OptimalDX

Blood Chemistry Analysis

Functional Health Report

Patient Report

Prepared for	Minny Mouse 63 year old female born Jan 13, 1956
Requested by	Michelle Stiles, PT, FDNP, PN2 Natural Knee Rescue
Test date	Aug 16, 2019

What's Inside?

An introduction to functional blood chemistry anaysis and your report.

An in-depth functional system and nutrient evaluation.

A full breakdown of all individual biomarker results, showing distance from optimal, comparative and historical views.

SECTION 1: INTRODUCTION

SECTION 2: ASSESSMENT

SECTION 3: ANALYSIS

The top areas that need the most attention.

Additional notes and information pertinent to this report.

SECTION 4: HEALTH IMPROVEMENT PLAN

SECTION 5: APPENDIX

1

An introduction to functional blood chemistry anaysis and your report.

Introduction

Michelle Stiles's Report

This report highlights the notes made about the results of this blood test.

REPORT

Functional Blood Chemistry Analysis

Functional Blood Chemistry Analysis can be defined as the process by which complex and comprehensive blood biomarkers are organized, analyzed and interpreted to provide a comprehensive assessment of the state and trends of the main body systems, the supporting body accessory systems, along with the status of nutrients and trends towards and away from clinical dysfunction.

WHY BLOOD TESTING?

Blood has a lot to tell us about your state of health and the blood chemistry and CBC / hematology test is the most commonly ordered medical lab test worldwide. These blood tests are an integral part of Western clinical medicine and are used to aid in the diagnostic decision-making process. Patients understand and are educated that blood testing is the norm for health assessment.

However, many, many people start to feel unwell long before a traditional blood test becomes diagnostic and more often than not, patients like you are told by their physician that "everything on your blood test looks normal."

"NORMAL" IS NOT OPTIMAL

Most patients who feel "unwell" will come out "normal" on a blood test. Clinical experience suggests that these people are by no means "normal" and are a far cry from being functionally optimal. They may not yet have progressed to a known disease state but they are what we call dys-functional, i.e. their physiological systems are no longer functioning properly and they are starting to feel un-well.

The issue is not that the blood test is a poor diagnostic tool, far from it. The issue is that the ranges used on a traditional lab test are based on statistics and not on whether a certain value represents good health or optimal physiological function. The problem is that "normal" reference ranges usually represent "average" populations rather that the optimal level required to maintain good health. Most "normal" ranges are too broad to adequately detect health problems before they become pathology and are not useful for detecting the emergence of dysfunction.

THE FUNCTIONAL APPROACH

The functional approach to chem screen and CBC analysis is oriented around changes in physiology and not pathology. We use ranges that are based on optimal physiology and not the "normal" population. This results in a tighter "Functional Physiological Range", which allows us to evaluate the area within the "Normal" range that indicates that something is not quite right in the physiological systems associated with this biomarker. This gives us the ability to detect changes in your physiological "function". We can identify the factors that obstruct you from achieving optimal physiological, biochemical, and metabolic functioning in your body.

Another thing that separates the Functional Blood Chemistry Analysis from the Traditional approach is we are not simply looking at one individual biomarker at a time in a linear report of the data. Rather, we use trend analysis between the individual biomarkers to establish your otherwise hidden trend towards or away from a functional health optimal.

THE FUNCTIONAL HEALTH REPORT

The Functional Health Report is the result of a detailed algorithmic analysis of your blood test results. Our analytical and interpretive software analyzes the blood test data for its hidden meaning and reveals the subtle, web-like patterns hidden within the numbers that signal the first stages of functional change in your body.

SUMMARY

In closing, Blood testing is no longer simply a part of disease or injury management. It's a vital component of a comprehensive Functional Medicine work up and plays a vital role in uncovering hidden health trends, comprehensive health promotion and disease prevention.

Patient Report

Your report is the result of a detailed and proprietary algorithmic analysis of your complex and comprehensive blood biomarkers.

MICHELLE STILES
Functional Medicine Practitioner

PT, FDNP, PN2

THE FUNCTIONAL HEALTH REPORT

The Functional Health Report uniquely organises and creates an interpretation providing a comprehensive insight and assessment into the state of previously hidden health trends of the main body systems, its supporting body accessory systems, along with reporting on the status of key nutrients and trends to and from clinical dysfunction.

The analytical and interpretive software analyzes the blood test data for its hidden meaning and reveals the subtle, web-like patterns hidden within the numbers that signal the first stages of functional change in your body.

ASSESSMENT

The Assessment section is at the very heart of the Functional Health Report. It is here that the findings of the algorithmic trend analysis are presented.

The Body Systems and Accessory reports show the level of dysfunction that exists in the various physiological and supporting accessory systems in your body.

The Macronutrient Status report gives you an indication of your general nutritional status and the Nutrient Deficiencies report shows the degree of deficiency for individual nutrients.

Each of the assessment reports is accompanied by a section that contains detailed descriptions and interpretation explanations of the results presented in each of the reports in this section.

ANALYSIS

The Analysis section shows you the actual results of your blood test itself.

The Blood Test Results Report lists the results of your blood test results and shows you if an individual biomarker is outside of the optimal range and/or outside of the clinical lab range.

The Blood Test Results Comparative Report compares results of the latest and previous Chemistry Screen and Hematology test and gives you a sense of whether or not there has been an improvement on the individual biomarker level.

The Blood Test History report allows you to compare results over time and see where improvement has been made and allows you to track progress in the individual biomarkers.

A Blood Test Score report is made showing which markers exhibit the largest shifts away from an optimal norm either higher or lower.

HEALTH IMPROVEMENT PLAN

All the information on the Assessment and Analysis sections of the report are summarized in the Health Improvement section, which focuses on the top areas of need as presented in this report.

2

An in-depth functional system and nutrient evaluation.

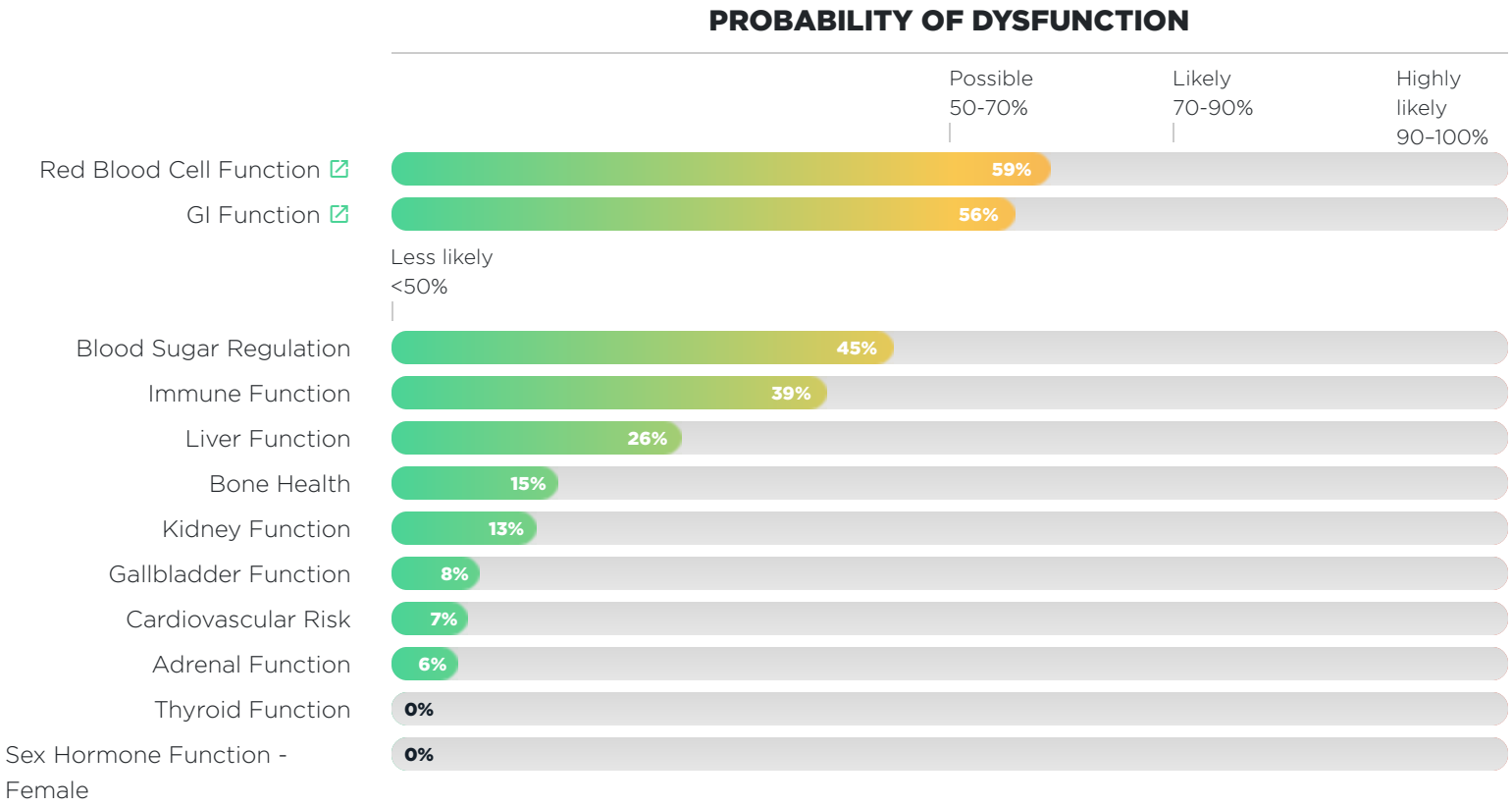
Assessment

Functional Body Systems

The Functional Body System results represent an algorithmic analysis of this blood test. These results have been converted into your individual Functional Body Systems Report based on our latest research.

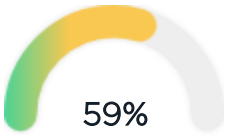
This report gives you an indication of the level of dysfunction that exists in the various physiological systems in your body.

Each Body System that has a probability of dysfunction above 50% is included in the section that follows so you can read a highly detailed description and individual explanation of the results shown in this report.



Functional Body Systems Details

This section contains detailed descriptions and explanations of the results presented in the Functional Body Systems report including all the biomarkers considered in the algorithmic analysis and the rationale behind the interpretation.



Dysfunction Possible. There may be improvement needed in certain areas.

RED BLOOD CELL FUNCTION

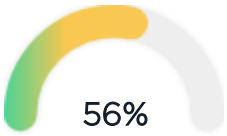
The Red Blood Cell Function score assesses the body's ability to produce red blood cells and reflects whether or not an anemia may be present in the body. Red blood cells function to carry oxygen to all the tissues and cells of the body. Nutrient deficiencies and other dysfunctions can disrupt this process causing an anemia. Some of the nutrient deficiency causes of anemia include deficiencies in iron, B12/folate, vitamin B6, copper and vitamin C.

Rationale

Hemoglobin - Female ↓, MCV ↑, RDW ↑

Biomarkers considered

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



Dysfunction Possible. There may be improvement needed in certain areas.

GI FUNCTION

The GI Function score reflects the degree of function in your gastrointestinal (GI) system. The gastrointestinal system is responsible for the digestion and breakdown of macronutrients (proteins, fats, and carbohydrates) into small particles so they can be easily absorbed and utilized. The GI system is also responsible for the excretion and elimination of waste from the body. Your body's nutritional status is directly affected by your ability to digest macronutrients and also to absorb key vitamins, minerals, amino acids, essential fatty acids and accessory nutrients such as bioflavonoids, CoQ10, etc. Factors affecting the GI function include inadequate chewing, eating when stressed or in a hurry, lack of appropriate stomach acid (a condition called hypochlorhydria), inflammation in the stomach lining (a condition called gastritis), a decrease in digestive enzymes (a condition called pancreatic insufficiency), an overgrowth of non-beneficial bacteria in your digestive system (a condition called dysbiosis) and/or a condition called Leaky Gut Syndrome.

Rationale

Protein - Total ↓, Globulin - Total ↓, MCV ↑, Anion Gap ↑, Total WBCs ↓, Hemoglobin - Female ↓

Biomarkers 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

Patient result not available - consider running in future tests:

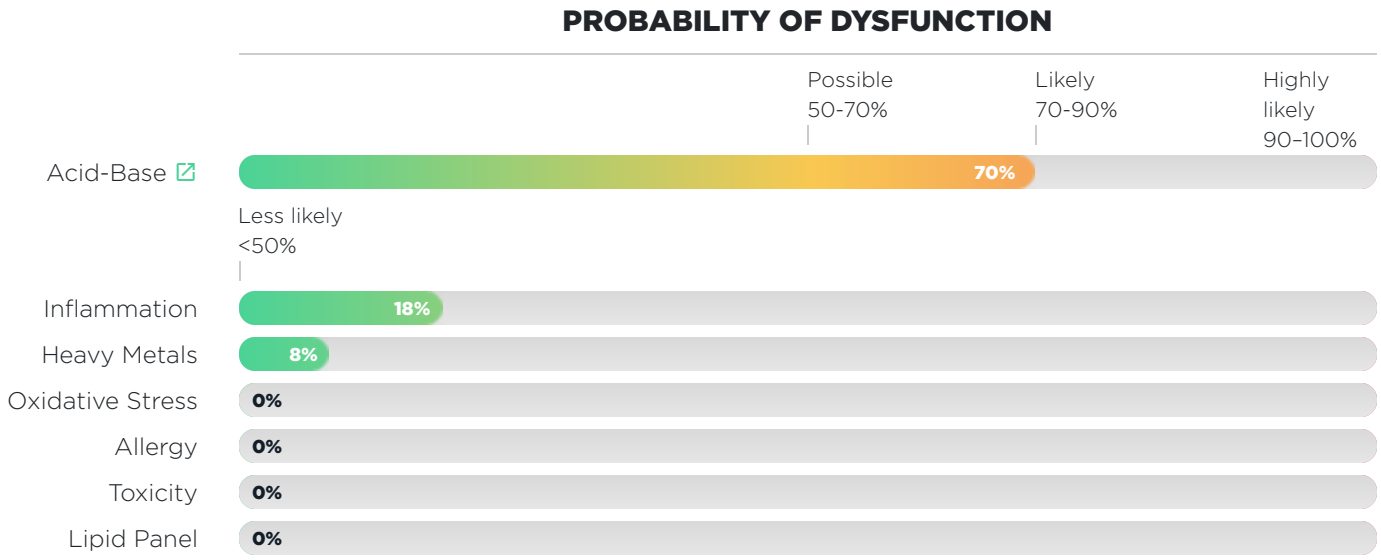
Gastrin

Accessory Systems

The Accessory System results represent an algorithmic analysis of this blood test. These results have been converted into your individual Accessory Systems Report based on our latest research.

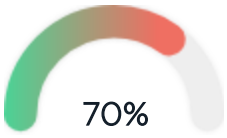
This report gives you an indication of the level of dysfunction that exists in the various physiological systems in your body.

Each Accessory System that has a probability of dysfunction above 50% is included in the section that follows so you can read a highly detailed description and individual explanation of the results shown in this report.



Accessory Systems Details

This section contains detailed descriptions and explanations of the results presented in the Accessory Systems report including all the biomarkers considered in the algorithmic analysis and the rationale behind the interpretation.



Dysfunction Likely.
Improvement required

ACID-BASE

The Acid-Base score can help us pinpoint imbalances in the body's pH (acid-alkaline) regulation system. There are a number of biomarkers in the blood that will go out of balance when the body gets too acidic (a condition called metabolic acidosis) or too alkaline (a condition called metabolic alkalosis).

Rationale

Anion Gap ↑, CO2 ↓

Biomarkers considered

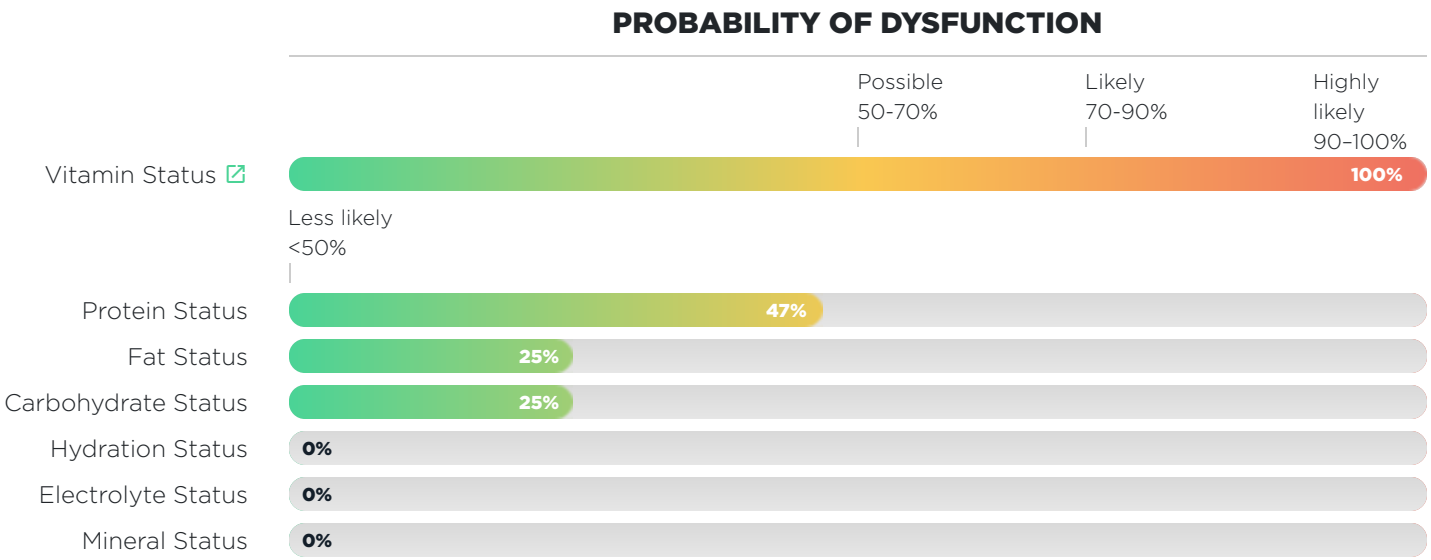
Anion Gap, Potassium, Chloride, CO2, Calcium

Macronutrient Status

The Macronutrient Status results represent an algorithmic analysis of this blood test. These results have been converted into your individual Macronutrient Status Report based on our latest research.

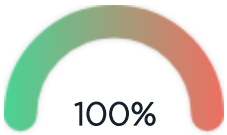
This report gives you an indication of your general nutritional dysfuction. The Macronutrient Status is influenced by actual dietary intake, digestion, absorption, assimilation and cellular uptake of the nutrients themselves.

Each Macronutrient that has a probability of dysfunction above 50% is included in the section that follows so you can read a highly detailed description and individual explanation of the results shown in this report.



Macronutrient Status Details

This section contains detailed descriptions and explanations of the results presented in the Macronutrient Status report including all the biomarkers considered in the algorithmic analysis and the rationale behind the interpretation.



Dysfunction Highly Likely. Much improvement required.

VITAMIN STATUS

The Vitamin Status score gives us a general indication of the balance of certain vitamins in your body. Vitamin levels are constantly fluctuating based on a number of factors, such as the amount in your diet, your ability to digest and break down individual vitamins from the food or supplements you consume, the ability of those vitamins to be absorbed, transported and ultimately taken up into the cells themselves.

Rationale

Anion Gap ↑, MCV ↑

Biomarkers considered

Anion Gap, Albumin, AST, ALT, GGT, MCV

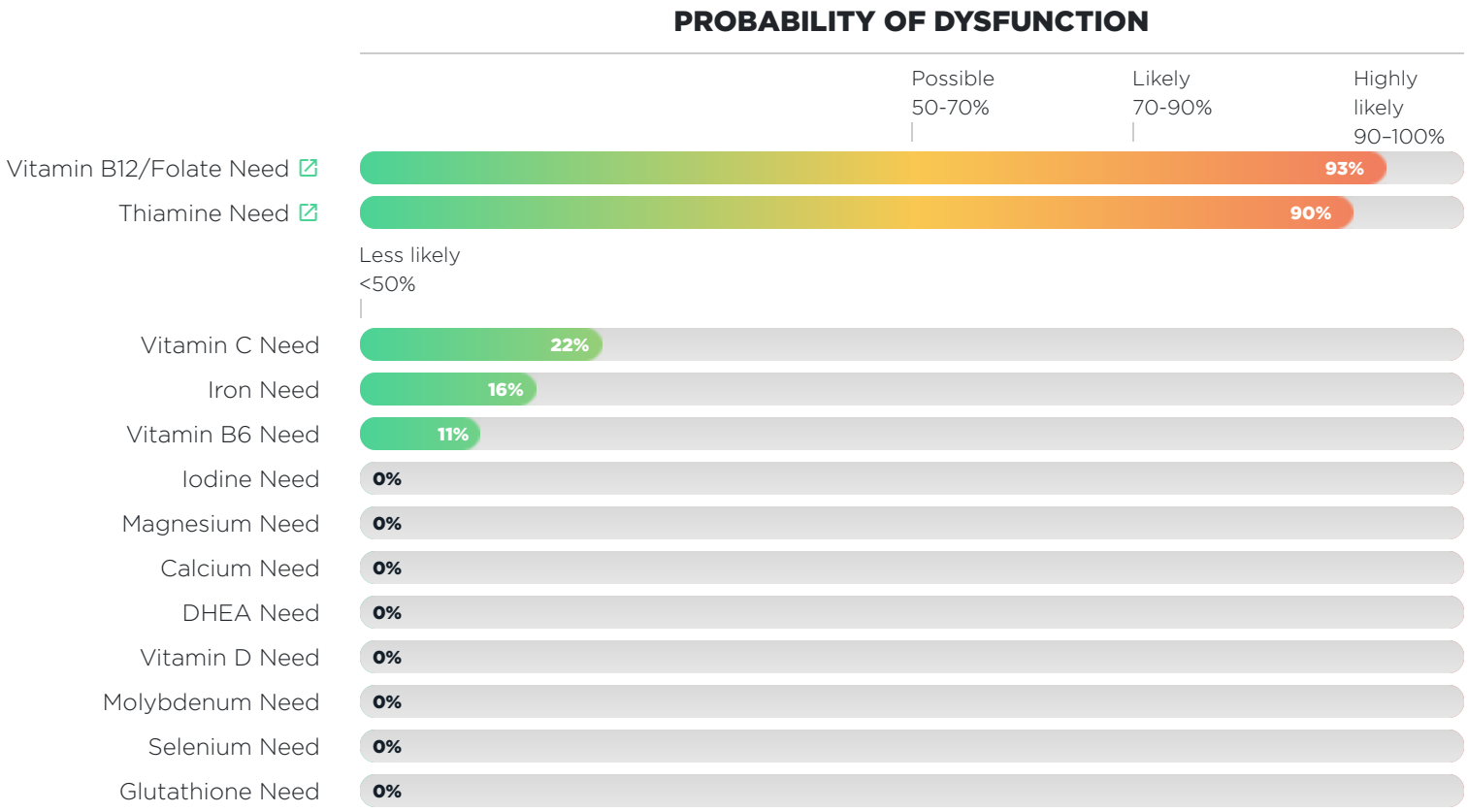
Patient result not available - consider running in future tests:

Homocysteine, Vitamin D (25-OH), Folate - Serum, Vitamin B12, Methylmalonic Acid

Individual Nutrient Deficiencies

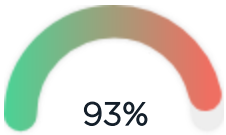
The values represent the degree of deficiency for individual nutrients based on your blood results. The status of an individual nutrient is based on a number of factors such as actual dietary intake, digestion, absorption, assimilation and cellular uptake of the nutrients themselves. All of these factors will be taken into consideration before determining whether or not you actually need an individual nutrient.

Each individual Nutrient Deficiency that has a probability of dysfunction above 50% is included in the section that follows so you can read a highly detailed description and individual explanation of the results shown in this report.



Individual Nutrient Deficiencies Details

This section contains detailed descriptions and explanations of the results presented in the Nutrient Deficiencies report including all the biomarkers considered in the algorithmic analysis and the rationale behind the interpretation.



Dysfunction Highly Likely. Much improvement required.

VITAMIN B12/FOLATE NEED

The results of your blood test indicate that your Vitamin B12 and Folate levels might be lower than optimal.

Rationale

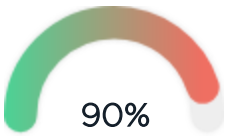
MCV ↑, Total WBCs ↓, Hemoglobin - Female ↓, MCH ↑, RDW ↑

Biomarkers considered

MCV, LDH, 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:

Homocysteine, Methylmalonic Acid, Folate - Serum, Vitamin B12



Dysfunction Highly Likely. Much improvement required.

THIAMINE NEED

The results of your blood test indicate that your thiamine levels might be lower than optimal.

Rationale

Anion Gap ↑, CO2 ↓, Glucose - Fasting ↑, Hemoglobin - Female ↓

Biomarkers considered

Anion Gap, CO2, Glucose - Fasting, LDH, Hemoglobin - Female, Hematocrit - Female

A full breakdown of all individual biomarker results, showing distance from optimal, comparative and historical views.

Analytics

Blood Test Results

The Blood Test Results Report lists the results of the Chemistry Screen and CBC and shows you whether or not an individual biomarker is outside of the optimal range and/or outside of the clinical lab range. The biomarkers are grouped into their most common categories.

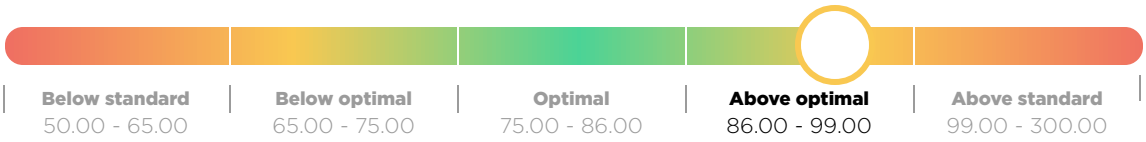
Each biomarker in the Blood Test results report that is above or below the Optimal or Standard Range hyperlinks into our Out of Optimal Range report so you can read a description of the biomarker and some of the reasons why it may be high or low.

Total number of biomarkers by optimal range

Alarm low	Below standard	Below optimal	Optimal	Above optimal	Above standard	Alarm high	Total
0	1	5	40	6	1	0	53

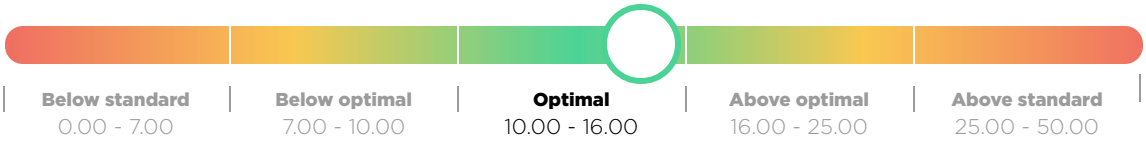
BLOOD GLUCOSE

Glucose - Fasting
95.00 mg/dL

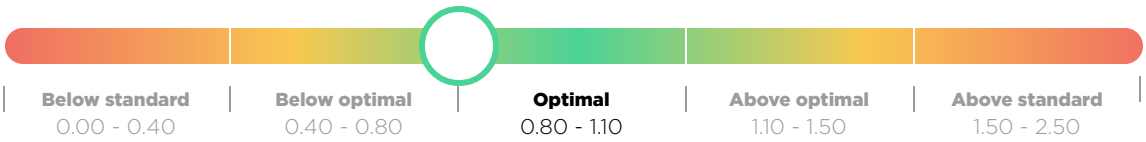


RENAL

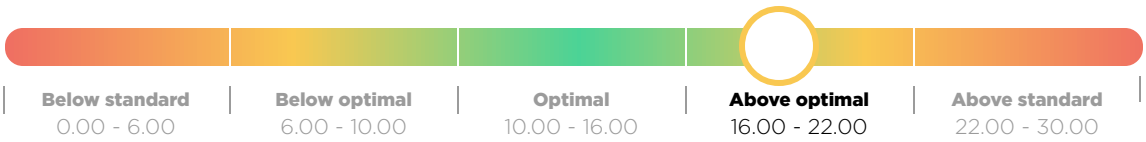
BUN
15.00 mg/dL



Creatinine
0.81 mg/dL

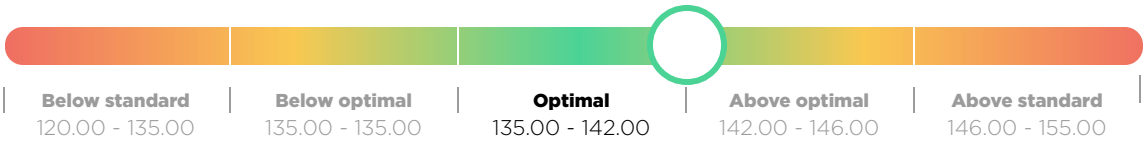


BUN:Creatinine
18.51 Ratio

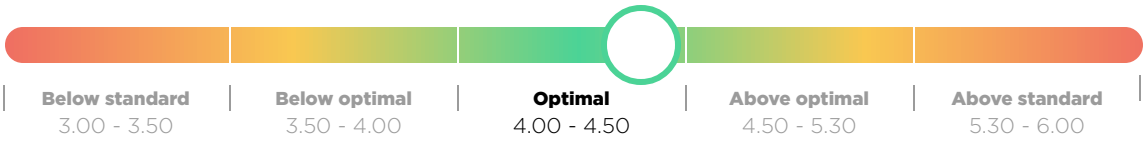


ELECTROLYTES

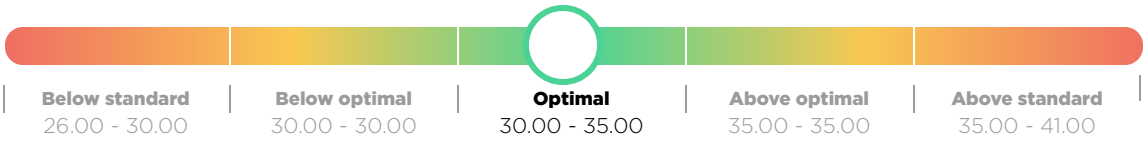
Sodium
142.00 mEq/L



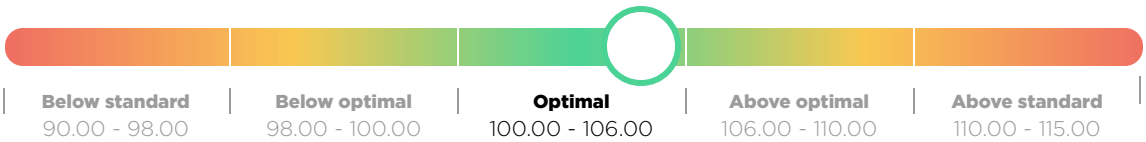
Potassium
4.40 mEq/L



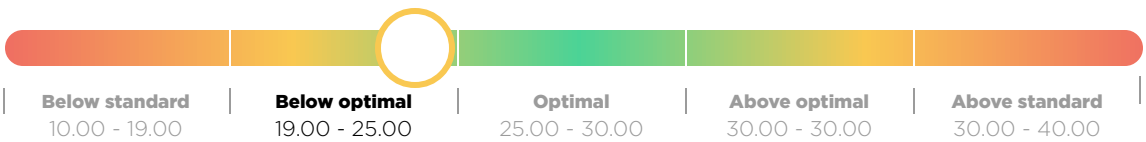
Sodium:Potassium
32.27 ratio



Chloride
105.00 mEq/L

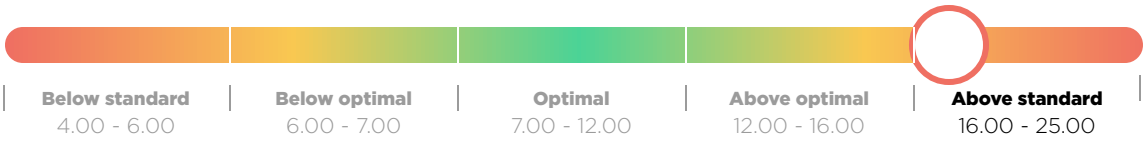


CO2
24.00 mEq/L

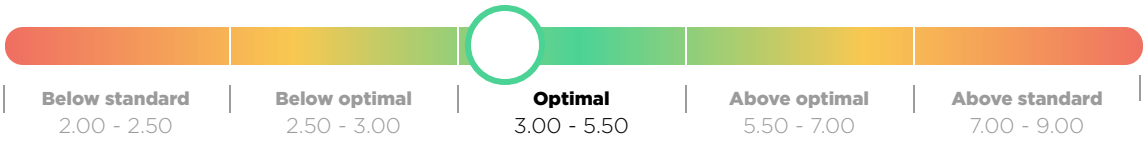


METABOLIC

Anion Gap
17.40 mEq/L

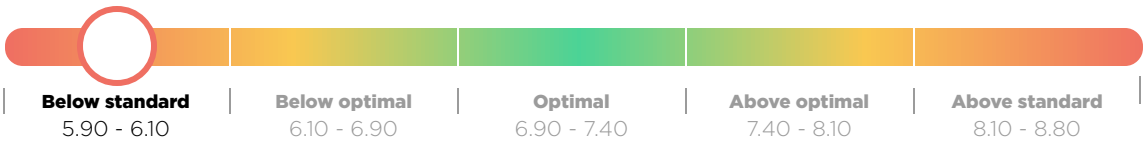


Uric Acid - Female
3.50 mg/dL

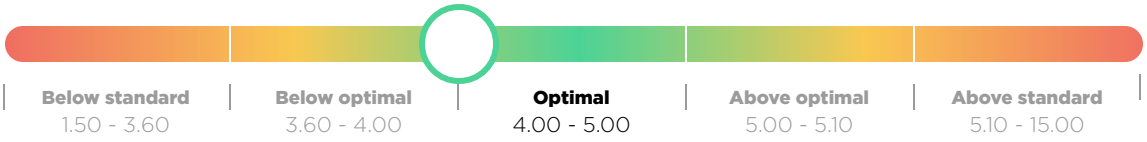


PROTEINS

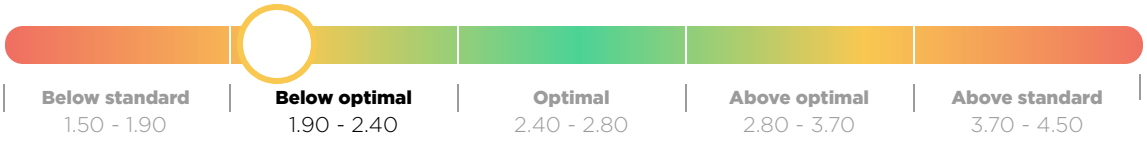
Protein - Total
6.00 g/dL



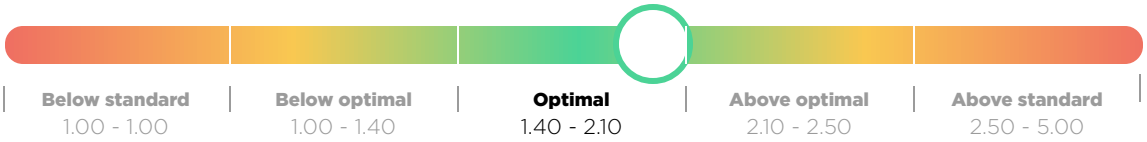
Albumin
4.00 g/dL



Globulin - Total
2.00 g/dL

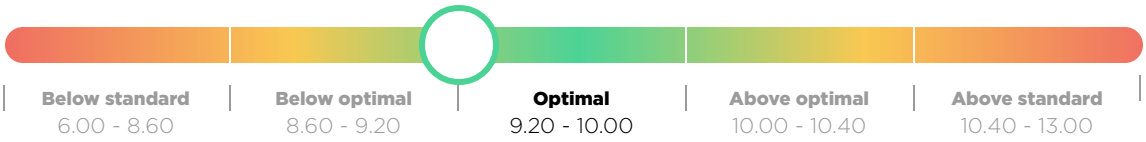


Albumin:Globulin
2.00 ratio

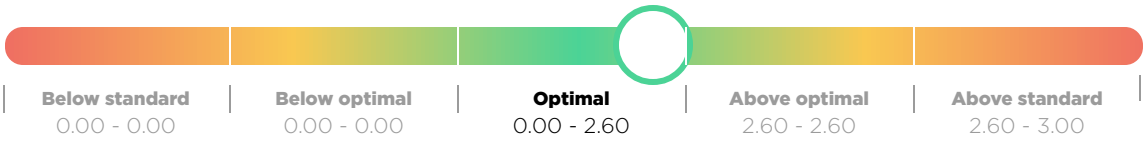


MINERALS

Calcium
9.20 mg/dL

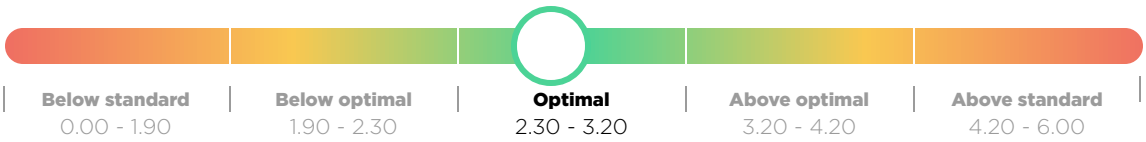


Calcium:Albumin
2.30 ratio



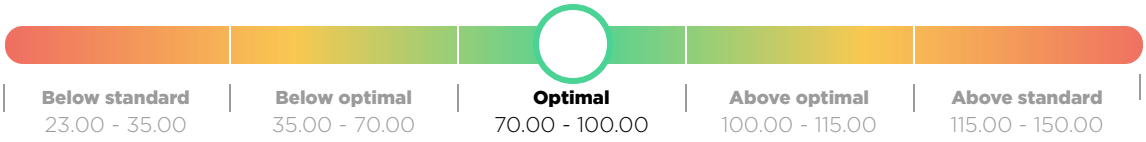
Phosphorus
3.40 mg/dL

Calcium:Phosphorus
2.70 ratio

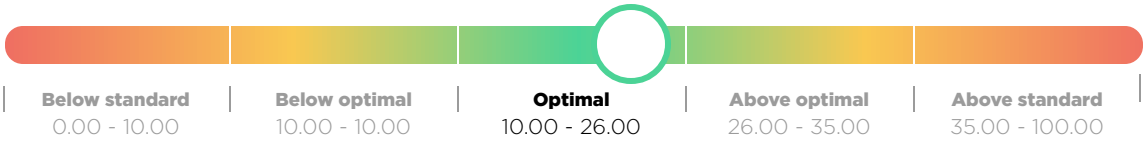


LIVER AND GB

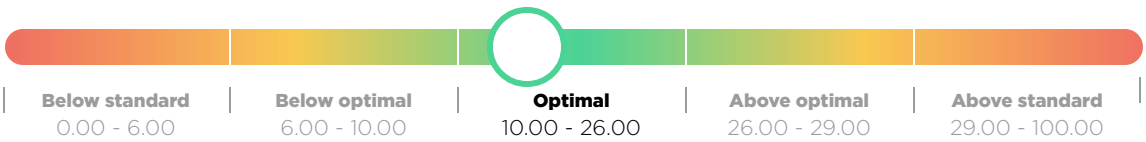
Alk Phos
86.00 IU/L



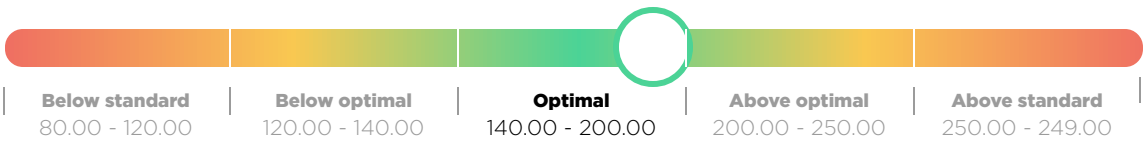
AST
22.00 IU/L



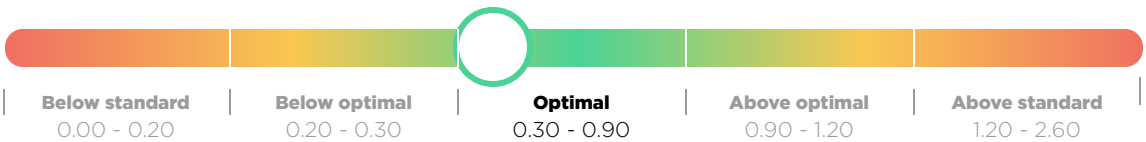
ALT
15.00 IU/L



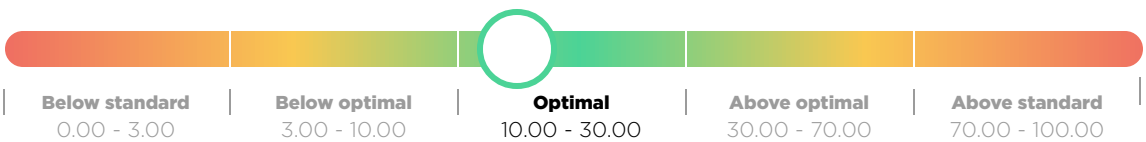
LDH
192.00 IU/L



Bilirubin - Total
0.40 mg/dL

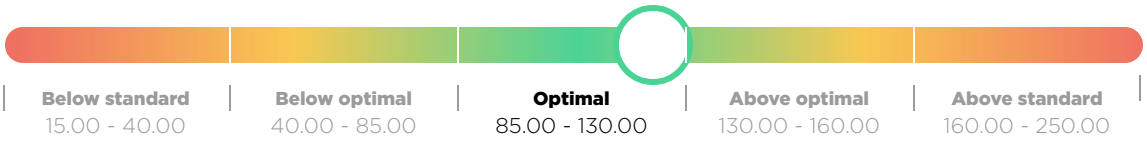


GGT
15.00 IU/L

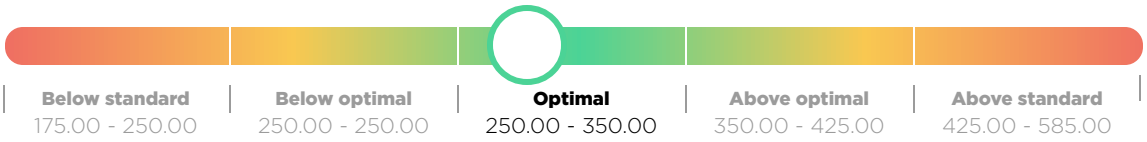


IRON MARKERS

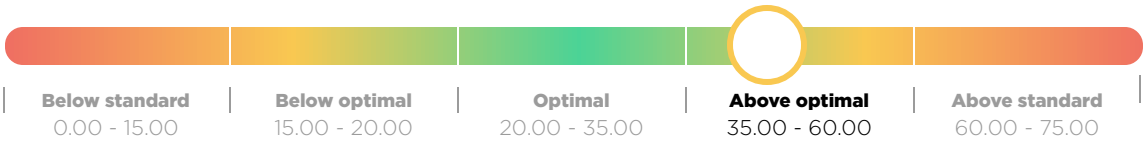
Iron - Serum
124.00 µg/dL



TIBC
281.00 µg/dL

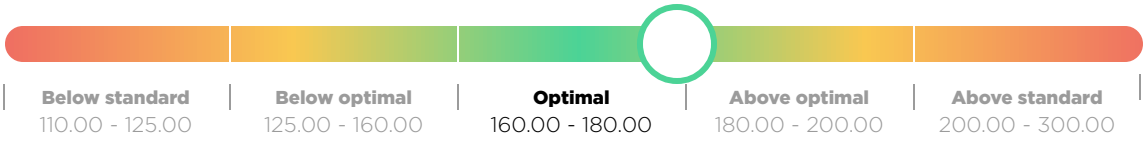


% Transferrin saturation
44.10 %

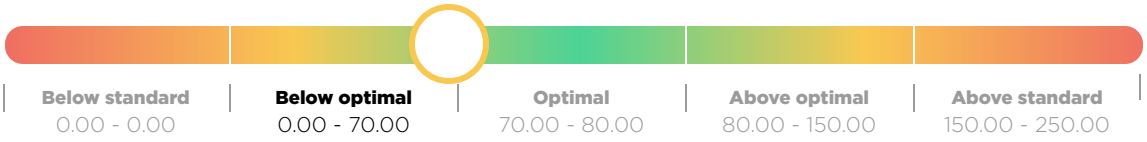


LIPIDS

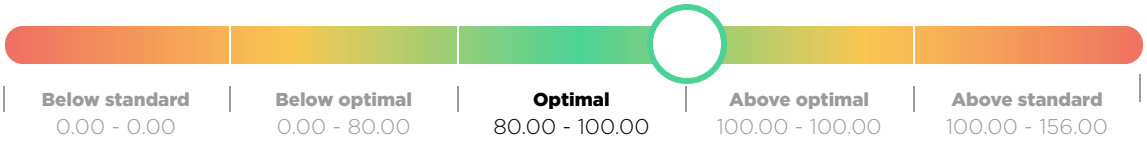
Cholesterol - Total
179.00 mg/dL



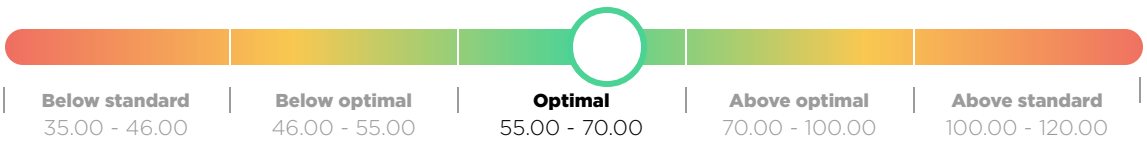
Triglycerides
69.00 mg/dL



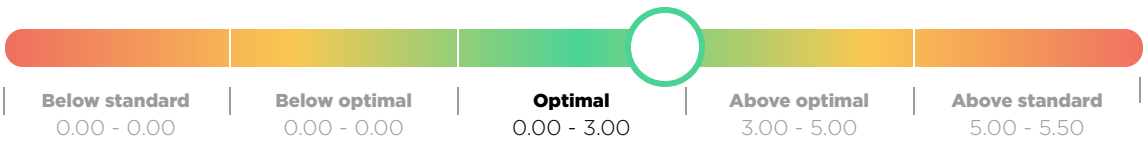
LDL Cholesterol
100.00 mg/dL



HDL Cholesterol
65.00 mg/dL



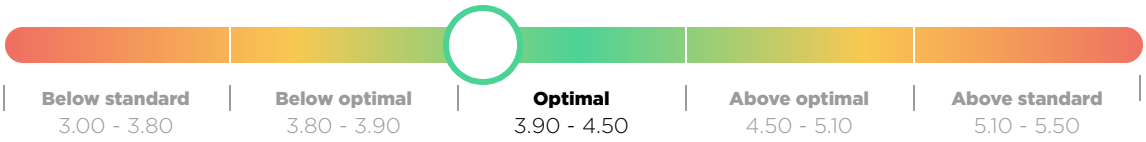
Cholesterol:HDL
2.75 Ratio



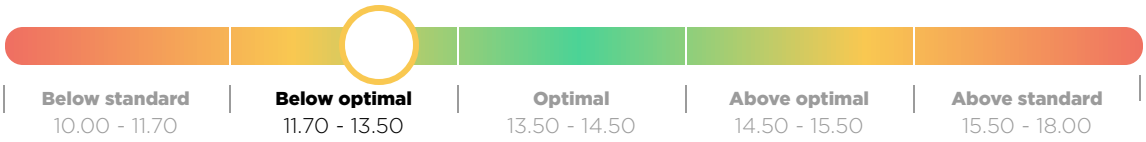
Triglyceride:HDL
1.06 ratio

CBC/HEMATOLOGY

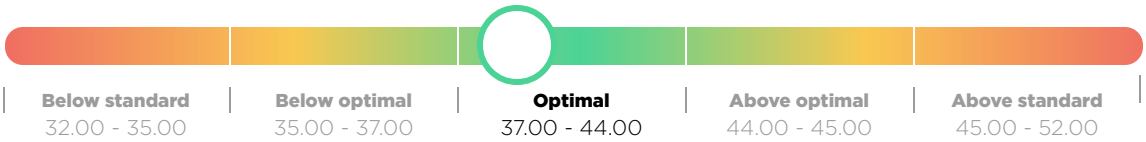
RBC - Female
3.98 m/cumm



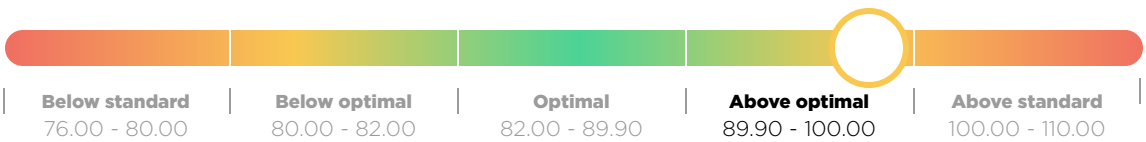
Hemoglobin - Female
12.90 g/dl



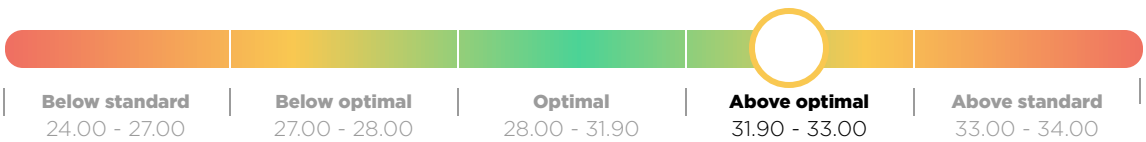
Hematocrit - Female
39.00 %



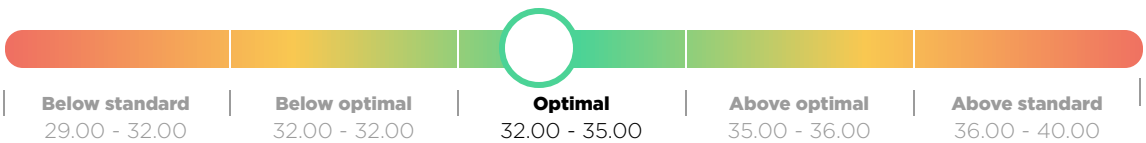
MCV
98.00 fL



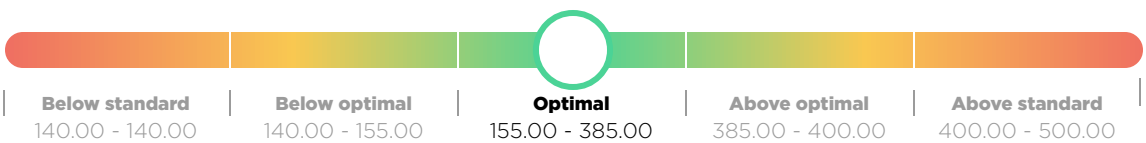
MCH
32.40 pg



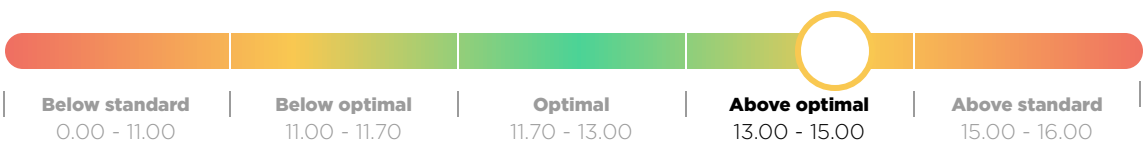
MCHC
33.10 g/dL



Platelets
270.00 k/cumm

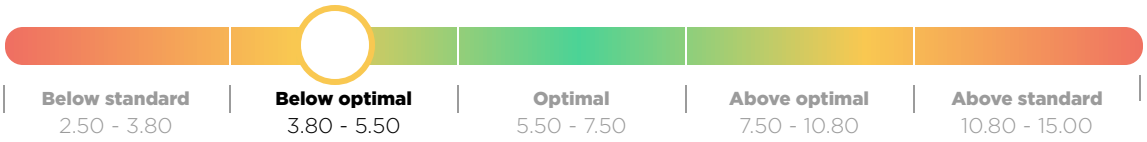


RDW
14.30 %

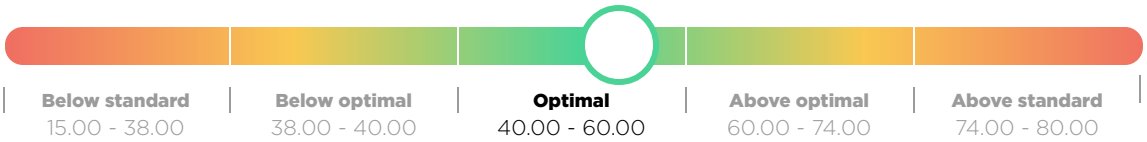


WHITE BLOOD CELLS

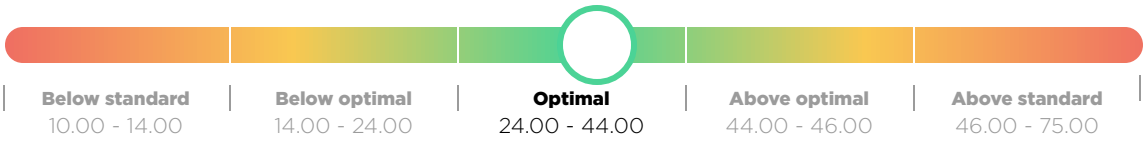
Total WBCs
4.60 k/cumm



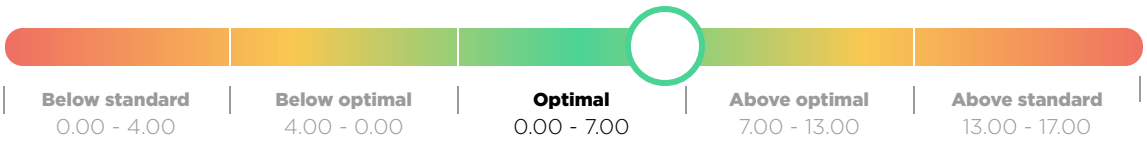
Neutrophils - %
54.35 %



Lymphocytes - %
36.96 %

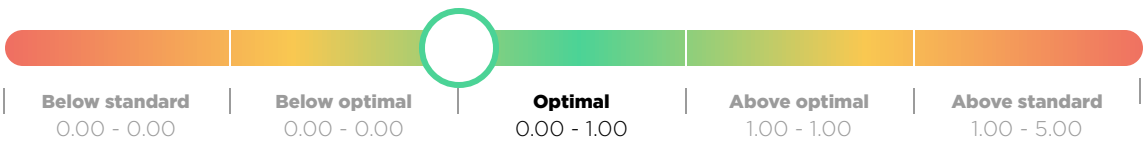


Monocytes - %
6.52 %

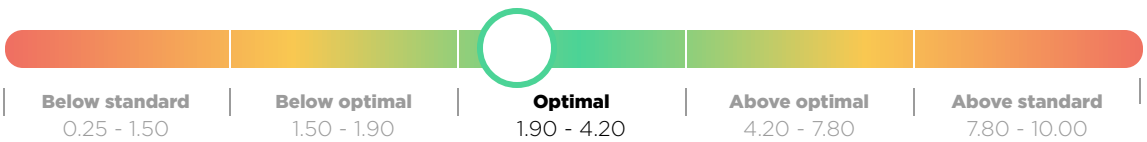


Eosinophils - %
2.17 %

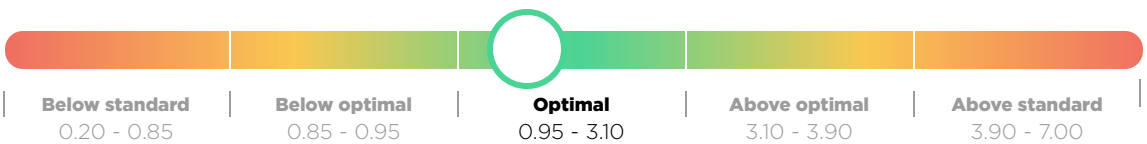
Basophils - %
0.00 %



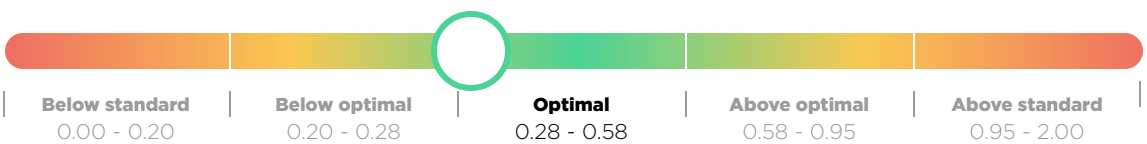
Neutrophils - Absolute
2.50 k/cumm



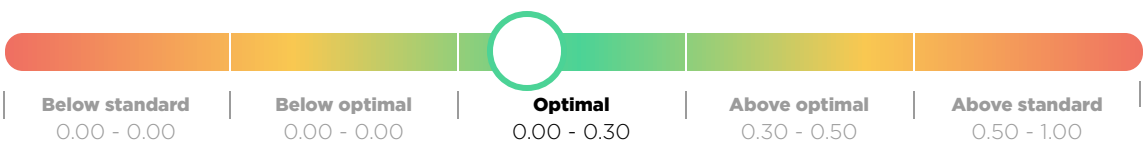
Lymphocytes - Absolute
1.70 k/cumm



Monocytes - Absolute
0.30 k/cumm

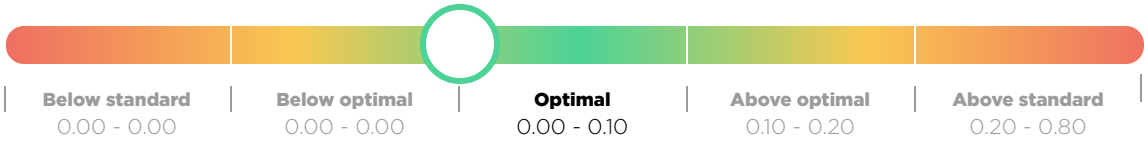


Eosinophils - Absolute
0.10 k/cumm



Basophils - Absolute

0.00 k/cumm



Below standard	Below optimal	**Optimal**	Above optimal	Above standard
0.00 - 0.00	0.00 - 0.00	0.00 - 0.10	0.10 - 0.20	0.20 - 0.80

Blood Test Results Comparative

The Blood Test Results Comparative Report lists the results of the latest and previous Chemistry Screen and CBC and shows you whether or not an individual biomarker is outside of the optimal range and/or outside of the clinical lab range.

Comparative total number of biomarkers by optimal range

	Alarm low	Below standard	Below optimal	Optimal	Above optimal	Above standard	Alarm high
Current	0	1	5	40	6	1	0
Previous	0	0	4	37	11	0	1

Comparative Report

continued

Biomarker	Previous Nov 26 2018	Current Aug 16 2019	Optimal range	Standard range	Units
Glucose - Fasting	99.00	95.00	75.00 - 86.00	65.00 - 99.00	mg/dL
BUN	16.00	15.00	10.00 - 16.00	7.00 - 25.00	mg/dL
Creatinine	0.74	0.81	0.80 - 1.10	0.40 - 1.50	mg/dL
BUN:Creatinine	21.62	18.51	10.00 - 16.00	6.00 - 22.00	Ratio
Sodium	143.00	142.00	135.00 - 142.00	135.00 - 146.00	mEq/L
Potassium	4.30	4.40	4.00 - 4.50	3.50 - 5.30	mEq/L
Sodium:Potassium	33.25	32.27	30.00 - 35.00	30.00 - 35.00	ratio
Chloride	108.00	105.00	100.00 - 106.00	98.00 - 110.00	mEq/L
CO2	28.00	24.00	25.00 - 30.00	19.00 - 30.00	mEq/L
Anion Gap	11.30	17.40	7.00 - 12.00	6.00 - 16.00	mEq/L
Uric Acid - Female	3.70	3.50	3.00 - 5.50	2.50 - 7.00	mg/dL
Protein - Total	6.20	6.00	6.90 - 7.40	6.10 - 8.10	g/dL
Albumin	4.00	4.00	4.00 - 5.00	3.60 - 5.10	g/dL
Globulin - Total	2.20	2.00	2.40 - 2.80	1.90 - 3.70	g/dL
Albumin:Globulin	1.81	2.00	1.40 - 2.10	1.00 - 2.50	ratio
Calcium	9.40	9.20	9.20 - 10.00	8.60 - 10.40	mg/dL
Calcium:Albumin	2.35	2.30	0.00 - 2.60	0.00 - 2.60	ratio
Phosphorus	3.00	3.40	3.00 - 4.00	2.50 - 4.50	mg/dL
Calcium:Phosphorus	3.13	2.70	2.30 - 3.20	1.90 - 4.20	ratio
Alk Phos	85.00	86.00	70.00 - 100.00	35.00 - 115.00	IU/L
AST	20.00	22.00	10.00 - 26.00	10.00 - 35.00	IU/L
ALT	16.00	15.00	10.00 - 26.00	6.00 - 29.00	IU/L
LDH	158.00	192.00	140.00 - 200.00	120.00 - 250.00	IU/L
Bilirubin - Total	0.50	0.40	0.30 - 0.90	0.20 - 1.20	mg/dL
GGT	14.00	15.00	10.00 - 30.00	3.00 - 70.00	IU/L
Iron - Serum	97.00	124.00	85.00 - 130.00	40.00 - 160.00	µg/dL
TIBC	301.00	281.00	250.00 - 350.00	250.00 - 425.00	µg/dL
% Transferrin saturation	32.20	44.10	20.00 - 35.00	15.00 - 60.00	%
Cholesterol - Total	189.00	179.00	160.00 - 180.00	125.00 - 200.00	mg/dL
Triglycerides	117.00	69.00	70.00 - 80.00	0.00 - 150.00	mg/dL
LDL Cholesterol	93.00	100.00	80.00 - 100.00	0.00 - 100.00	mg/dL
HDL Cholesterol	75.00	65.00	55.00 - 70.00	46.00 - 100.00	mg/dL
Cholesterol:HDL	2.52	2.75	0.00 - 3.00	0.00 - 5.00	Ratio
Triglyceride:HDL	1.56	1.06	0.00 - 2.00	0.00 - 2.00	ratio
Total WBCs	4.80	4.60	5.50 - 7.50	3.80 - 10.80	k/cumm
RBC - Female	4.00	3.98	3.90 - 4.50	3.80 - 5.10	m/cumm
Hemoglobin - Female	13.80	12.90	13.50 - 14.50	11.70 - 15.50	g/dl
Hematocrit - Female	39.50	39.00	37.00 - 44.00	35.00 - 45.00	%
MCV	98.80	98.00	82.00 - 89.90	80.00 - 100.00	fL

Biomarker	Previous Nov 26 2018	Current Aug 16 2019	Optimal range	Standard range	Units
MCH	34.50 ⚠	32.40	28.00 - 31.90	27.00 - 33.00	pg
MCHC	34.90	33.10	32.00 - 35.00	32.00 - 36.00	g/dL
Platelets	300.00	270.00	155.00 - 385.00	140.00 - 400.00	k/cumm
RDW	13.40	14.30	11.70 - 13.00	11.00 - 15.00	%
Neutrophils - %	60.21	54.35	40.00 - 60.00	38.00 - 74.00	%
Lymphocytes - %	29.58	36.96	24.00 - 44.00	14.00 - 46.00	%
Monocytes - %	7.08	6.52	0.00 - 7.00	4.00 - 13.00	%
Eosinophils - %	2.29	2.17	0.00 - 3.00	0.00 - 3.00	%
Basophils - %	0.62	0.00	0.00 - 1.00	0.00 - 1.00	%
Neutrophils - Absolute	2.89	2.50	1.90 - 4.20	1.50 - 7.80	k/cumm
Lymphocytes - Absolute	1.42	1.70	0.95 - 3.10	0.85 - 3.90	k/cumm
Monocytes - Absolute	0.34	0.30	0.28 - 0.58	0.20 - 0.95	k/cumm
Eosinophils - Absolute	0.11	0.10	0.00 - 0.30	0.00 - 0.50	k/cumm
Basophils - Absolute	0.03	0.00	0.00 - 0.10	0.00 - 0.20	k/cumm

Blood Test Score Report

This report shows the biomarkers on the blood test that are farthest from optimal expressed as a %.

The biomarkers that appear closest to the top and the bottom are those biomarkers that are farthest from optimal and should be carefully reviewed.

Biomarker	Lab result	Optimal range		% deviation	Optimal range
		Low	High		Low High
Anion Gap	17.40	7.00	12.00	158	
MCV	98.00	82.00	89.90	153	
RDW	14.30	11.70	13.00	150	
Glucose - Fasting	95.00	75.00	86.00	132	
% Transferrin saturation	44.10	20.00	35.00	111	
BUN:Creatinine	18.51	10.00	16.00	92	
MCH	32.40	28.00	31.90	63	
LDL Cholesterol	100.00	80.00	100.00	50	
Sodium	142.00	135.00	142.00	50	
Cholesterol - Total	179.00	160.00	180.00	45	
Monocytes - %	6.52	0.00	7.00	43	
Cholesterol:HDL	2.75	0.00	3.00	42	
Calcium:Albumin	2.30	0.00	2.60	38	
Iron - Serum	124.00	85.00	130.00	37	
LDH	192.00	140.00	200.00	37	
Albumin:Globulin	2.00	1.40	2.10	36	
BUN	15.00	10.00	16.00	33	
Chloride	105.00	100.00	106.00	33	
Potassium	4.40	4.00	4.50	30	
AST	22.00	10.00	26.00	25	
Eosinophils - %	2.17	0.00	3.00	22	
Neutrophils - %	54.35	40.00	60.00	22	
HDL Cholesterol	65.00	55.00	70.00	17	
Lymphocytes - %	36.96	24.00	44.00	15	
Alk Phos	86.00	70.00	100.00	3	
Triglyceride:HDL	1.06	0.00	2.00	3	
Platelets	270.00	155.00	385.00	0	
Sodium:Potassium	32.27	30.00	35.00	-5	
Calcium:Phosphorus	2.70	2.30	3.20	-6	
Phosphorus	3.40	3.00	4.00	-10	
MCHC	33.10	32.00	35.00	-13	
Lymphocytes - Absolute	1.70	0.95	3.10	-15	
Eosinophils - Absolute	0.10	0.00	0.30	-17	

Biomarker	Lab result	Optimal range		% deviation	Optimal range
		Low	High		Low High
ALT	15.00	10.00	26.00	-19	
TIBC	281.00	250.00	350.00	-19	
Hematocrit - Female	39.00	37.00	44.00	-21	
Neutrophils - Absolute	2.50	1.90	4.20	-24	
GGT	15.00	10.00	30.00	-25	
Uric Acid - Female	3.50	3.00	5.50	-30	
Bilirubin - Total	0.40	0.30	0.90	-33	
RBC - Female	3.98	3.90	4.50	-37	
Monocytes - Absolute	0.30	0.28	0.58	-43	
Creatinine	0.81	0.80	1.10	-47	
Calcium	9.20	9.20	10.00	-50	
Albumin	4.00	4.00	5.00	-50	
Basophils - Absolute	0.00	0.00	0.10	-50	
Basophils - %	0.00	0.00	1.00	-50	
Triglycerides	69.00	70.00	80.00	-60	
CO2	24.00	25.00	30.00	-70	
Total WBCs	4.60	5.50	7.50	-95	
Hemoglobin - Female	12.90	13.50	14.50	-110	
Globulin - Total	2.00	2.40	2.80	-150	
Protein - Total	6.00	6.90	7.40	-230	

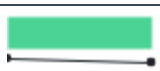
Blood Test History

Key

- Optimal
- Above / Below optimal
- Above / Below standard
- Alarm high / Alarm low

The Blood Test History Report lists the results of your 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.

Biomarker	Latest 2 Test Results	
	Nov 26 2018	Aug 16 2019
Glucose - Fasting	99.00	95.00
BUN	16.00	15.00
Creatinine	0.74	0.81
BUN:Creatinine	21.62	18.51
Sodium	143.00	142.00
Potassium	4.30	4.40
Chloride	108.00	105.00
CO2	28.00	24.00
Sodium:Potassium	33.25	32.27
Anion Gap	11.30	17.40
Uric Acid - Female	3.70	3.50
Protein - Total	6.20	6.00
Albumin	4.00	4.00
Globulin - Total	2.20	2.00
Albumin:Globulin	1.81	2.00
Calcium	9.40	9.20
Phosphorus	3.00	3.40
Calcium:Albumin	2.35	2.30
Calcium:Phosphorus	3.13	2.70

Biomarker		Latest 2 Test Results	
		Nov 26 2018	Aug 16 2019
Alk Phos		85.00	86.00
AST		20.00	22.00
ALT		16.00	15.00
GGT		14.00	15.00
LDH		158.00	192.00
Bilirubin - Total		0.50	0.40
Iron - Serum		97.00	124.00
Ferritin		231.00	
TIBC		301.00	281.00
% Transferrin saturation		32.20	44.10
Cholesterol - Total		189.00	179.00
Triglycerides		117.00	69.00
LDL Cholesterol		93.00	100.00
HDL Cholesterol		75.00	65.00
Cholesterol:HDL		2.52	2.75
Triglyceride:HDL		1.56	1.06
RBC - Female		4.00	3.98
Hemoglobin - Female		13.80	12.90
Hematocrit - Female		39.50	39.00
MCV		98.80	98.00
MCH		34.50 ⚠	32.40
MCHC		34.90	33.10
RDW		13.40	14.30
Platelets		300.00	270.00
MPV		10.80	
Total WBCs		4.80	4.60
Neutrophils - %		60.21	54.35

Biomarker		Latest 2 Test Results	
		Nov 26 2018	Aug 16 2019
Lymphocytes - %		29.58	36.96
Monocytes - %		7.08	6.52
Eosinophils - %		2.29	2.17
Basophils - %		0.62	0.00
Neutrophils - Absolute		2.89	2.50
Lymphocytes - Absolute		1.42	1.70
Monocytes - Absolute		0.34	0.30
Eosinophils - Absolute		0.11	0.10
Basophils - Absolute		0.03	0.00

Out of Optimal Range

The following report shows all of the biomarkers that are out of the optimal reference range and gives you some important information as to why each biomarker might be elevated or decreased.

Each biomarker in the Out of Optimal Range report hyperlinks back into the Blood Test Results report so you can a see a more detailed view of the blood test result itself.

Total number of biomarkers by optimal range

Alarm low	Below standard	Below optimal	Optimal	Above optimal	Above standard	Alarm high	Total
0	1	5	40	6	1	0	53

Above Optimal

17.40
mEq/L

ANION GAP

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.

98.00
fL

MCV

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.

14.30
%

RDW

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 BI2 deficiency, folic acid, and iron anemia, it is increased most frequently with vitamin B12 deficiency anemia.

95.00
mg/dL

GLUCOSE - FASTING

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.

44.10
%

% TRANSFERRIN SATURATION

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 sign of iron overload or too much iron in the blood if it is above the optimal range.

18.51
Ratio

BUN:CREATININE

The BUN/Creatinine is a ratio between the BUN and Creatinine levels. An increased level is associated with renal dysfunction.

32.40
pg

MCH

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. It is elevated with B12/folate deficiency and hypochlorhydria.

Below Optimal

6.00
g/dL

PROTEIN - TOTAL

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.

2.00
g/dL

GLOBULIN - TOTAL

Globulins constitute the body's antibody system and the Total globulin is a measurement of all the individual globulin fractions in the blood. Decreased levels are associated with inflammation in the digestive system and immune insufficiency.

12.90
g/dl

HEMOGLOBIN - FEMALE

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.

4.60
k/cumm

TOTAL WBCS

The total White Blood Cell (WBC) count measures the sum of all the WBCs in the peripheral blood. Decreased total White Blood Cell Levels are associated with chronic bacterial or viral infections, an immune insufficiency and may be seen in people eating a raw food diet.

24.00
mEq/L

CO2

Carbon Dioxide is a measure of bicarbonate in the blood. CO_2, as bicarbonate, is available for acid-base balancing. Bicarbonate neutralizes metabolic acids in the body. Decreased levels are associated with metabolic acidosis.

69.00
mg/dL

TRIGLYCERIDES

Serum triglycerides are composed of fatty acid molecules that enter the blood stream either from the liver or from the diet. Serum Triglyceride levels may be decreased in liver dysfunction, a diet deficient in fat, and inflammatory processes.

4

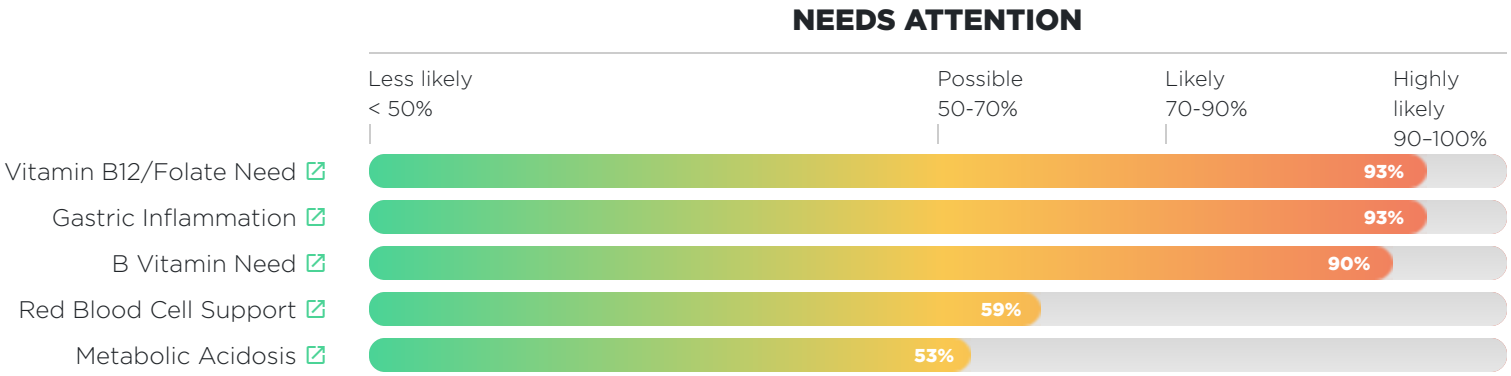
The Health Improvement Plan takes all the information on this report and focuses on the top areas that need the most attention.

Health Improvement Plan

Health Improvement

The Health Improvement Plan takes all the information on this report and focuses on the top areas that need the most attention.

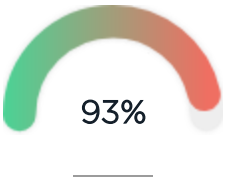
Each area of Health Improvement is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.



Health Improvement Details

This section contains detailed descriptions and explanations of the results presented in the Health Improvement Plan report including all the biomarkers considered in the algorithmic analysis and the rationale behind the interpretation.

VITAMIN B12/FOLATE NEED



The results of your blood test indicate that your vitamin B12/folate levels might be lower than optimal and shows a need for vitamin B12/folate supplementation.

Rationale

MCV ↑, Total WBCs ↓, Hemoglobin - Female ↓, MCH ↑, RDW ↑

Product Name

Methyl Protect™

Dosage and Directions

Take one to two capsules one to two times daily, or as directed by your healthcare practitioner.

Details

Methyl Protect is a comprehensive formula designed to support optimal methylation and help maintain healthy homocysteine levels already within normal range. It features five key nutrients that are involved in homocysteine metabolism: folate as calcium folinate and Quatrefolic®† for increased bioactivity; trimethylglycine; and vitamins B12, B6, and B2. These five nutrients, provided in activated forms, support enhanced methylation and overall cardiovascular health. Children and pregnant or lactating women should consult their healthcare practitioner prior to use.

Product Name

5-MTHF Plus B12

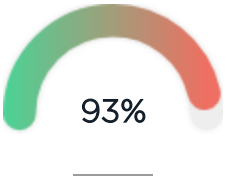
Dosage and Directions

Take one tablet and dissolve under the tongue or use as directed by your healthcare practitioner

Details

5-MTHF Plus B12 features Quatrefolic and MecobalActive in great-tasting, quick-dissolve tablet form. Quatrefolic is the glucosamine salt of 5-MTHF the most biologically active form of folate that increases plasma folate more effectively than folic acid. MecobalActive is a patented, highly pure form of methylcobalamin body-ready B12.*

GASTRIC INFLAMMATION



The results of your blood test indicate a tendency towards gastric inflammation and a need for support for the stomach lining.

Rationale

Globulin - Total ↓, Protein - Total ↓, Hemoglobin - Female ↓

Product Name
GI Protect

Dosage and Directions
Briskly stir one scoop (10.4 g) into at least 8 oz of water and consume twice daily, or take as directed by your healthcare practitioner.

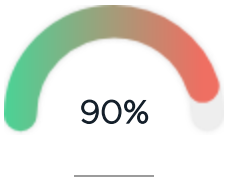
Details
GI Protect features XYMOGEN's IgG 2000 CWP, with the added benefit of the amino acid L-glutamine. IgG 2000 CWP is an immunoglobulin concentrate derived from colostral whey peptides. It delivers natural immunoglobulins (standardized to a minimum of 40% IgG), bioactive proteins, and growth factors. These components support immune function, healthy cytokine activity, gut barrier function, and gastrointestinal health and tissue repair. Advanced coagulation and filtration techniques make IgG 2000 CWP a unique, GRAS ingredient that is superior in its bioactive composition and its purity.*

Product Name
HistDAO

Dosage and Directions
Take one to two capsules no more than 15 minutes before the consumption of histamine-rich foods, or take as directed by your healthcare practitioner.

Details
HistoDAO is a patented enzyme formula containing diamine oxidase (DAO) the main enzyme responsible for the degradation of ingested histamine. This enzyme has been clinically tested and found to break down food-derived histamine in the digestive tract. DAO is not absorbed and does not have systemic activity. HistDAO does not manage or address antibody-related or IgE-related food allergies.*

B VITAMIN NEED



The results of your blood test indicate that your B vitamin levels might be lower than optimal and shows a need for B complex supplementation.

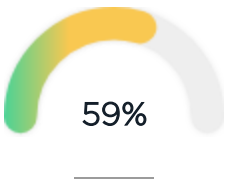
Rationale
Anion Gap ↑, CO2 ↓, Glucose - Fasting ↑, Hemoglobin - Female ↓

Product Name
B Activ™

Dosage and Directions
Take one capsule once or twice daily, or as directed by your healthcare practitioner.

Details
B Activ™ contains the entire spectrum of B vitamins to support adrenal, neurological, and stress-related functions. It features activated forms of vitamins B2, B6, and B12; benfotiamine, a fat soluble, more physiologically active form of thiamin; and folate as Quatrefolic®†, which is proven to have greater stability, solubility, and bioavailability over calcium salt forms of 5-MTHF. Children and pregnant or lactating women should consult their healthcare practitioner prior to use.

RED BLOOD CELL SUPPORT



The results of your blood test indicate a tendency towards anemia and a need for red blood cell support.

Rationale
Hemoglobin - Female ↓, MCV ↑, RDW ↑

Product Name

Iron Glycinate

Dosage and Directions

Take one capsule daily, or as directed by your healthcare practitioner.

Details

Iron bis-glycinate is a well-studied, 100% fully-reacted, patented form of iron exclusively from Albion® Laboratories. The amino acid glycine is actually one of the two starting materials the body uses to synthesize hemoglobin. Therefore, Iron Glycinate™ contributes two key factors. This form of iron has higher bioavailability, lower toxicity, less food reactivity, less food interactions and has a longer shelf life than any other common form of iron. Children and pregnant or lactating women should consult their healthcare practitioner prior to use.

Product Name

ActivNutrients™

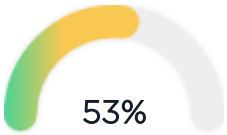
Dosage and Directions

Take two capsules twice daily, or as directed by your healthcare practitioner.

Details

This high-quality, hypoallergenic, multivitamin/mineral blend includes activated vitamins; folate as a blend of Quatrefolic®† (5-MTHF) and folic acid for optimal utilization; and patented Albion® TRAACS® chelated mineral complexes in vegetable capsules. The comprehensive nutrient profile in ActivNutrients™ supports foundational wellness; antioxidant activity with vitamins C and E, selenium, and beta-carotene; and phase I detoxification. Children and pregnant or lactating women should consult their healthcare practitioner prior to use.

METABOLIC ACIDOSIS



The results of your blood test indicate a tendency towards metabolic acidosis and a need for pH support.

Rationale

Anion Gap ↑, CO2 ↓

Product Name

OrganiX™ PhytoFood™

Dosage and Directions

Blend, shake, or briskly stir one level scoop (8 g) of OrganiX™ PhytoFood™ into 6-8 fl oz chilled water, or as directed by your healthcare practitioner. Adjust amount of water to desired sweetness and/or thickness.

Details

OrganiX PhytoFood is a convenient powdered formulation providing key nutrients to support a healthy lifestyle. This comprehensive formula incorporates an innovative blend of organic greens, vegetables, fruits, berries, phytonutrients, organic fiber sources, probiotics, and digestive enzymes. OrganiX PhytoFood also features OxyPhyte®, a bioavailable, antioxidant-rich blend of green tea and apple extracts. In addition, SGS™ broccoli seed extract with standardized glucoraphanin content is present to provide long-lasting antioxidant support. This nutrient-dense formula features concentrates from “superfoods” known to provide phytonutrients and antioxidants that play important roles in maintaining our health and well-being. OrganiX PhytoFood is lactose-free and suitable for vegans.

Product Name

Oraxinol

Dosage and Directions

Take one capsule twice daily, or as directed by your healthcare practitioner.

Details

Oraxinol is a proprietary fruit extract blend containing fruits and berries rich in polyphenols and antioxidant-supportive elements. The high-quality ingredients in this blend go through a multiple-stage quality assurance program to ensure potency, safety, integrity, and purity from field to finished product.*

Product Summary

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.

The 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.

PROTOCOLS	PRIMARY PRODUCTS		DOSAGE
Vitamin B12/Folate Need	Methyl Protect™		Take one to two capsules one to two times daily, or as directed by your healthcare practitioner.
Gastric Inflammation	GI Protect		Briskly stir one scoop (10.4 g) into at least 8 oz of water and consume twice daily, or take as directed by your healthcare practitioner.
B Vitamin Need	B Activ™		Take one capsule once or twice daily, or as directed by your healthcare practitioner.
Red Blood Cell Support	Iron Glycinate		Take one capsule daily, or as directed by your healthcare practitioner.
Metabolic Acidosis	OrganiX™ PhytoFood™		Blend, shake, or briskly stir one level scoop (8 g) of OrganiX™ PhytoFood™ into 6-8 fl oz chilled water, or as directed by your healthcare practitioner. Adjust amount of water to desired sweetness and/or thickness.

Other potential product recommendations

PROTOCOLS	SECONDARY PRODUCTS		DOSAGE
Vitamin B12/Folate Need	5-MTHF Plus B12		Take one tablet and dissolve under the tongue or use as directed by your healthcare practitioner
Gastric Inflammation	HistDAO		Take one to two capsules no more than 15 minutes before the consumption of histamine-rich foods, or take as directed by your healthcare practitioner.
Red Blood Cell Support	ActivNutrients™		Take two capsules twice daily, or as directed by your healthcare practitioner.
Metabolic Acidosis	Oraxinol		Take one capsule twice daily, or as directed by your healthcare practitioner.

Highly detailed and interpretive descriptions of the results presented in each of the assessment and analysis section reports.

Appendix

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