



Blood Chemistry Analysis

Functional Health Report



Patient Report

Prepared for JOHN DOE
48 year old male, born Oct 3, 1975
Fasting

Requested by Mrs. Karen Pyke
Inspire Wellness



Collected Date Mar 12, 2023

Lab Quest

Powered by OptimalDX

The logo for OptimalDX consists of the letters "ODX" in a bold, dark blue font, followed by a vertical line and the word "OptimalDX" in a lighter blue font.

What's Inside?

An introduction to Functional Blood Chemistry Analysis and your Functional Health Report.

An in-depth functional system and nutrient evaluation.

An in-depth analysis of your biomarker results.

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- 1 What's Inside?
- 3 FBCA Introduction
- 4 Patient Report

The health concerns that need the most support.

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- 11 Nutrient Status
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An introduction to Functional Blood Chemistry Analysis and your Functional Health Report (FHR).

Introduction

- 1 What's Inside?
- 3 FBCA Introduction
- 4 Patient Report

Functional Blood Chemistry Analysis (FBCA)

Functional Blood Chemistry Analysis is the process by which blood biomarkers are organized, analyzed, and interpreted. It provides a comprehensive assessment of the state of health in the body's main physiological systems. It also gives a window into the body's nutrient status and whether you are trending toward or away from optimal health.

WHY BLOOD TESTING?

Blood has a lot to say about your state of health. The Blood Chemistry and CBC / hematology test is the world's most commonly ordered medical lab test. Blood testing is an integral part of Western clinical medicine and is 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 people start to feel unwell long before a traditional blood test result 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 people 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, not on whether a certain value represents good health or optimal physiological function. The problem is that "normal" reference ranges represent "average" populations rather than 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 blood test analysis is oriented around functional changes in your body 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 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 hidden risk trends towards or away from optimal health.

THE FUNCTIONAL HEALTH REPORT

The Functional Health Report results from 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.



MRS. KAREN PYKE

Inspire Wellness

THE FUNCTIONAL HEALTH REPORT

Your blood test results have been analyzed for their hidden meaning and the subtle, web-like patterns concealed within the numbers that signal the first stages of functional change in your body. The Functional Health Report (FHR) takes all of this analytical information and provides a comprehensive interpretation of the results in a written and graphical format.

The report gives you a window into the state of health in the main functional physiological systems of the body, its supporting accessory systems, and the degree of deficiency in individual nutrients. The report is broken down into 3 main sections:

ASSESSMENT

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

The Functional Body Systems and Accessory reports show the risk of dysfunction in the various physiological and supporting accessory systems in your body.

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

Each of the assessment reports is accompanied by a section that contains detailed descriptions and 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 blood test and gives you a sense of whether or not there has been an improvement in the individual biomarker results.

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.

The Out of Optimal Range 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 see a more detailed view of the blood test results.

HEALTH CONCERNS

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



An in-depth functional system and nutrient evaluation.

Assessment

- 6 Functional Body Systems
- 9 Accessory Systems
- 11 Nutrient Status
- 13 Nutrient Deficiencies

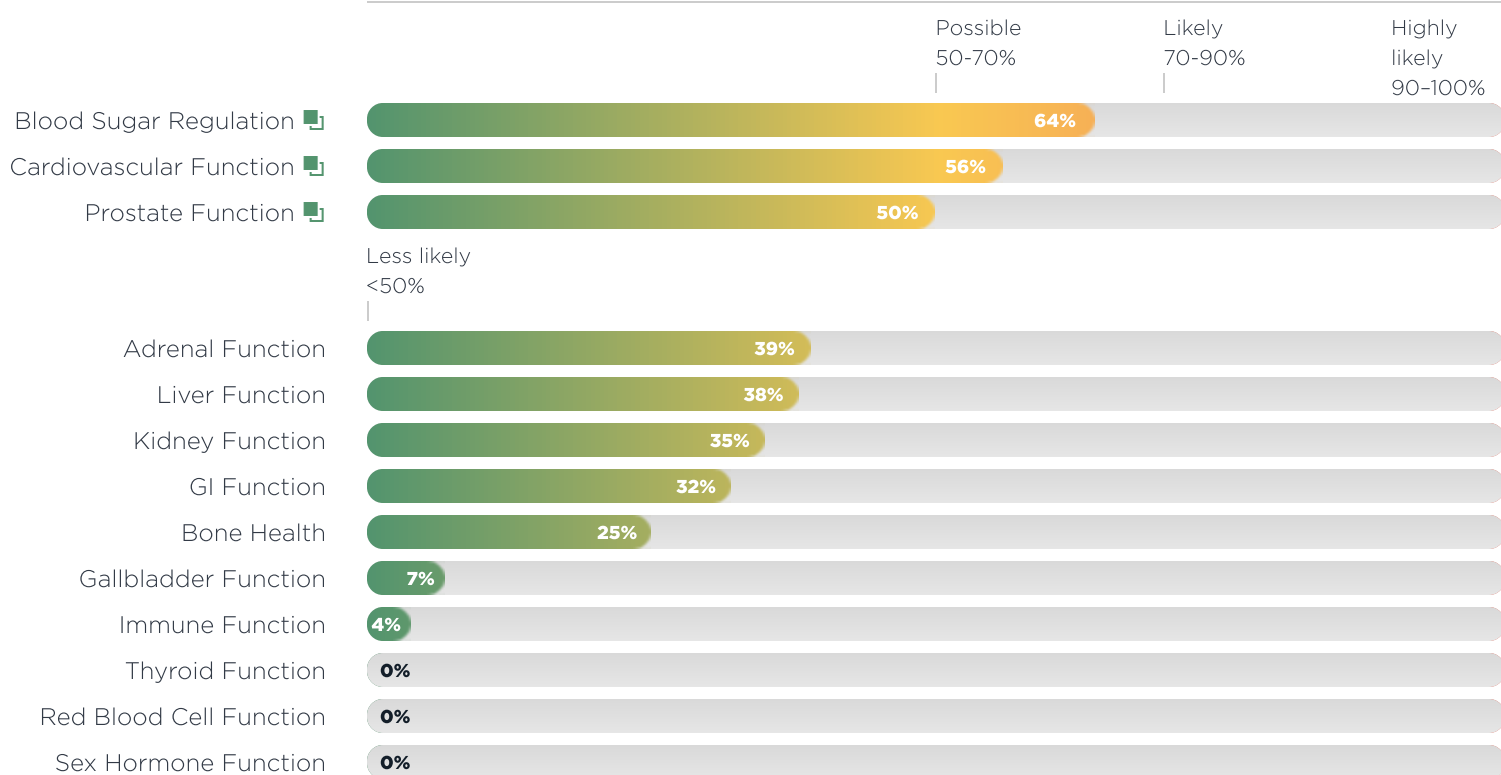
Functional Body Systems

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.

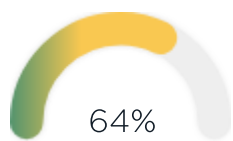
Each Body System that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.

PROBABILITY OF DYSFUNCTION



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.



64%

Dysfunction Possible
There may be improvement needed in certain areas.

BLOOD SUGAR REGULATION

The Blood Sugar Regulation score tells us how well your body is regulating blood glucose. Blood sugar dysregulation is very common. It doesn't suddenly emerge but rather develops slowly, so we can look for clues in your blood test that can help us determine if there's dysregulation and if so what it is. Some conditions associated with blood sugar dysregulation include hypoglycemia (periods of low blood sugar), metabolic syndrome, hyperinsulinemia and diabetes.

Rationale

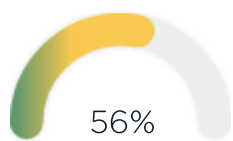
Glucose - Fasting ,
Triglycerides 

Biomarkers considered

Glucose - Fasting, LDH, Cholesterol - Total, Triglycerides, LDL Cholesterol, HDL Cholesterol

Biomarkers not available - consider having run in future tests:

Hemoglobin A1C, Insulin - Fasting, DHEA-S - Male, Leptin - Male, C-Peptide, Fructosamine









56%

Dysfunction Possible
There may be improvement needed in certain areas.

CARDIOVASCULAR FUNCTION

It is possible that you may be in the early stages of increased cardiovascular risk. While this may not require immediate attention, we will want to keep an eye on this on future blood tests.

Rationale

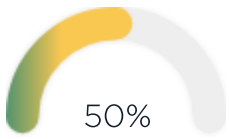
Triglyceride:HDL , Glucose - Fasting , Triglycerides , LDL Cholesterol , Ferritin , Vitamin D (25-OH) 

Biomarkers considered

Triglyceride:HDL, Glucose - Fasting, LDH, Cholesterol - Total, Triglycerides, LDL Cholesterol, HDL Cholesterol, Ferritin, Vitamin D (25-OH)

Biomarkers not available - consider having run in future tests:

Lipoprotein (a), Fibrinogen, Hs CRP - Male, Homocysteine, Hemoglobin A1C, Estradiol - Male, Testosterone Total - Male, Insulin - Fasting, Testosterone Free - Male



50%

Dysfunction Possible
There may be
improvement needed in
certain areas.

PROSTATE FUNCTION

The Prostate Function score can help us identify dysfunctions in your prostate. These can be a swollen prostate (a condition called Benign Prostatic Hypertrophy - BPH), an infection in the prostate (a condition called prostatitis), or a Urinary Tract Infection (UTI).

Rationale

PSA - Total 

Biomarkers considered

Creatinine, PSA - Total,
Monocytes - %

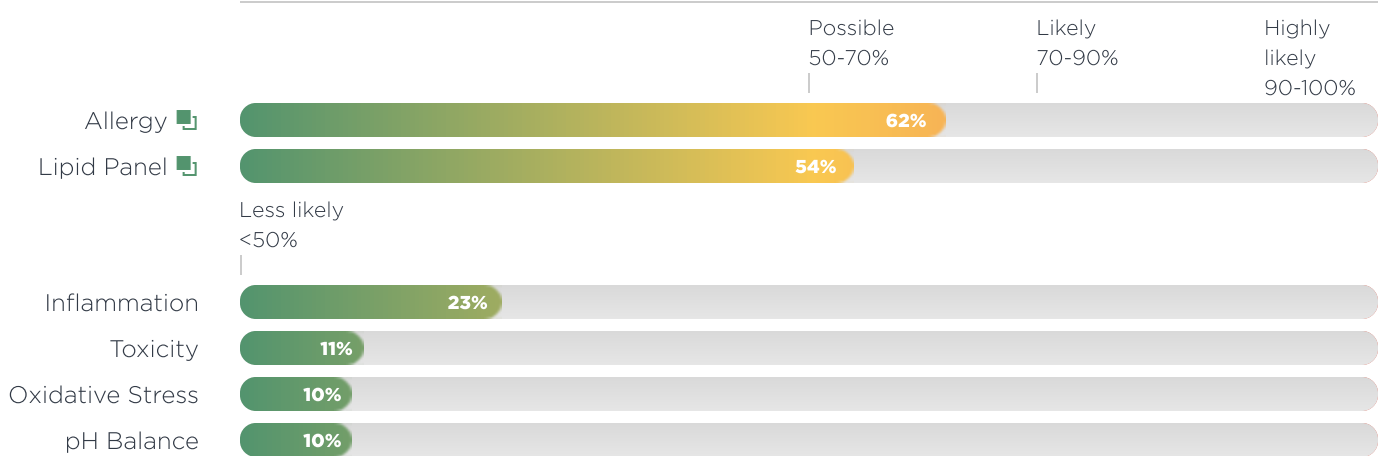
Accessory Systems

The Accessory Systems are additional physiological systems that are not related to individual organs or body systems.

The Accessory Systems Report represents an algorithmic analysis of this blood test. These results have been converted into an individualized risk evaluation based on the latest research.

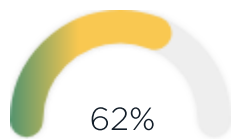
Each Accessory System that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.

PROBABILITY OF DYSFUNCTION



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.



62%

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

ALLERGY

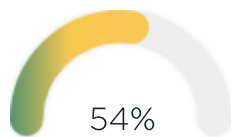
It is possible that you are in the early stages of allergies, which is causing an increase in biomarkers such as eosinophils and basophils that can increase in association with food allergies and/or sensitivities. While this may not require immediate attention, we will want to keep an eye on this on future blood tests.

Rationale

Eosinophils - % , Eosinophils - Absolute 

Biomarkers considered

Eosinophils - %, Eosinophils - Absolute, Basophils - %, Basophils - Absolute



54%

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

LIPID PANEL

It is possible that you are trending towards the early stages of hyperlipidemia, which is causing an increase in your Lipid Panel score. While this may not require immediate attention, we will want to keep an eye on this in future blood tests.

Rationale

Triglycerides , LDL Cholesterol , Triglyceride:HDL 

Biomarkers considered

Cholesterol - Total, Triglycerides, LDL Cholesterol, Cholesterol : HDL, Triglyceride:HDL, HDL Cholesterol

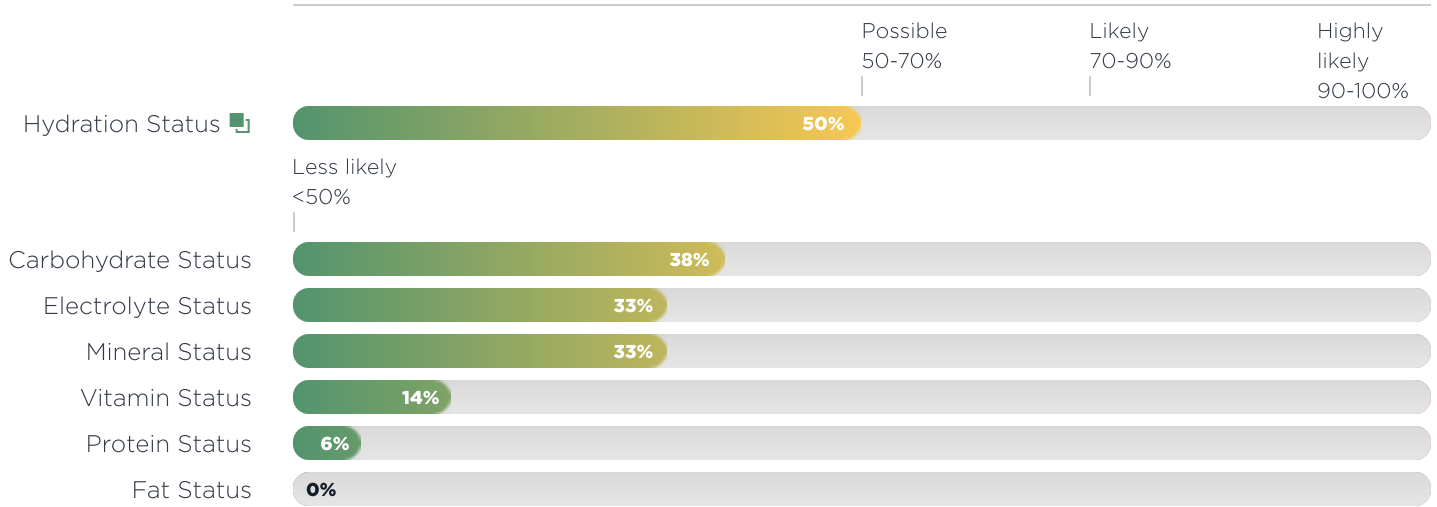
Nutrient Status

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

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

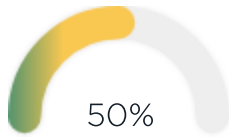
Each Nutrient category that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.

PROBABILITY OF DYSFUNCTION



Nutrient Status Details

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



50%

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

HYDRATION STATUS

You may be in the early stages of dehydration. Dehydration is a very common problem and often due to insufficient water intake and/or excessive use of diuretics such as over-the-counter and prescription drugs, botanical medicines, caffeine, etc. While this may not require immediate attention, we will want to keep an eye on this on future blood tests.

Rationale

BUN , RBC - Male , Hemoglobin - Male 

Biomarkers considered

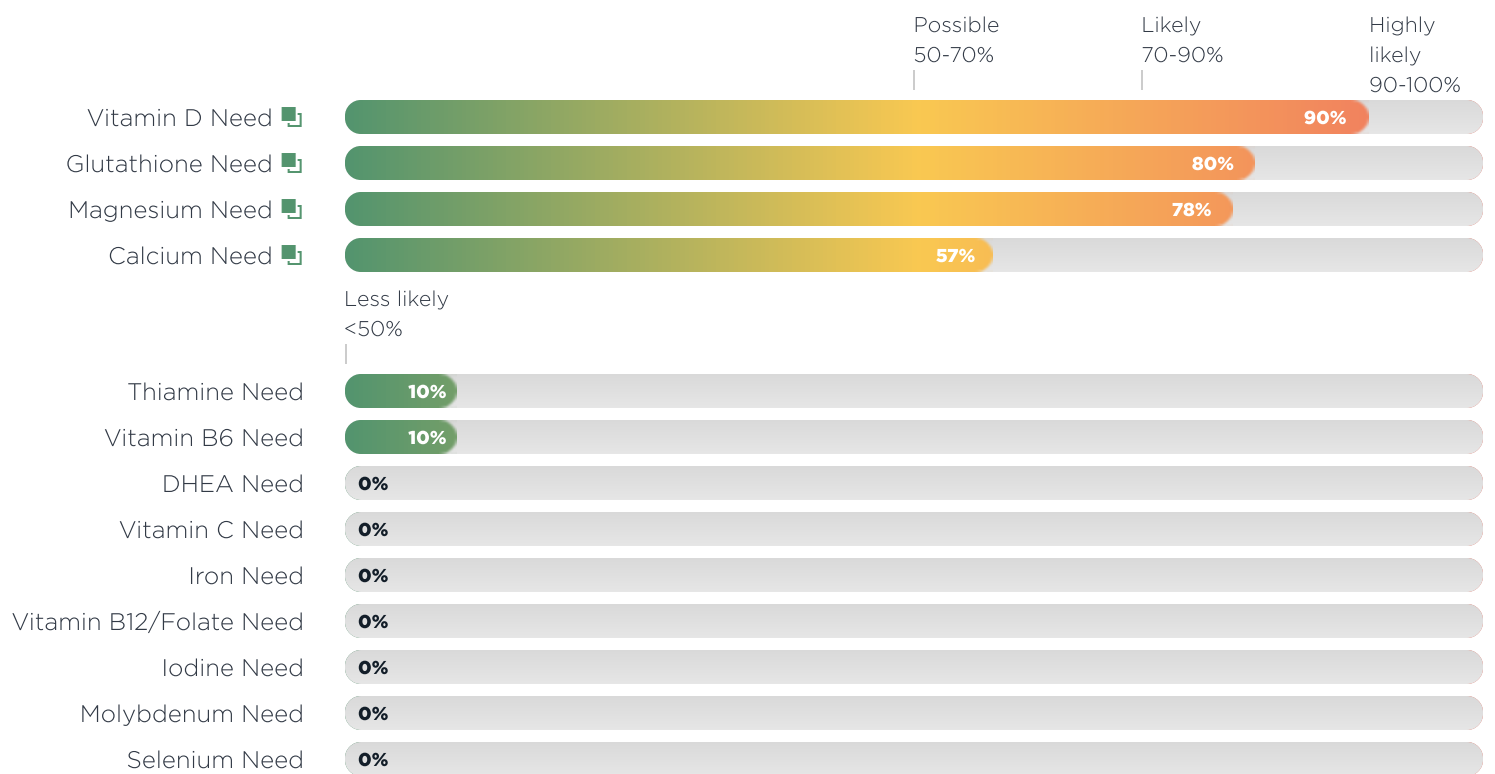
Albumin, BUN, Sodium, Potassium, Protein - Total, RBC - Male, Hemoglobin - Male, Hematocrit - Male

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.

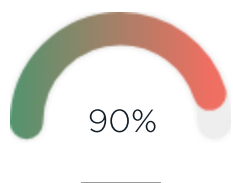
Each individual Nutrient Deficiency that has a probability of dysfunction above 50% is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.

PROBABILITY OF DEFICIENCY



Individual Nutrient Deficiency 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.



VITAMIN D NEED

Your high Vitamin D Need score indicates that your vitamin D levels might be lower than optimal, and there may be an increased need for vitamin D.

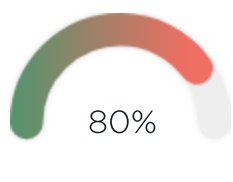
Rationale

Vitamin D (25-OH) ↓

Biomarkers considered

Vitamin D (25-OH)

Deficiency Highly Likely.
Much improvement
required.



GLUTATHIONE NEED

You may be trending toward a glutathione need, causing an increase in your Glutathione Need score.

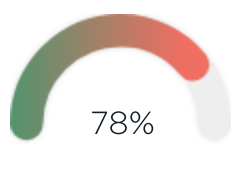
Rationale

GGT ↑

Biomarkers considered

GGT

Deficiency Likely.
Improvement required.



MAGNESIUM NEED

You may be trending toward a magnesium need, causing an increase in your Magnesium Need score.

Rationale

Magnesium - Serum ↓

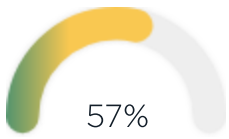
Biomarkers considered

Magnesium - Serum, GGT

Deficiency Likely.
Improvement required.

Biomarkers not available - consider having run in future tests:

Magnesium - RBC



57%

Deficiency Possible.

There may be improvement needed in certain areas.

CALCIUM NEED

You may be in the early stages of calcium need, causing your Calcium Need score to rise. While this may not require immediate attention, you will want to watch this on future blood tests.

Rationale

Calcium ↓, Vitamin D (25-OH)



Biomarkers considered

Calcium, Calcium : Phosphorus, Phosphorus, Vitamin D (25-OH)



A full breakdown of all the individual biomarker results, showing you if a particular biomarker is outside of the optimal range or outside of the clinical lab range plus a comparative and historical view.

Analytics

- 17 Blood Test Results
- 23 Blood Test Comparative
- 26 Blood Test History
- 30 Out of Optimal Range

Blood Test Results

Blood Test Comparative

Blood Test History

Out of Optimal Range

Blood Glucose
Proteins
Inflammation

Kidney
Minerals
Vitamins

Prostate
Liver and GB
CBC

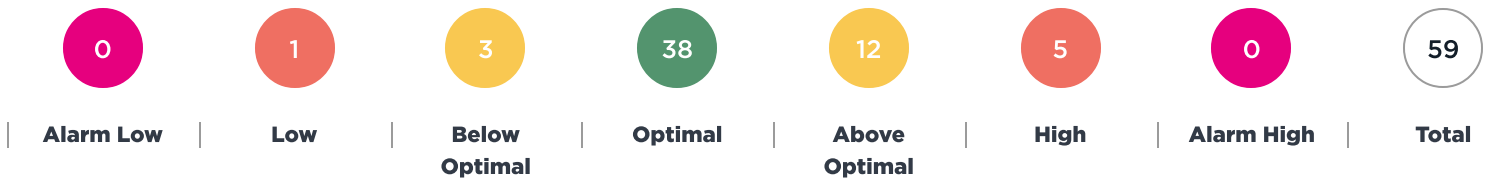
Electrolytes
Iron Markers
WBCs

Metabolic
Lipids

Blood Test Results

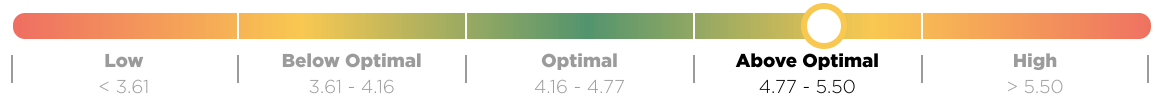
The Blood Test Results Report lists the results from your Chemistry Screen and CBC and shows you whether or not an individual biomarker is outside of the optimal range and/or outside of the clinical lab range. The biomarkers are grouped into their most common categories.

Some biomarkers in the Blood Test Results Report that are above or below the Optimal or Standard Range may be hyperlinked into the "Out of Optimal Range Report", so you can read some background information on those biomarkers and why they may be high or low.



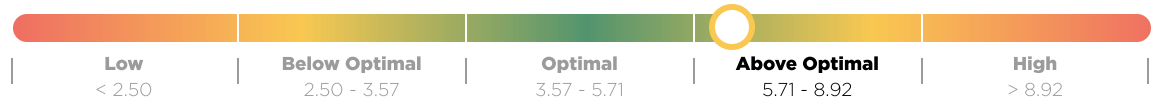
BLOOD GLUCOSE

Glucose - Fasting 📄
5.20 mmol/L



KIDNEY

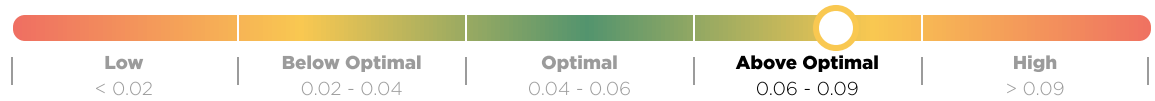
BUN 📄
6.30 mmol/L urea



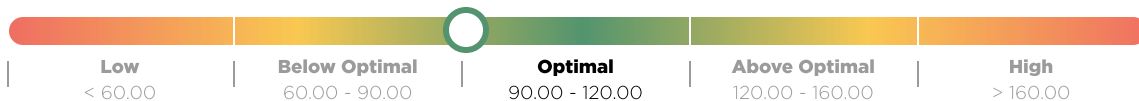
Creatinine
80.00 μmol/L



BUN : Creatinine 📄
0.08 Ratio

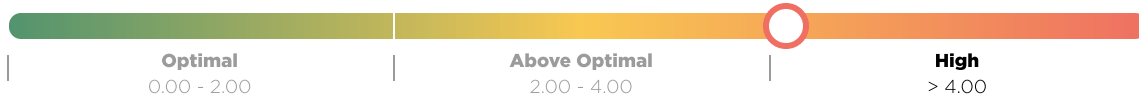


eGFR
>90.00 mL/min/1.73m²



PROSTATE

PSA - Total
4.30 µg/L

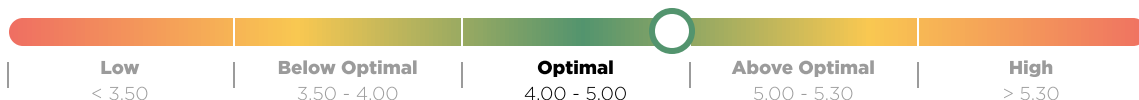


ELECTROLYTES

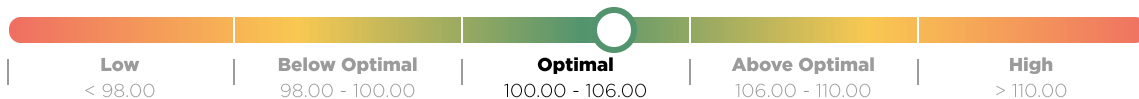
Sodium
140.00 mmol/L



Potassium
4.90 mmol/L



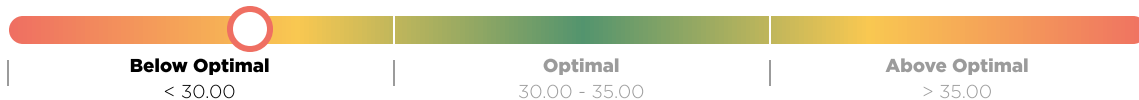
Chloride
104.00 mmol/L



CO₂
29.00 mmol/L

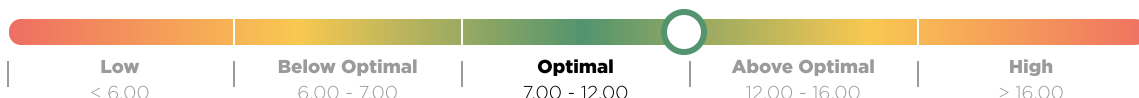


Sodium : Potassium
28.57 ratio



METABOLIC

Anion Gap
11.90 mmol/L

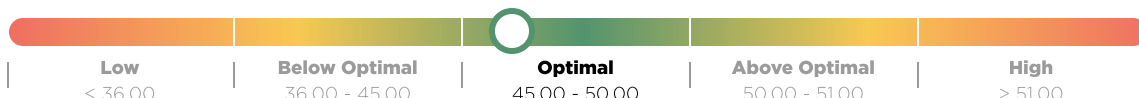


PROTEINS

Protein - Total
69.00 g/L



Albumin
46.00 g/L



Globulin - Total
26.00 g/L

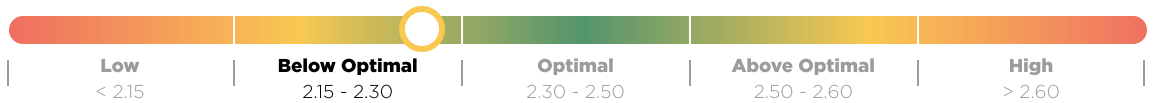


Albumin : Globulin
1.77 ratio

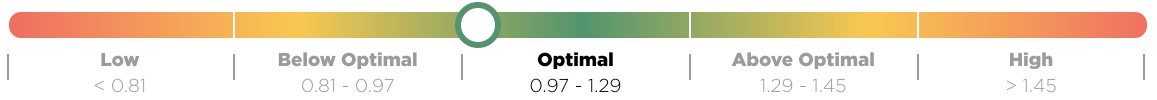


MINERALS

Calcium ■
2.27 mmol/L



Phosphorus
1.00 mmol/L



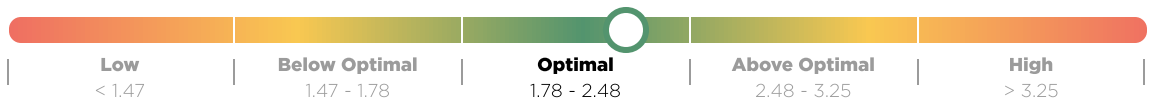
Magnesium - Serum ■
0.80 mmol/L



Calcium : Albumin
0.05 ratio

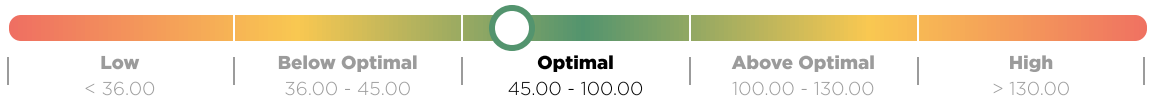


Calcium : Phosphorus
2.27 ratio



LIVER AND GB

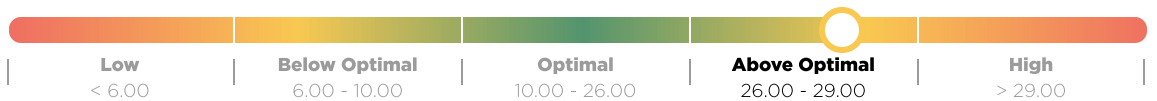
Alk Phos
58.00 IU/L



AST
24.00 U/L



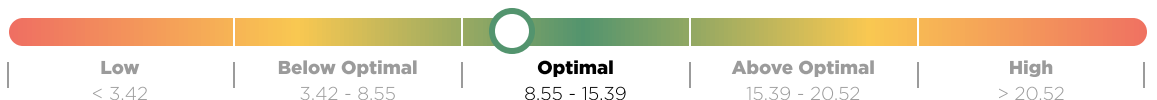
ALT ■
28.00 U/L



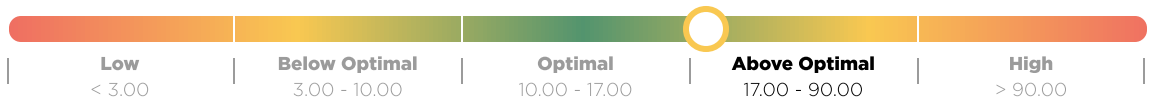
LDH
161.00 U/L



Bilirubin - Total
10.00 μmol/L



GGT ■
21.00 U/L

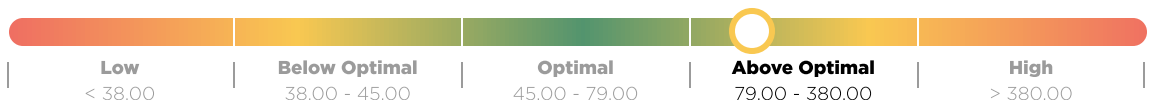


AST : ALT
0.86 Ratio



IRON MARKERS

Ferritin ■
167.00 μg/L



LIPIDS

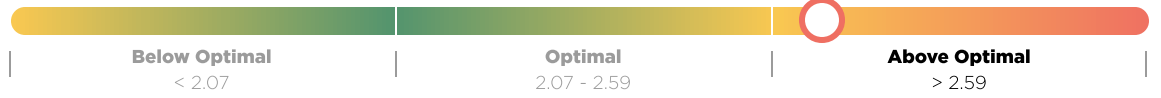
Cholesterol - Total
4.90 mmol/L



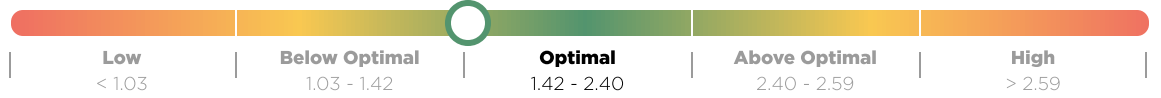
Triglycerides
1.50 mmol/L



LDL Cholesterol
2.79 mmol/L



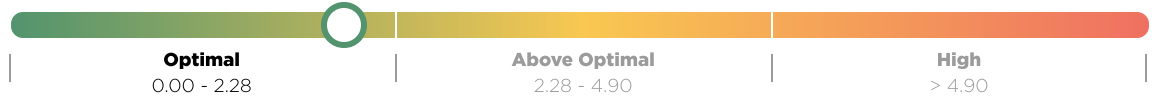
HDL Cholesterol
1.43 mmol/L



Non-HDL Cholesterol
3.47 mmol/L



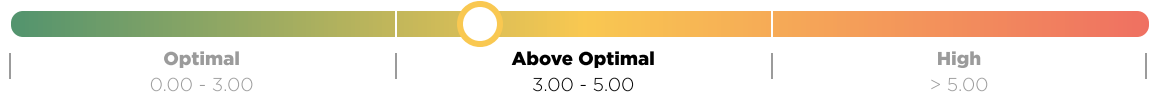
LDL : HDL - Male
1.95 Ratio



Triglyceride:HDL
1.05 ratio

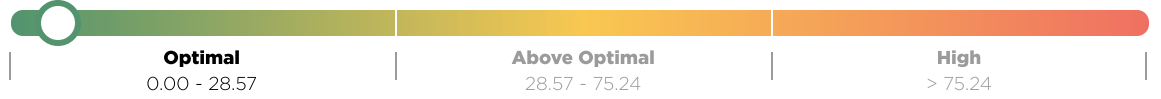


Cholesterol : HDL
3.43 Ratio



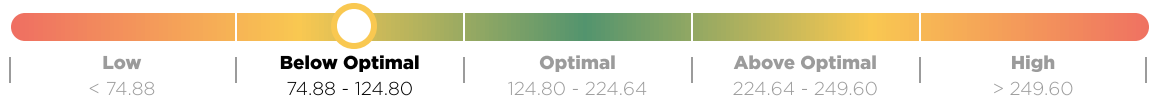
INFLAMMATION

C-Reactive Protein
3.81 nmol/L



VITAMINS

Vitamin D (25-OH)
102.00 nmol/L

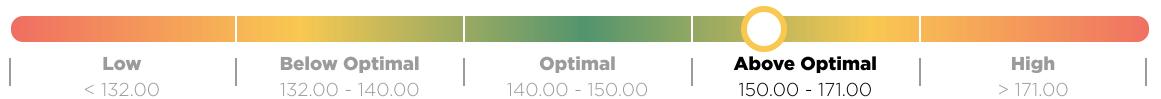


CBC

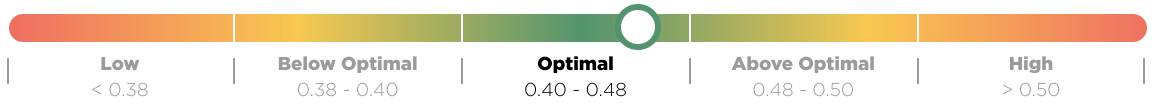
RBC - Male
5.20 10E12/L



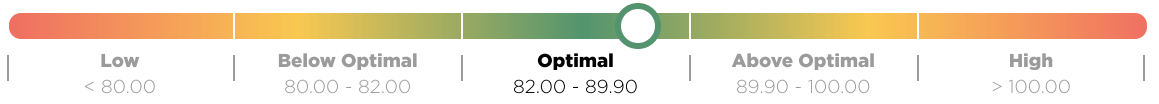
Hemoglobin - Male
157.00 g/L



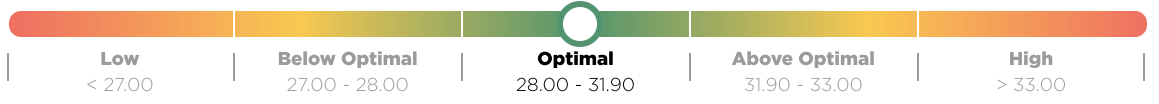
Hematocrit - Male
0.46 Prop. of 1.0



MCV
88.00 fL



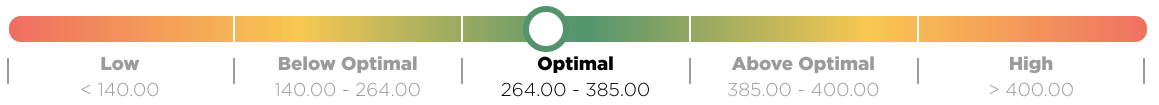
MCH
30.00 pg



MCHC
341.00 g/L



Platelets
312.00 x10E9/L



MPV ■
9.00 fL

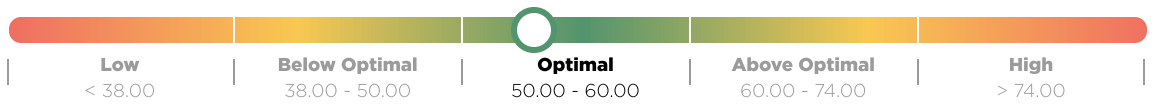


WBCS

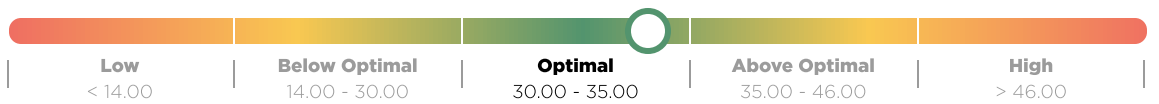
Total WBCs
5.70 giga/L



Neutrophils - %
53.00 %



Lymphocytes - %
34.00 %



Monocytes - %
7.00 %



Eosinophils - % ■
5.00 %



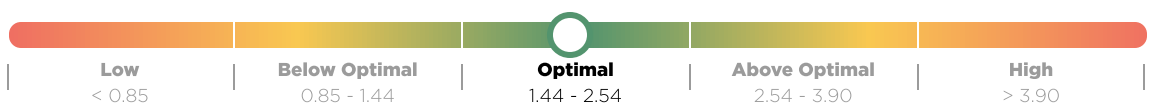
Basophils - %
1.00 %



Neutrophils - Absolute
3.02 giga/L



Lymphocytes - Absolute
1.94 giga/L



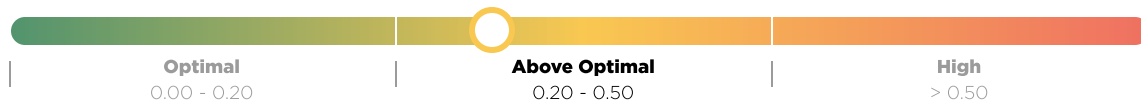
Monocytes - Absolute

0.40 giga/L



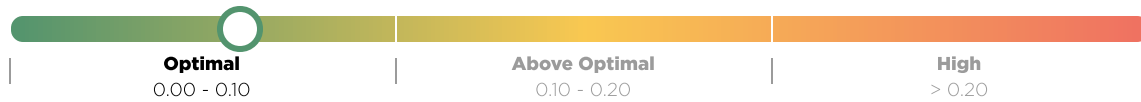
Eosinophils - Absolute

0.28 giga/L



Basophils - Absolute

0.06 giga/L



Neutrophil : Lymphocyte

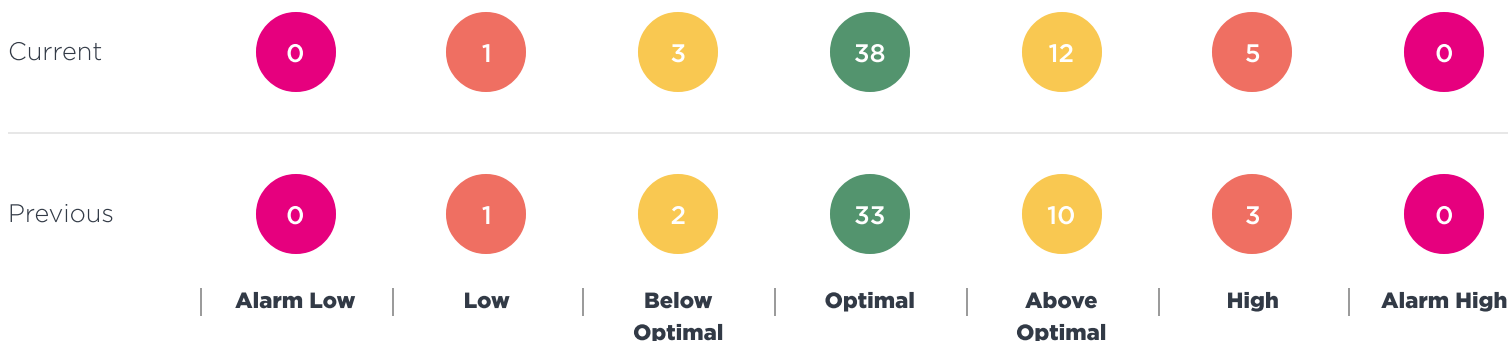
1.56 Ratio



Blood Test Results Comparative



The Blood Test Results Comparative Report lists the results of this blood test and compares it to a previous blood test thus allowing you to visualize change in your biomarker results. The thumbs-up and down icons help to show change, whether it is moving in the right direction or further away from optimal. Even though a result may be out of the optimal or standard range, a thumbs up indicates that the most recent result is moving toward optimal.

Comparative total number of biomarkers by optimal range



Biomarker		Quest	Quest	Optimal range	Standard range	Units
		Previous Dec 12 2019	Current Mar 12 2023			
Glucose - Fasting 📄	👎	4.90 ↑	5.20 ↑	4.16 - 4.77	3.61 - 5.50	mmol/L
BUN 📄	👎	3.90	6.30 ↑	3.57 - 5.71	2.50 - 8.92	mmol/L urea
Creatinine 📄		72.00	80.00	70.72 - 97.24	35.36 - 132.60	μmol/L
BUN : Creatinine 📄	👎	0.05	0.08 ↑	0.04 - 0.06	0.02 - 0.09	Ratio
eGFR 📄		>90.00	>90.00	90.00 - 120.00	60.00 - 160.00	mL/min/1.73m2
PSA - Total 📄			4.30 ↑↑	0.00 - 2.00	0.00 - 4.00	μg/L
Sodium 📄		141.00	140.00	135.00 - 142.00	135.00 - 146.00	mmol/L
Potassium 📄		4.40	4.90	4.00 - 5.00	3.50 - 5.30	mmol/L
Chloride 📄	👍	107.00 ↑	104.00	100.00 - 106.00	98.00 - 110.00	mmol/L
CO2 📄		27.00	29.00	25.00 - 30.00	19.00 - 30.00	mmol/L
Sodium : Potassium 📄	👎	32.04	28.57 ↓↓	30.00 - 35.00	30.00 - 35.00	ratio
Anion Gap 📄		11.40	11.90	7.00 - 12.00	6.00 - 16.00	mmol/L
Protein - Total 📄		70.00	69.00	69.00 - 81.00	61.00 - 81.00	g/L
Albumin 📄	👍	41.00 ↓	46.00	45.00 - 50.00	36.00 - 51.00	g/L
Globulin - Total 📄	👍	29.00 ↑	26.00	24.00 - 28.00	19.00 - 37.00	g/L

Biomarker	Quest		Optimal range	Standard range	Units
	Previous Dec 12 2019	Current Mar 12 2023			
Albumin : Globulin	1.41	1.77	1.40 - 2.10	1.00 - 2.50	ratio
Calcium	2.45	2.27 ↓	2.30 - 2.50	2.15 - 2.60	mmol/L
Phosphorus	1.10	1.00	0.97 - 1.29	0.81 - 1.45	mmol/L
Magnesium - Serum		0.80 ↓	0.91 - 1.04	0.62 - 1.04	mmol/L
Calcium : Albumin	0.05	0.05	0.00 - 0.06	0.00 - 0.06	ratio
Calcium : Phosphorus	2.22	2.27	1.78 - 2.48	1.47 - 3.25	ratio
Alk Phos	94.00	58.00	45.00 - 100.00	36.00 - 130.00	IU/L
AST	28.00 ↑	24.00	10.00 - 26.00	10.00 - 35.00	U/L
ALT	32.00 ↑↑	28.00 ↑	10.00 - 26.00	6.00 - 29.00	U/L
LDH	165.00	161.00	140.00 - 200.00	100.00 - 200.00	U/L
Bilirubin - Total	11.00	10.00	8.55 - 15.39	3.42 - 20.52	µmol/L
GGT	26.00 ↑	21.00 ↑	10.00 - 17.00	3.00 - 90.00	U/L
AST : ALT		0.86	0.00 - 1.00	0.00 - 1.00	Ratio
Ferritin	236.00 ↑	167.00 ↑	45.00 - 79.00	38.00 - 380.00	µg/L
Cholesterol - Total	4.60	4.90	4.14 - 5.15	3.23 - 5.15	mmol/L
Triglycerides	1.90 ↑↑	1.50 ↑	0.79 - 0.90	0.00 - 1.69	mmol/L
LDL Cholesterol	2.47	2.79 ↑↑	2.07 - 2.59	0.00 - 2.59	mmol/L
HDL Cholesterol	1.34 ↓	1.43	1.42 - 2.40	1.03 - 2.59	mmol/L
Non-HDL Cholesterol		3.47 ↑↑	1.81 - 2.56	0.00 - 3.37	mmol/L
LDL : HDL - Male		1.95	0.00 - 2.28	0.00 - 4.90	Ratio
Triglyceride:HDL	1.41 ↑↑	1.05 ↑↑	0.22 - 0.83	0.00 - 0.87	ratio
Cholesterol : HDL	3.43 ↑	3.43 ↑	0.00 - 3.00	0.00 - 5.00	Ratio
C-Reactive Protein		3.81	0.00 - 28.57	0.00 - 75.24	nmol/L
Vitamin D (25-OH)		102.00 ↓	124.80 - 224.64	74.88 - 249.60	nmol/L
RBC - Male	3.00 ↓↓	5.20 ↑	4.20 - 4.90	4.20 - 5.80	10E12/L
Hemoglobin - Male	157.00 ↑	157.00 ↑	140.00 - 150.00	132.00 - 171.00	g/L
Hematocrit - Male	0.44	0.46	0.40 - 0.48	0.38 - 0.50	Prop. of 1.0
MCV	87.00	88.00	82.00 - 89.90	80.00 - 100.00	fL
MCH	31.00	30.00	28.00 - 31.90	27.00 - 33.00	pg
MCHC		341.00	340.00 - 360.00	320.00 - 360.00	g/L
Platelets	377.00	312.00	264.00 - 385.00	140.00 - 400.00	x10E9/L
MPV		9.00 ↑	7.50 - 8.20	7.50 - 11.50	fL
Total WBCs	6.50 ↑	5.70	3.80 - 6.00	3.80 - 10.80	giga/L
Neutrophils - %	58.00	53.00	50.00 - 60.00	38.00 - 74.00	%
Lymphocytes - %	32.00	34.00	30.00 - 35.00	14.00 - 46.00	%
Monocytes - %	7.00	7.00	4.00 - 7.00	4.00 - 13.00	%
Eosinophils - %	2.00	5.00 ↑↑	0.00 - 3.00	0.00 - 3.00	%
Basophils - %	1.00	1.00	0.00 - 1.00	0.00 - 1.00	%
Neutrophils - Absolute	3.77	3.02	1.90 - 4.20	1.50 - 7.80	giga/L
Lymphocytes - Absolute	2.08	1.94	1.44 - 2.54	0.85 - 3.90	giga/L
Monocytes - Absolute	0.46 ↑	0.40	0.20 - 0.40	0.20 - 0.95	giga/L
Eosinophils - Absolute	0.13	0.28 ↑	0.00 - 0.20	0.00 - 0.50	giga/L

Biomarker	Quest	Quest	Optimal range	Standard range	Units
	Previous Dec 12 2019	Current Mar 12 2023			
Basophils - Absolute 	0.06	0.06	0.00 - 0.10	0.00 - 0.20	giga/L
Neutrophil : Lymphocyte 		1.56	1.00 - 1.70	1.00 - 3.00	Ratio

Blood Test History

The Blood Test History Report lists the results of your blood test results 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, allowing you to track your progress towards optimal health.

Key

- Optimal
- Above / Below Optimal
- Above / Below Standard
- Alarm High / Alarm Low

Biomarker	Latest 2 Test Results	
	Quest	Quest
	Dec 12 2019	Mar 12 2023
Glucose - Fasting	4.90 ↑	5.20 ↑
BUN	3.90	6.30 ↑
Creatinine	72.00	80.00
BUN : Creatinine	0.05	0.08 ↑
eGFR	>90.00	>90.00
PSA - Total		4.30 ↑↑
Sodium	141.00	140.00
Potassium	4.40	4.90
Chloride	107.00 ↑	104.00
CO2	27.00	29.00
Sodium : Potassium	32.04	28.57 ↓↓
Anion Gap	11.40	11.90
Uric Acid - Male	390.00 ↑	
Creatine Kinase	2.83 ↑	
Amylase	63.00	
Lipase	41.00	
Protein - Total	70.00	69.00
Albumin	41.00 ↓	46.00

Biomarker	Latest 2 Test Results	
	Quest	Quest
	Dec 12 2019	Mar 12 2023
Globulin - Total		29.00 ↑ 26.00
Albumin : Globulin		1.41 1.77
Calcium		2.45 2.27 ↓
Phosphorus		1.10 1.00
Magnesium - Serum		0.80 ↓
Calcium : Albumin		0.05 0.05
Calcium : Phosphorus		2.22 2.27
Alk Phos		94.00 58.00
AST		28.00 ↑ 24.00
ALT		32.00 ↑ ↑ 28.00 ↑
LDH		165.00 161.00
Bilirubin - Total		11.00 10.00
GGT		26.00 ↑ 21.00 ↑
AST : ALT		0.86
Iron - Serum	21.00	
Ferritin		236.00 ↑ 167.00 ↑
TIBC	57.00	
% Transferrin saturation	0.37 ↑	
Cholesterol - Total		4.60 4.90
Triglycerides		1.90 ↑ ↑ 1.50 ↑
LDL Cholesterol		2.47 2.79 ↑ ↑
HDL Cholesterol		1.34 ↓ 1.43
Non-HDL Cholesterol		3.47 ↑ ↑
LDL : HDL - Male		1.95
Triglyceride:HDL		1.41 ↑ ↑ 1.05 ↑ ↑
Cholesterol : HDL		3.43 ↑ 3.43 ↑

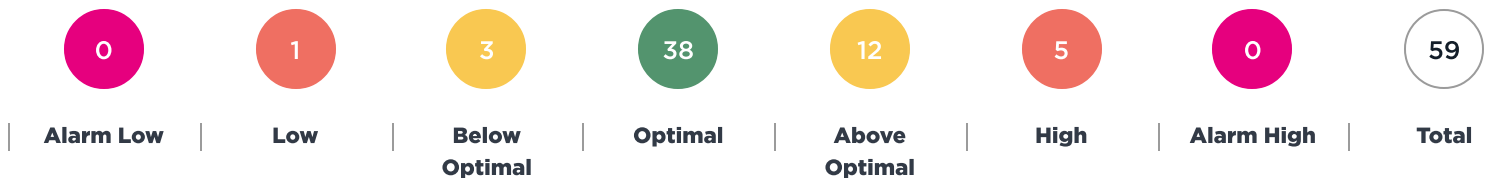
Biomarker	Latest 2 Test Results		
	Quest	Quest	
	Dec 12 2019	Mar 12 2023	
TSH	1.70		
T4 - Free	16.00		
T3 - Free	4.50 ↓		
Hs CRP - Male	12.38 ↑		
C-Reactive Protein		3.81	
Vitamin D (25-OH)		102.00 ↓	
RBC - Male		3.00 ↓ ↓	5.20 ↑
Hemoglobin - Male		157.00 ↑	157.00 ↑
Hematocrit - Male		0.44	0.46
MCV		87.00	88.00
MCH		31.00	30.00
MCHC			341.00
Platelets		377.00	312.00
MPV			9.00 ↑
Total WBCs		6.50 ↑	5.70
Neutrophils - %		58.00	53.00
Lymphocytes - %		32.00	34.00
Monocytes - %		7.00	7.00
Eosinophils - %		2.00	5.00 ↑ ↑
Basophils - %		1.00	1.00
Neutrophils - Absolute		3.77	3.02
Lymphocytes - Absolute		2.08	1.94
Monocytes - Absolute		0.46 ↑	0.40
Eosinophils - Absolute		0.13	0.28 ↑
Basophils - Absolute		0.06	0.06
Neutrophil : Lymphocyte			1.56

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 see a more detailed view of the blood test result itself.

Total number of biomarkers by optimal range



Above Optimal



1.50
mmol/L

TRIGLYCERIDES

Serum triglycerides are composed of fatty acid molecules that enter the bloodstream either from the liver or from the diet. Levels will be elevated in metabolic syndrome, fatty liver, in people with an increased risk of cardiovascular disease, hypothyroidism, and adrenal dysfunction



167.00
µg/L

FERRITIN

Ferritin is the main storage form of iron in the body. Increased levels are associated with iron overload, an increasing risk of cardiovascular disease, inflammation and oxidative stress.

3.47
mmol/L

NON-HDL CHOLESTEROL

Non-HDL cholesterol represents the circulating cholesterol that is not carried by HDL (the protective carrier that collects cholesterol from tissues and blood vessels and transports it back to the liver). An elevated Non-HDL Cholesterol is associated with an increase risk of cardiovascular disease and related events.

4.30
µg/L

PSA - TOTAL

The acronym PSA stands for prostate-specific antigen, the most abundant protein synthesized in the prostate gland. PSA - Total is currently used as a biological marker to detect disease related to the prostate. Elevated levels of PSA - Total are associated with the following conditions: an enlarged prostate (Benign Prostatic Hypertrophy or BPH), prostate inflammation (prostatitis), prostate cancer and there is also evidence that it can be elevated in urinary tract infection. It's important to remember that elevated levels of PSA - Total may not necessarily signal prostate cancer, and prostate cancer may not always be accompanied by an expression of PSA.

9.00
fL

MPV

MPV or Mean Platelet Volume is a calculated measurement of the relative size of platelets in the blood. Elevated levels of MPV are seen with platelet destruction.

157.00
g/L

HEMOGLOBIN - MALE

Hemoglobin is the oxygen carrying molecule in red blood cells. Hemoglobin levels may be increased in cases of dehydration.

5.20
mmol/L

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, and fat into glucose. Increased blood glucose is associated with type 1 & 2 diabetes, metabolic syndrome, and insulin resistance.

5.00
%

EOSINOPHILS - %

Eosinophils are a type of White Blood Cell, which are often increased in people that are suffering from intestinal parasites or food or environmental sensitivities/allergies.

0.08
Ratio

BUN : CREATININE

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

21.00
U/L

GGT

Gamma Glutamyl Transferase (GGT) 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. GGT will be liberated into the bloodstream following cell damage or destruction and/or biliary obstruction. GGT is induced by alcohol and can be elevated following chronic alcohol consumption and in alcoholism.

5.20
10E12/L

RBC - MALE

The RBC Count determines the total number of red blood cells or erythrocytes found in a cubic millimeter of blood. 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. Increased levels are associated with dehydration, stress, a need for vitamin C and respiratory distress such as asthma.

0.28
giga/L

EOSINOPHILS - ABSOLUTE

Eosinophils are a type of White Blood Cell, which are often increased in patients that are suffering from intestinal parasites or food or environmental sensitivities/allergies.

2.79
mmol/L

LDL CHOLESTEROL

LDL functions to transport cholesterol and other fatty acids from the liver to the peripheral tissues for uptake and metabolism by the cells. It is known as "bad cholesterol" because it is thought that this process of bringing cholesterol from the liver to the peripheral tissue increases the risk for atherosclerosis. An increased LDL cholesterol is just one of many independent risk factors for cardiovascular disease. It is also associated with metabolic syndrome, oxidative stress, and fatty liver.

1.05
ratio

TRIGLYCERIDE:HDL

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

6.30
mmol/L urea

BUN

BUN or Blood Urea Nitrogen reflects the ratio between the production and clearance of urea in the body. Urea is formed almost entirely by the liver from both protein metabolism and protein digestion. The amount of urea excreted as BUN varies with the amount of dietary protein intake. Increased BUN may be due to increased production of urea by the liver or decreased excretion by the kidney. BUN is a test used predominantly to measure kidney function, where it will be increased. An increased BUN is also associated with dehydration and hypochlorhydria.

3.43
Ratio

CHOLESTEROL : HDL

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%.

28.00
U/L

ALT

ALT is an enzyme present in high concentrations in the liver and to a lesser extent skeletal muscle, the heart, and kidney. ALT will be liberated into the bloodstream following cell damage or destruction. Any condition or situation that causes damage to the hepatocytes will cause leakage of 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).

Below Optimal

0.80
mmol/L

MAGNESIUM - SERUM

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. A decreased magnesium is a common finding with muscle cramps.

28.57
ratio

SODIUM : POTASSIUM

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

102.00
nmol/L

VITAMIN D (25-OH)

This vitamin D test measures for levels of 25-OH vitamin D and is a very good way to assess vitamin D status. Decreased vitamin D levels are a sign of Vitamin D deficiency.

2.27
mmol/L

CALCIUM

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 (low stomach acid), 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.



The Health Concerns report takes all the information on this report and focuses on the top areas that need the most support.

Health Concerns

36 Health Concerns

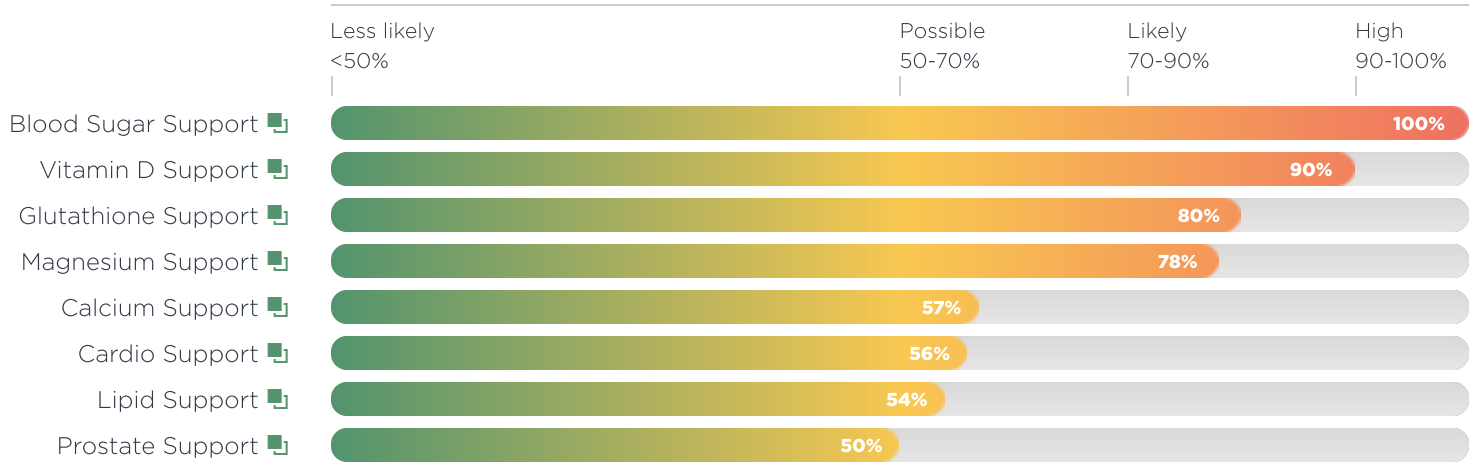


Health Concerns

The Health Concerns report takes all the information on the Functional Health Report and focuses on the health concerns that need the most support.

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

NEED OF SUPPORT



Health Concerns Details

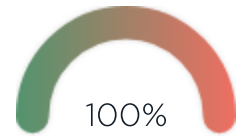
This section contains an explanation of the results presented in the Health Concerns report including all the biomarkers considered in the algorithmic analysis and the rationale behind the interpretation.

BLOOD SUGAR SUPPORT

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

Rationale

Glucose - Fasting , Triglycerides , LDL Cholesterol 

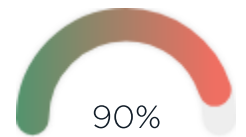


VITAMIN D SUPPORT

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

Rationale

Vitamin D (25-OH) 

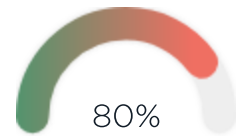


GLUTATHIONE SUPPORT

The results of your blood test indicate that your glutathione levels might be lower than optimal and may show a need for glutathione supplementation.

Rationale

GGT 

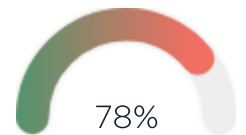


MAGNESIUM SUPPORT

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

Rationale

Magnesium - Serum 

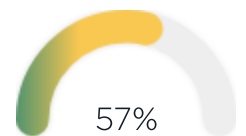


CALCIUM SUPPORT

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

Rationale

Calcium , Vitamin D (25-OH) 

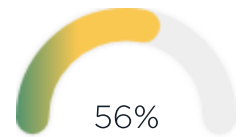


CARDIO SUPPORT

The results of your blood test indicate a higher than optimal cardiovascular risk and show a need for cardiovascular support.

Rationale

Triglyceride:HDL , Glucose - Fasting , Triglycerides , LDL Cholesterol , Ferritin , Vitamin D (25-OH) 

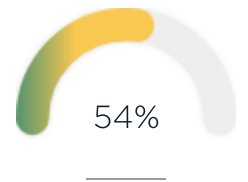


LIPID SUPPORT

The results of your blood test indicate that you have higher than optimal levels of cholesterol and fat in your blood (a condition called hyperlipidemia), which is associated with an increased risk of cardiovascular disease. There is a need for cardiovascular support, especially support to help lower excessive blood fats.

Rationale

Triglycerides , LDL Cholesterol , Triglyceride:HDL 

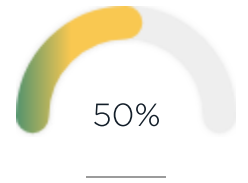


PROSTATE SUPPORT

The results of your blood test indicate a trend towards prostate dysfunction and/or Benign prostatic Hypertrophy and a need for prostate support.

Rationale

PSA - Total 





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Disclaimer

40 Disclaimer



Disclaimer

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The absence of a warning for a given drug or supplement or any combination thereof in no way should be construed to indicate that the drug or supplement or any combination thereof is safe, effective, or appropriate for you. Statements made about a supplement, product, or treatment have not been evaluated by the Food and Drug Administration (FDA) U.S. or MHRA U.K. Any mentioned supplement, product, or treatment is not intended to diagnose, treat, cure or prevent any disease. The FDA or MHRA U.K. has not evaluated the information contained in this Report.

You are encouraged to confirm any information obtained from this Report with other sources, and review all information regarding any medical condition or the treatment of such condition with your physician.

NEVER DISREGARD PROFESSIONAL MEDICAL ADVICE, DELAY SEEKING MEDICAL ADVICE OR TREATMENT, OR STOP CURRENT MEDICAL TREATMENT, BECAUSE OF SOMETHING YOU HAVE READ IN THIS REPORT.

Consult your physician or a qualified healthcare practitioner regarding the applicability of any of the information or materials provided in this Report in regards to your symptoms or medical condition. Always consult your physician before beginning a new treatment, diet, exercise, fitness plan, or health plan or program, and before taking any drug, supplement, or any combination thereof; or if you have questions or concerns about your health, a medical condition, or any plan or course of treatment. If you think you have a medical emergency, call 911 or your doctor immediately.