio	22.90 ⚠	
Chloride	107.00 ↑	107.00 ↑
CO2	24.00 ↓	23.00 ↓
Anion gap	17.20 ↑	
Uric Acid, female	4.90	5.20
Protein, total	7.80 ↑	6.10 ↓
Albumin	4.70	3.90 ↓
Globulin, total	3.10 ↑	2.20 ↓
Albumin/Globulin Ratio	1.50	1.80
Calcium	9.50	8.90 ↓
Calcium/Albumin Ratio	2.02	2.28
Phosphorus	4.20 ↑	5.40 ⚠
Calcium/Phosphorous Ratio	2.26 ↓	1.64 ↓
Collagen Cross-Linked NTx		

Element	Latest 2 Test Results	
	Mar 10 2022	Sep 12 2022
Magnesium	2.30	2.20
Alk Phos	82.00	75.00
LDH	228.00 ↑	220.00 ↑
AST (SGOT)	24.00	19.00
ALT (SGPT)	18.00	13.00
GGT	18.00	13.00
Bilirubin - Total	0.60	0.40
Bilirubin - Direct		
Bilirubin - Indirect		
Iron - Serum	142.00 ↑	107.00
Ferritin	67.60	70.40
TIBC	334.00	298.00
% Transferrin saturation	43.00	36.00
Cholesterol - Total	178.00	175.00
Triglycerides	69.00	57.00
LDL Cholesterol	105.00	109.00
HDL Cholesterol	60.00	55.00
VLDL Cholesterol		
Cholesterol/HDL Ratio	3.00	3.20 ↑
Triglyceride/HDL Ratio	1.15	1.03
Leptin, Female		
TSH	4.98 ↑	1.17
Total T4	6.80	8.80
Total T3	97.00	99.00
Free T4		
Free T3		
T3 Uptake	28.00	36.00 ↑
Free Thyroxine Index (T7)	1.90	3.16
Thyroid Peroxidase (TPO) Abs		
Thyroglobulin Abs		
Reverse T3		
C-Reactive Protein		
Hs CRP, Female	0.60	0.80
ESR, Female		

Element	Latest 2 Test Results	
	Mar 10 2022	Sep 12 2022
Homocysteine	8.90 ↑	9.70 ↑
Fibrinogen		
Creatine Kinase		
Vitamin D (25-OH)	39.00 ↓	50.00
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	6.60	6.20
RBC, Female	4.92 ↑	4.44
Reticulocyte count		
Hemoglobin, Female	15.30 ↑	13.90
Hematocrit, Female	51.00 ↑	45.30 ↑
MCV	104.00 ⚠	102.00 ⚠
MCH	31.10	31.20
MCHC	29.90 ↓	30.60 ↓
Platelets	278.00	289.00
RDW	12.90	13.10 ↑
Neutrophils	77.30 ↑	82.30 ⚠
Bands		
Lymphocytes	12.90 ▼	9.80 ▼
Monocytes	7.40 ↑	6.20
Eosinophils	1.30	0.90
Basophils	1.20 ↑	0.90

# 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%
Bacterial Infection		100%
Gastric Inflammation		73%
Hypochlorhydria		61%
Anemia		49%
Endothelial Dysfunction		45%
Immune Insufficiency		44%
Metabolic Acidosis		35%
Liver Dysfunction		35%
Renal Insufficiency		30%
Renal Disease		27%
Metabolic Alkalosis		25%
Liver Cell Damage		17%
Viral Infection		15%
Fatty Liver/Steatosis		14%
Hyperinsulinemia		14%
Metabolic Syndrome		13%
Adrenal Stress		12%
Liver Cirrhosis		12%
Biliary Insufficiency/Stasis		9%
Biliary Obstruction		7%
Fatty Liver - Early Stage	0%	
Adrenal Insufficiency	0%	
Gout	0%	
Hypoglycemia	0%	
Hyperactive Thyroid	0%	
Hypothyroidism - Secondary	0%	
Hypothyroidism - T4 under conversion	0%	
Intestinal Parasites	0%	
Muscle Atrophy/Breakdown	0%	
Pancreatic Insufficiency	0%	
Testosterone Deficiency	0%	

Health Concerns	0%	100%
Intestinal Hyperpermeability	0%	
Dysglycemia	0%	

### Bacterial Infection

Consider a bacterial infection if there is 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.

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

#### Rationale:

Neutrophils ↑, Lymphocytes ↓

#### Elements Considered:

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

### 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**.

**[ 73% ] - Dysfunction Likely. Improvement required.**

#### Rationale:

Globulin, total ↓, Protein, total ↓, Albumin ↓

#### 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

## 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**.

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

### Rationale:

Protein, total ↓, Albumin ↓, MCV ↑, Calcium ↓

### Elements Considered:

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

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

Anion gap, Gastrin