MAEV CREAVEN NUTRITION

Blood Chemistry Analysis

Functional Health Report

Patient Report

Requested by

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Maev Creaven Nutrition

What's Inside?

An introduction to functional blood chemistry analysis 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.

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An introduction to functional blood chemistry anaysis and your report.

Introduction

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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.

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An in-depth functional system and nutrient evaluation.

Assessment

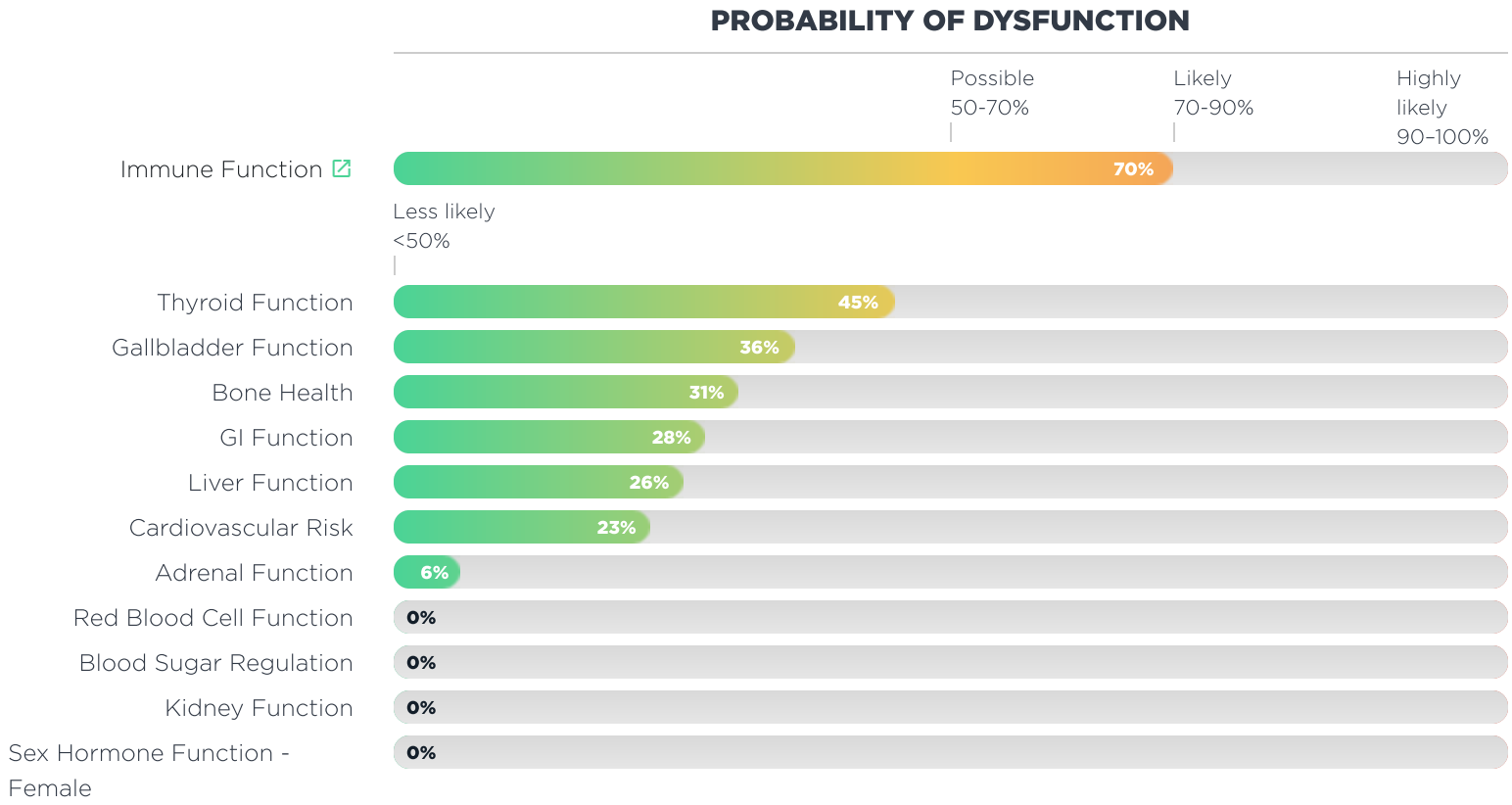
5 Functional Body Systems
7 Accessory Systems
8 Nutrient Status
11 Nutrient Deficiencies

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.

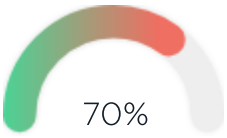
This report gives you an indication of the level of dysfunction that exists in the various physiological systems in your body.

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.



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 Likely.
Improvement required.

IMMUNE FUNCTION

The Immune Function score allows us to assess the state of function in your immune system. When the immune system is in a state of balance we are able to cope and deal with infections with little or no lasting negative side-effects. Biomarkers on a blood test allow us to check and see if the immune system is in a state of balance or not. Some of the factors to consider include a low functioning immune system (a condition called immune insufficiency), bacterial or viral infections or GI dysfunction associated with decreased immune function: abnormal immunity in the gut lining, a decrease in immune cell function in the gut or an increase in abnormal bacteria, etc. in the gut (a condition called dysbiosis).

Rationale

Total WBCs ↑, Neutrophils - % ↑, Lymphocytes - % ↓, Monocytes - % ↑, Monocytes - Absolute ↑, Neutrophils - Absolute ↑

Biomarkers considered

Total WBCs, Neutrophils - %, Lymphocytes - %, Monocytes - %, Monocytes - Absolute, Lymphocytes - Absolute, Neutrophils - Absolute, Albumin

Patient result not available - consider running in future tests:

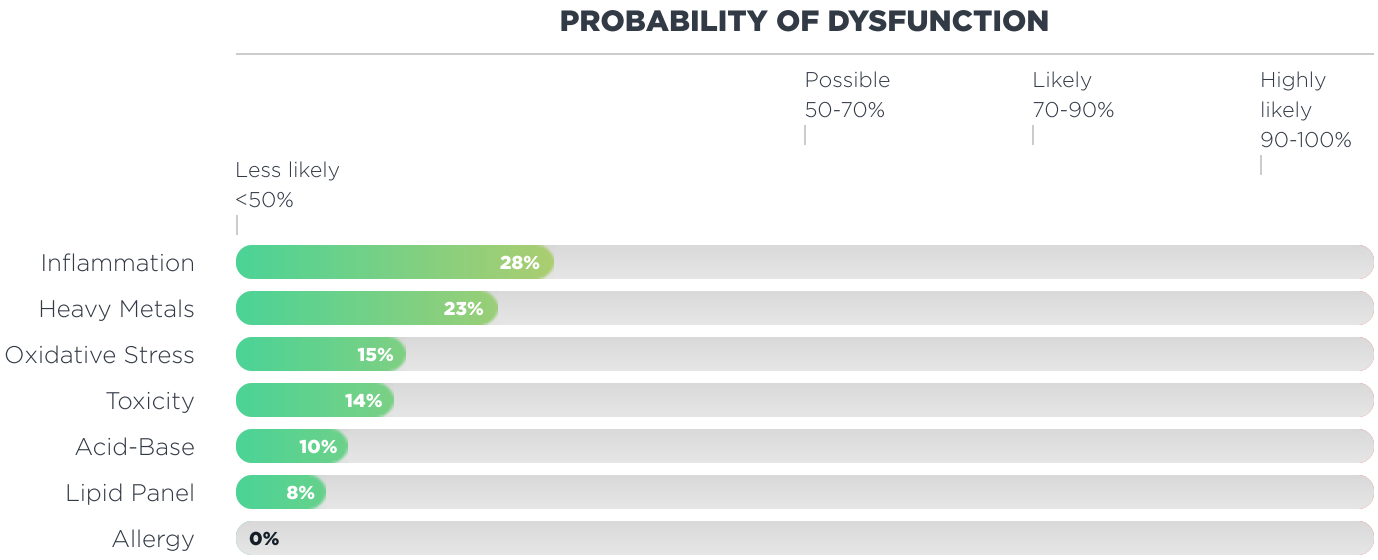
Globulin - Total, Alk Phos, Ferritin

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 detailed description and individual explanation of the results shown in this report.

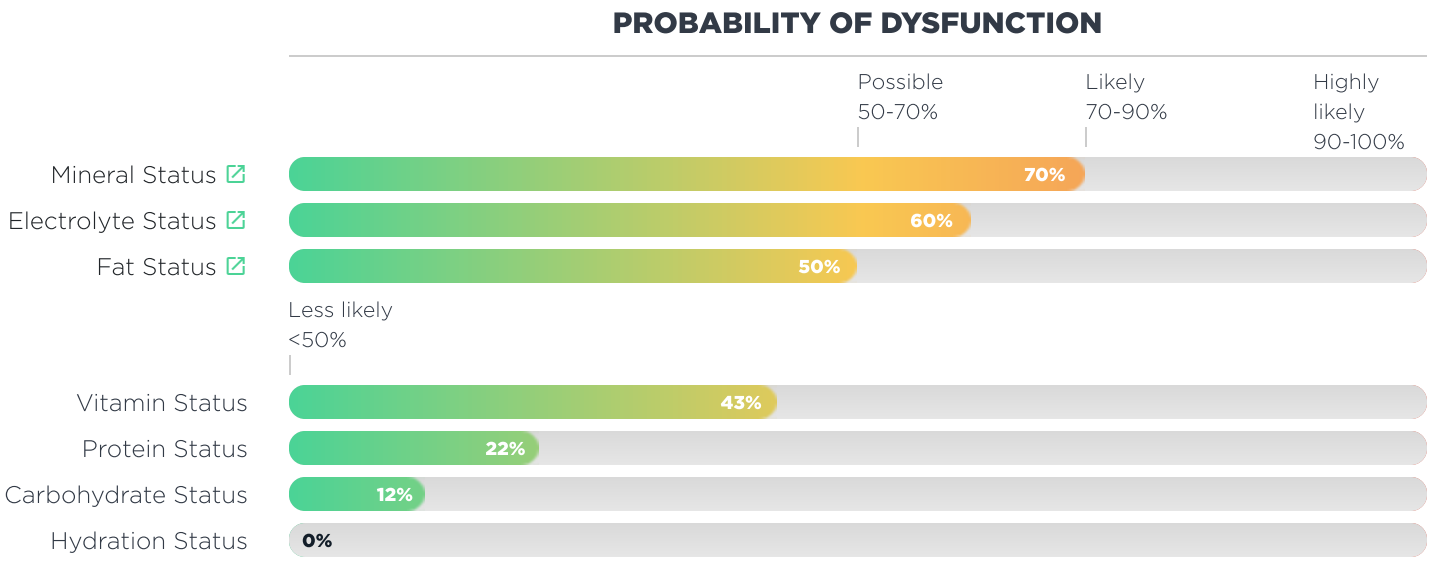


Nutrient Status

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.

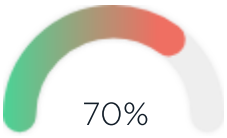
This report gives you an indication of your general nutritional status. The Nutrient Status is influenced by actual dietary intake, digestion, absorption, assimilation, and cellular uptake of the nutrients themselves.

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.



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.



Dysfunction Likely. Improvement required.

MINERAL STATUS

The Mineral Status score gives us a general indication of the balance of certain minerals in your body based on the results of this blood test. Mineral levels in the body are closely regulated and deficiency in one or more minerals may be due to a number of factors such as the amount in your diet, the ability to digest and break down individual minerals from the food or supplements you consume, and the ability of those minerals to be absorbed, transported and ultimately taken up by the cells themselves.

Rationale

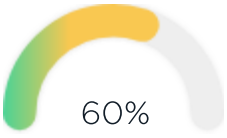
Calcium ↓, Phosphorus ↓, Iron - Serum ↓, % Transferrin saturation ↓

Biomarkers considered

Potassium, Uric Acid - Female, Calcium, Phosphorus, GGT, Iron - Serum, TIBC, % Transferrin saturation, MCV

Patient result not available - consider running in future tests:

Alk Phos, Ferritin, T3 - Total, T3 - Free, Magnesium - Serum, Copper - Serum, Zinc - Serum



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

ELECTROLYTE STATUS

The Electrolyte Status score gives us a sense of the balance of electrolytes in your body. Electrolytes such as calcium, potassium, sodium, and magnesium are essential for optimal health and wellness. An electrolyte imbalance can show up as low blood pressure, cold hands or feet, poor circulation, swelling in the ankles, and immune insufficiency.

Rationale

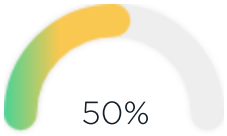
Calcium ↓, Phosphorus ↓

Biomarkers considered

Sodium, Potassium, Chloride, Calcium, Phosphorus

Patient result not available - consider running in future tests:

Magnesium - Serum



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

FAT STATUS

The Fat Status score gives us an assessment of a fatty acid deficiency in your body. We do this by measuring biomarkers in the blood that can indicate fat deficiencies in the diet itself and also for the ability of your body to handle the fats that you do consume in your diet. A deficiency in Essential Fatty Acids (EFAs) is quite common. EFAs are fats that are essential for life and include the Omega 6 and Omega 3 fats, essential fats that are found in evening primrose oil, fish oils, flax seed oil, etc.

Rationale

Triglycerides ↓, GGT ↑

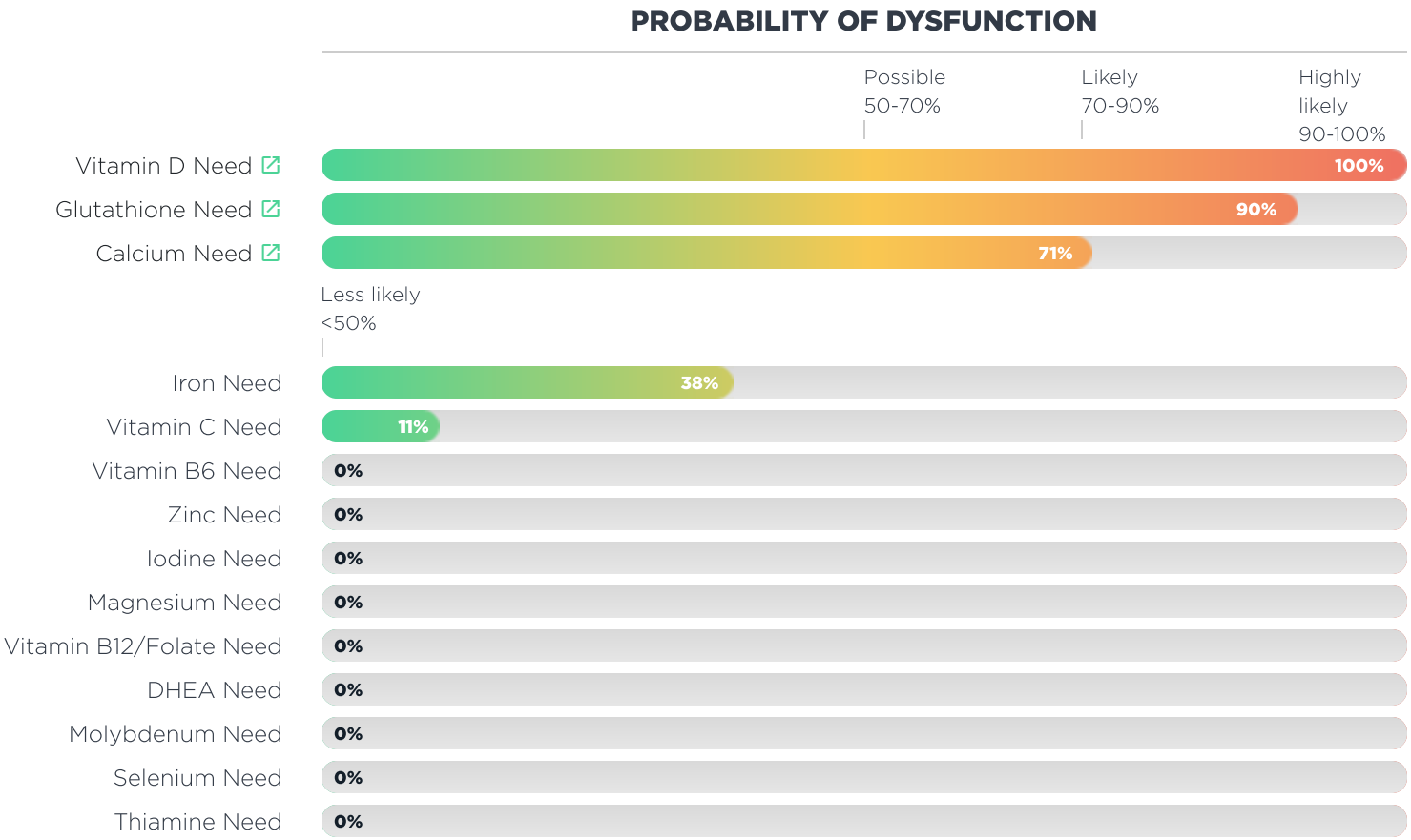
Biomarkers considered

Cholesterol - Total, Triglycerides, GGT, Bilirubin - Total

Individual Nutrient Deficiencies

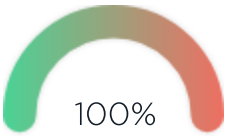
The values represent the degree of deficiency for individual nutrients based on your blood results. The status of an individual nutrient is based on a number of factors such as actual dietary intake, digestion, absorption, assimilation and cellular uptake of the nutrients themselves. All of these factors 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.



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 D NEED

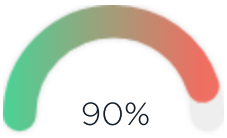
The results of your blood test indicate that your Vitamin D levels might be lower than optimal.

Rationale

Vitamin D (25-OH) ↓

Biomarkers considered

Vitamin D (25-OH)



Dysfunction Highly Likely. Much improvement required.

GLUTATHIONE NEED

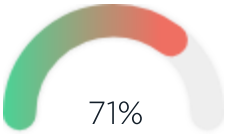
The results of your blood test indicate that your glutathione levels might be lower than optimal. Glutathione is one of the most powerful antioxidants in your body.

Rationale

GGT ↑

Biomarkers considered

GGT



Dysfunction Likely. Improvement required.

CALCIUM NEED

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

Rationale

Calcium ↓, Vitamin D (25-OH) ↓

Biomarkers considered

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

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

Analytics

14 Blood Test Results
24 Out of Optimal Range

Blood Test Results

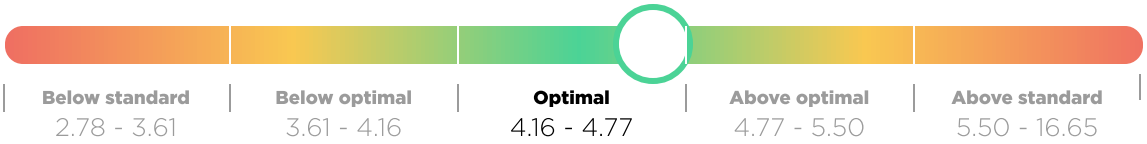
The Blood Test Results Report lists the results of the Chemistry Screen and CBC and shows you whether or not an individual biomarker is outside of the optimal range and/or outside of the clinical lab range. The biomarkers are grouped into their most common categories.

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.

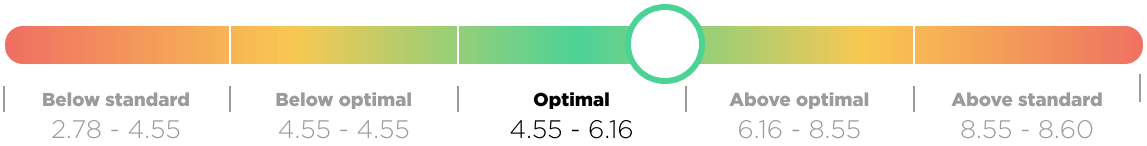
Alarm Low	Below Standard	Below Optimal	Optimal	Above Optimal	Above Standard	Alarm High	Total
0	3	7	33	8	1	1	53

BLOOD GLUCOSE

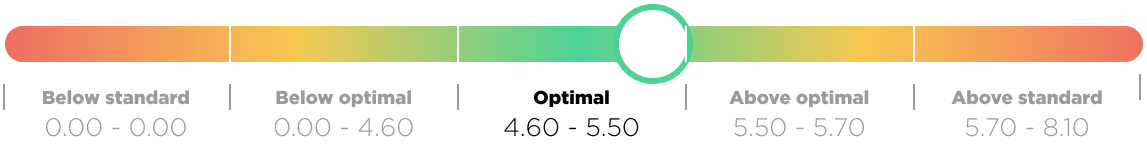
Glucose - Fasting
4.70 mmol/L



eAG
6.01 mmol/L

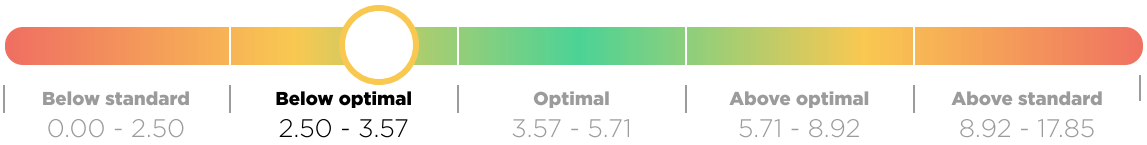


Hemoglobin A1C
5.40 %

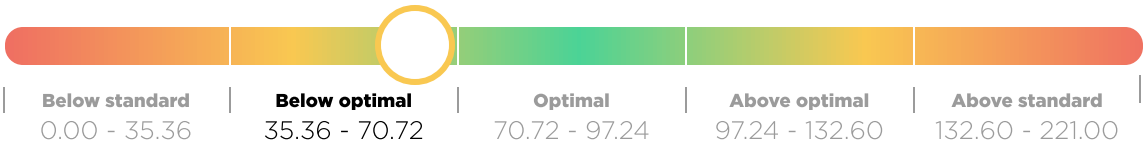


RENAL

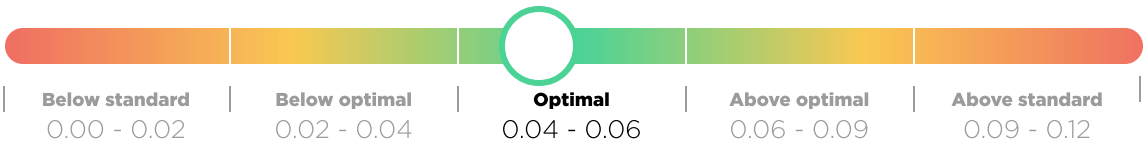
BUN
3.20 mmol/L urea



Creatinine
64.00 µmol/L

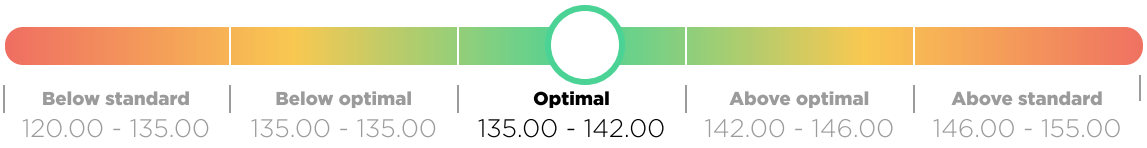


BUN : Creatinine
0.05 Ratio



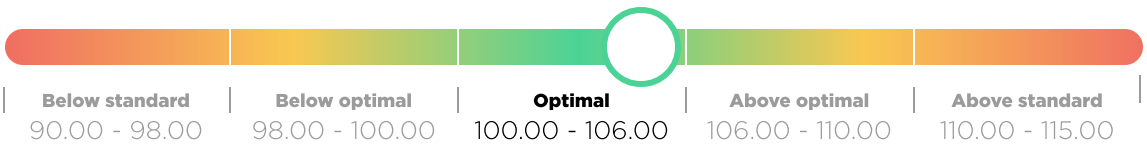
ELECTROLYTES

Sodium
139.00 mmol/L

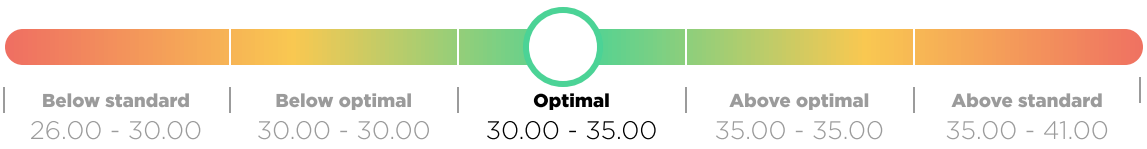


Potassium
4.30 mmol/L

Chloride
105.00 mmol/L

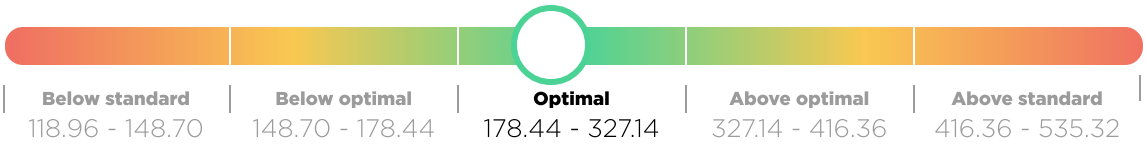


Sodium : Potassium
32.32 ratio



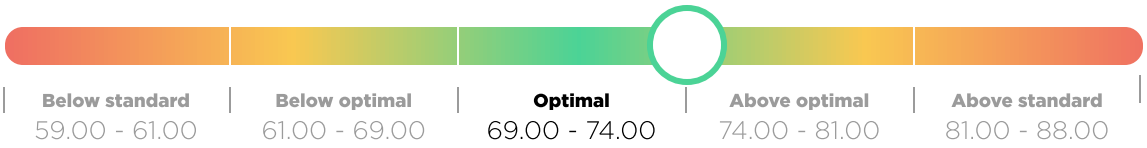
METABOLIC

Uric Acid - Female
245.00 µmol/L

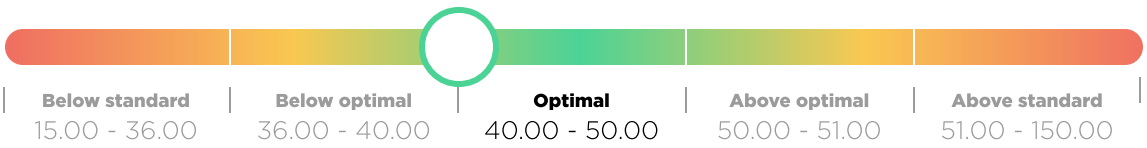


PROTEINS

Protein - Total
74.00 g/L

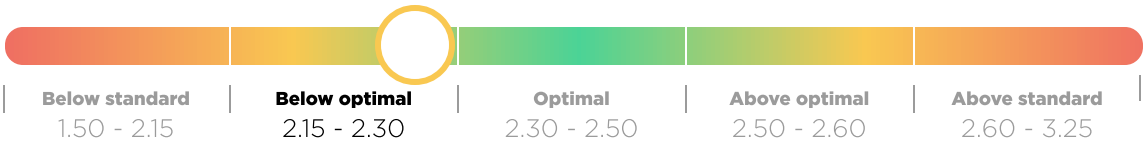


Albumin
40.00 g/L

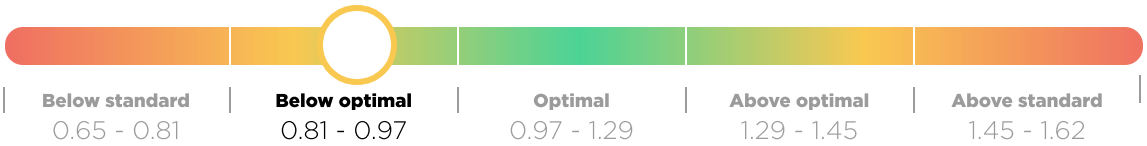


MINERALS

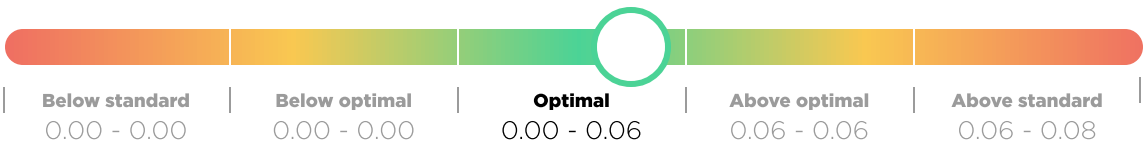
Calcium
2.27 mmol/L



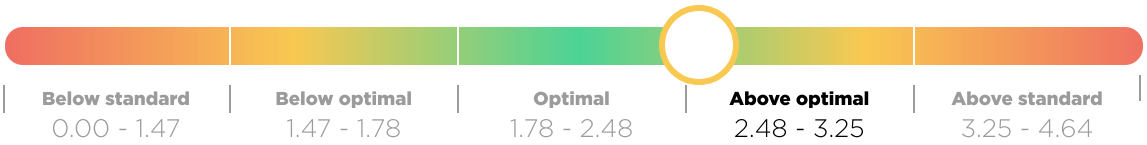
Phosphorus
0.90 mmol/L



Calcium : Albumin
0.05 ratio

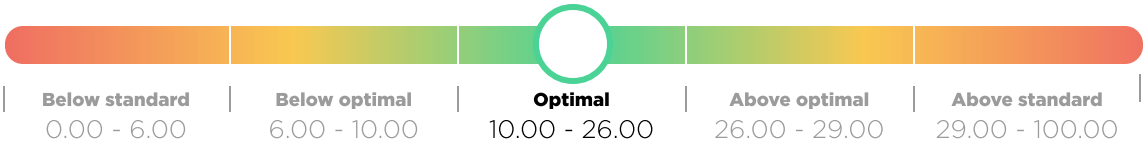


Calcium : Phosphorus
2.52 ratio

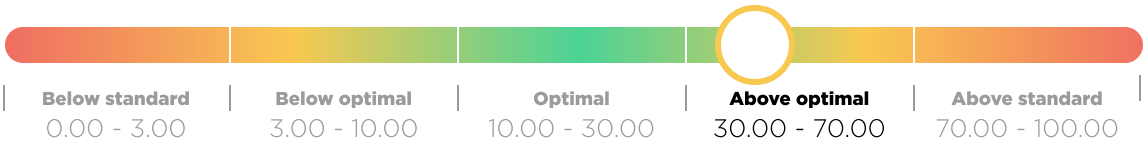


LIVER AND GB

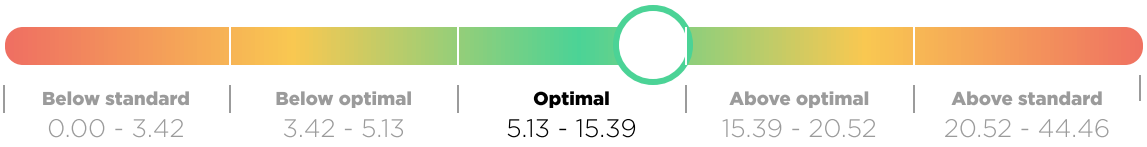
ALT
18.00 IU/L



GGT
42.00 IU/L

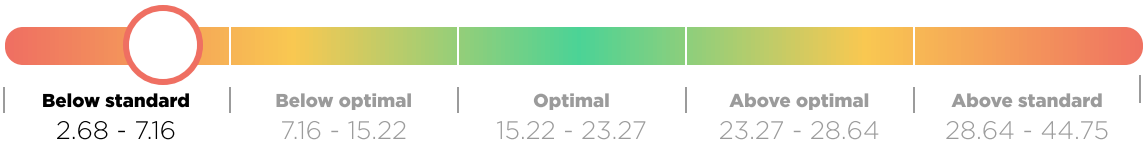


Bilirubin - Total
14.00 µmol/L

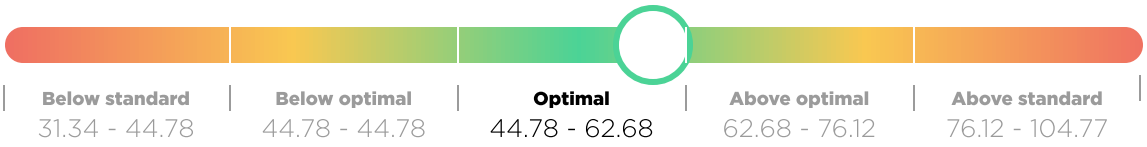


IRON MARKERS

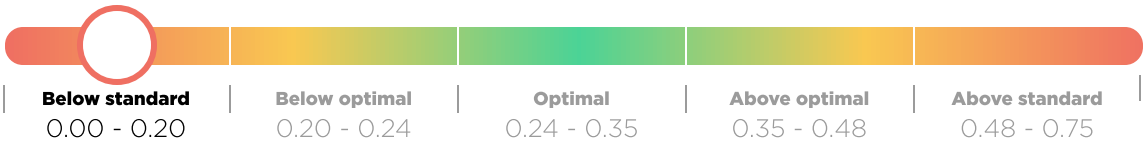
Iron - Serum
5.90 µmol/L



TIBC
60.00 µmol/L

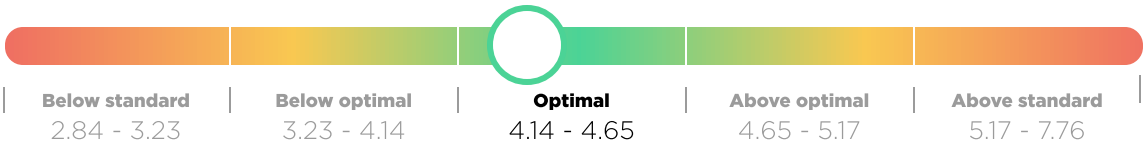


% Transferrin saturation
0.10 fraction saturation

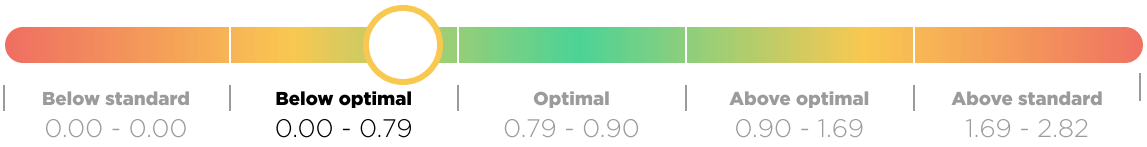


LIPIDS

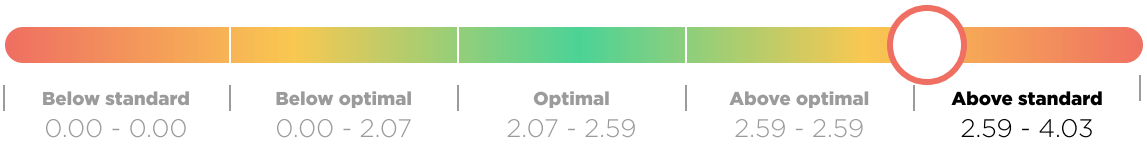
Cholesterol - Total
4.30 mmol/L



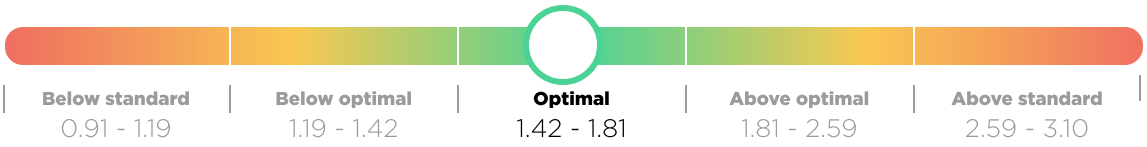
Triglycerides
0.60 mmol/L



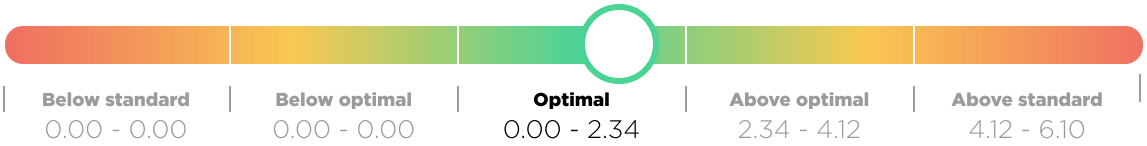
LDL Cholesterol
2.70 mmol/L



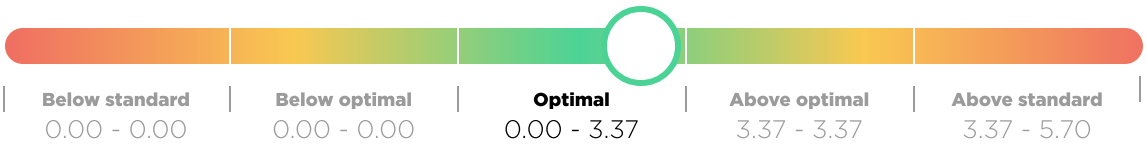
HDL Cholesterol
1.60 mmol/L



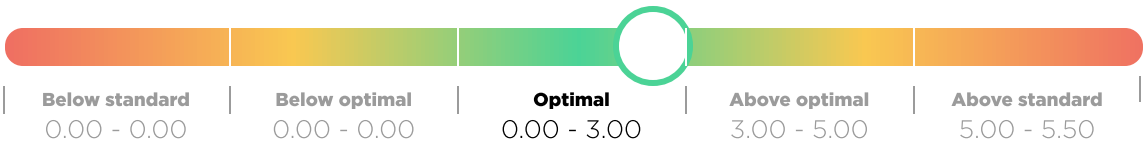
LDL : HDL - Female
1.69 Ratio



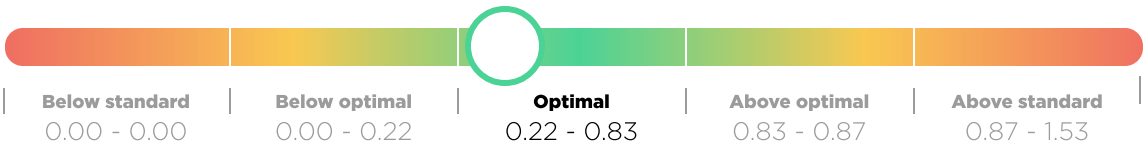
Non-HDL Cholesterol
2.70 mmol/L



Cholesterol : HDL
2.68 Ratio

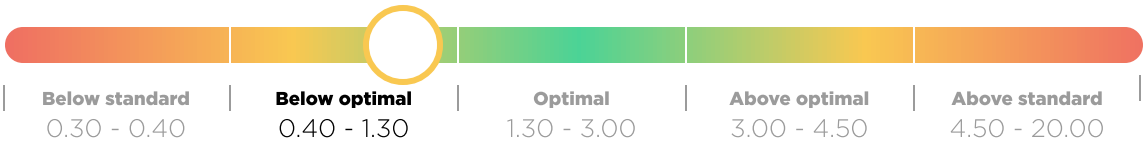


Triglyceride:HDL
0.37 ratio

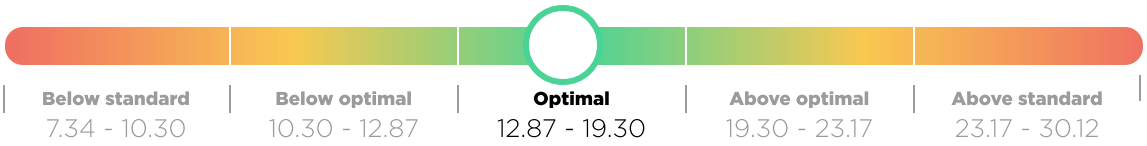


THYROID

TSH
1.08 mIU/L

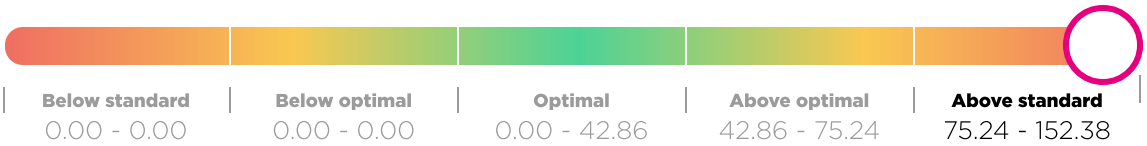


T4 - Free
15.80 pmol/L



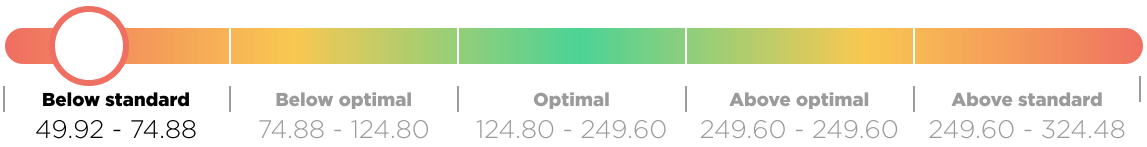
INFLAMMATION

C-Reactive Protein
171.00 nmol/L



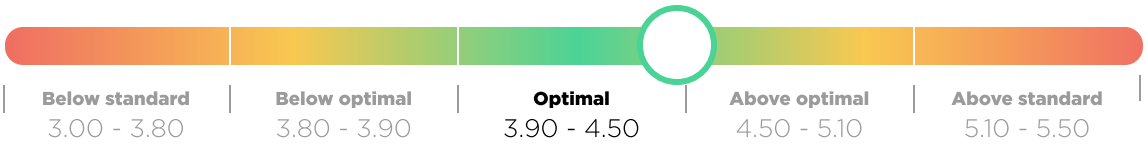
VITAMINS

Vitamin D (25-OH)
55.00 nmol/L

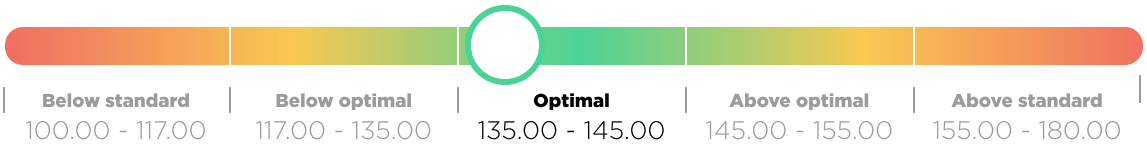


CBC/HEMATOLOGY

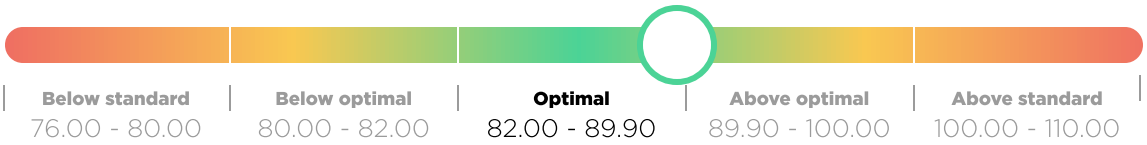
RBC - Female
4.47 10E12/L



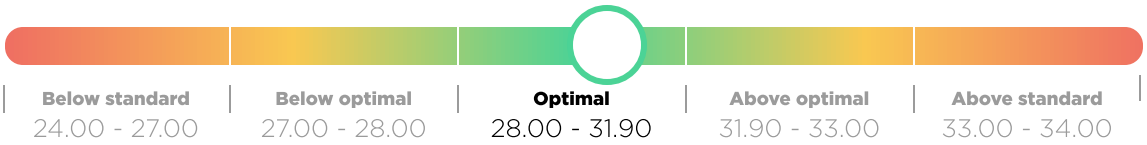
Hemoglobin - Female
137.00 g/L



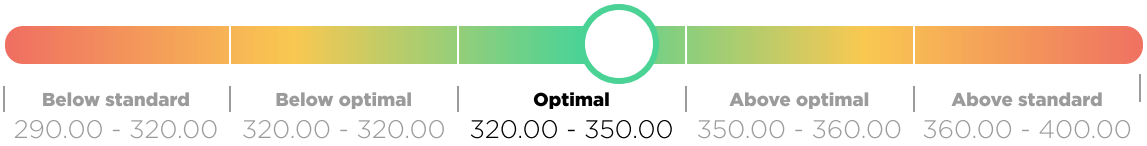
MCV
89.70 fL



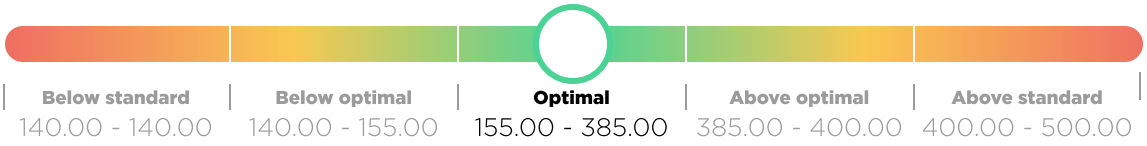
MCH
30.60 pg



MCHC
342.00 g/L

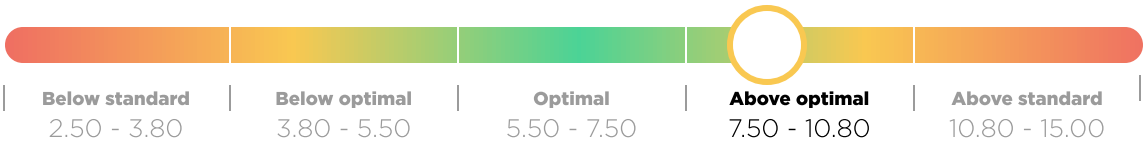


Platelets
276.00 x10E9/L

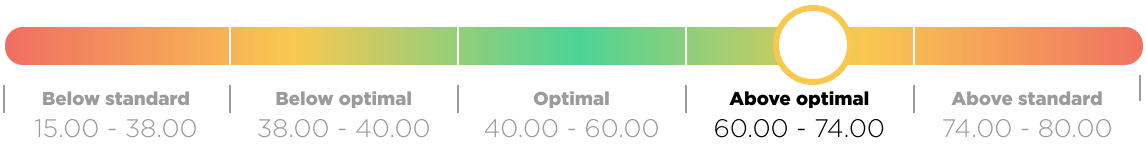


WHITE BLOOD CELLS

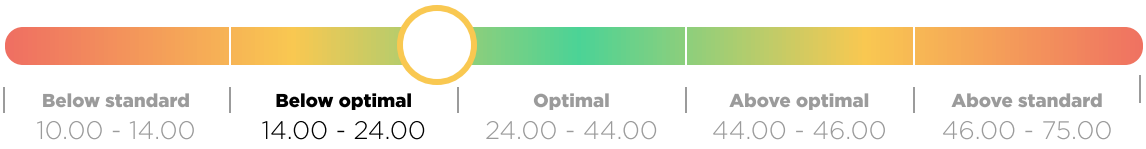
Total WBCs
8.80 giga/L



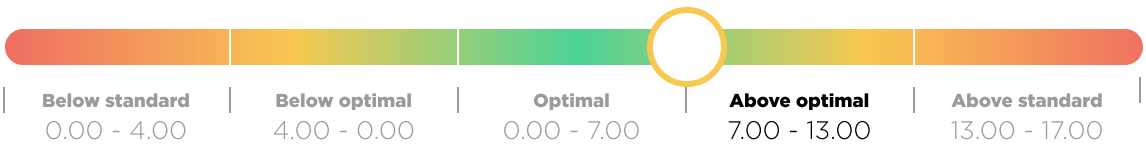
Neutrophils - %
67.95 %



Lymphocytes - %
23.30 %

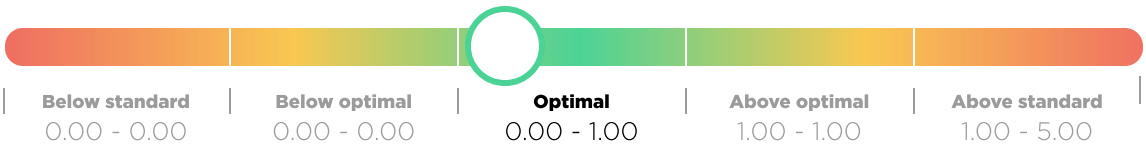


Monocytes - %
7.16 %

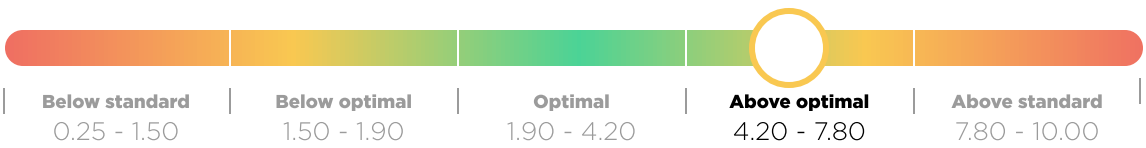


Eosinophils - %
1.82 %

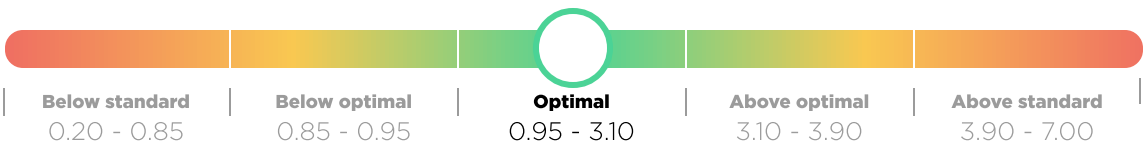
Basophils - %
0.23 %



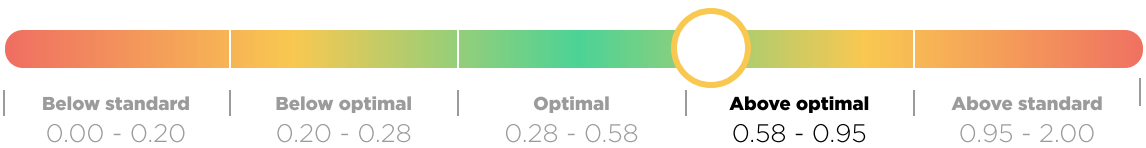
Neutrophils - Absolute
5.98 giga/L



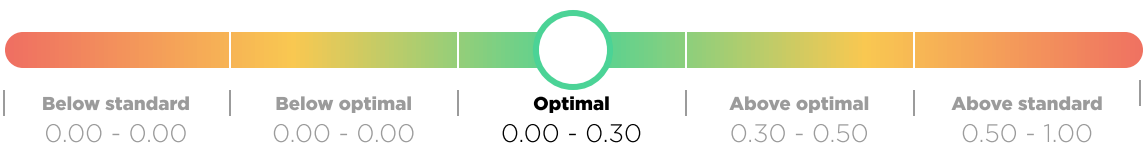
Lymphocytes - Absolute
2.05 giga/L



Monocytes - Absolute
0.63 giga/L



Eosinophils - Absolute
0.16 giga/L



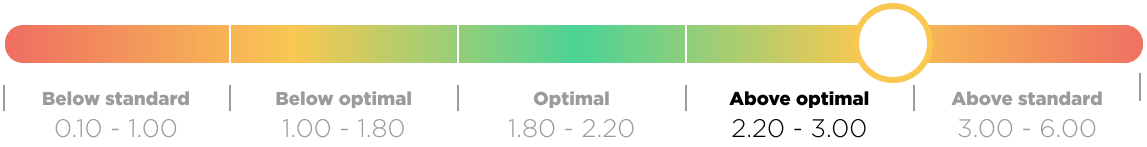
WHITE BLOOD CELLS (CONTINUED)

Basophils - Absolute

0.02 giga/L

Neutrophil : Lymphocyte

2.92 Ratio



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	3	7	33	8	1	1	53

Above Optimal

171.00
nmol/L

C-REACTIVE PROTEIN

C-Reactive Protein is a blood marker that can help indicate the level of inflammation in the body.

2.92
Ratio

NEUTROPHIL : LYMPHOCYTE

The neutrophil-lymphocyte ratio (NLR) reflects important components of the cell-mediated inflammatory response, i.e. neutrophils and lymphocytes. Elevated levels are seen in bacterial infections and are considered a marker of systemic inflammation and metabolic dysfunction such as metabolic syndrome and thyroid dysfunction.

5.98
giga/L

NEUTROPHILS - ABSOLUTE

Neutrophils are the white blood cells used by the body to combat bacterial infections and are the most numerous and important white cell in the body's reaction to inflammation. *Neutrophils - Absolute* is an actual count of the number of neutrophils in a known volume of blood. Levels will be raised in bacterial infections.

8.80
giga/L

TOTAL WBCS

The total White Blood Cell (WBC) count measures the sum of all the WBCs in the peripheral blood. Increased total White Blood Cell Levels are associated with acute bacterial or viral infections and may be seen in people who eat a diet of highly refined foods.

42.00
IU/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.

67.95
%

NEUTROPHILS - %

Neutrophils are the white blood cells used by the body to combat bacterial infections and are the most numerous and important white cell in the body's reaction to inflammation. Neutrophils - % tells us the % distribution of neutrophils in the total white blood cell count. Levels will be increased in bacterial infections.

2.70
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.

2.52
ratio

CALCIUM : PHOSPHORUS

The Calcium:Phosphorus ratio is determined from the serum calcium and serum phosphorus levels. This ratio is maintained by the parathyroid glands and is also affected by various foods. A high ratio is often caused by high serum calcium and low serum phosphorus, so investigating the reasons for this is important. A diet high in refined carbohydrates can decrease serum phosphorus thus increasing the Calcium:Phosphorus ratio.

0.63
giga/L

MONOCYTES - ABSOLUTE

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

7.16
%

MONOCYTES - %

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

Below Optimal

0.60
mmol/L

TRIGLYCERIDES

Serum triglycerides are composed of fatty acid molecules that enter the bloodstream 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.

0.10
fraction
saturation

% 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 sensitive screening test for iron deficiency anemia if it is below the optimal range.

5.90
µmol/L

IRON - SERUM

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

55.00
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.

64.00
µmol/L

CREATININE

Creatinine is produced primarily from the contraction of muscle and is removed by the kidneys. Decreased levels are associated with muscle loss.

0.90
mmol/L

PHOSPHORUS

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

3.20
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. A low BUN is associated with malabsorption, a decrease in difestive enzymes called pancreatic insufficiency and a diet low in protein.

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.

1.08
mIU/L

TSH

TSH or thyroid-stimulating hormone is a hormone produced by the anterior pituitary to control the thyroid gland's production of T4, to store T4, and to release it into the bloodstream. TSH synthesis and secretion is regulated by the release of TRH (Thyroid Releasing Hormone) from the hypothalamus. TSH levels describe the body's desire for more thyroid hormone (T4 or T3), which is done in relation to the body's need for energy. A low TSH reflects the body's low need for thyroid hormone. Optimal TSH levels, in a normally functioning pituitary, can tell us that the amount of T4 in the blood matches the body's current need and/or ability to utilize the energy necessary for optimal cell function. When the pituitary is not functioning in an optimal manner, the TSH test can be quite misleading.

23.30
%

LYMPHOCYTES - %

Lymphocytes are a type of white blood cell. Decreased levels are often seen in a chronic viral infection when the body can use up a large number of lymphocytes and oxidative stress. A decreased *Lymphocytes - %* may also indicate the presence of a fatigued immune response, especially with a low Total WBC count.

4

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

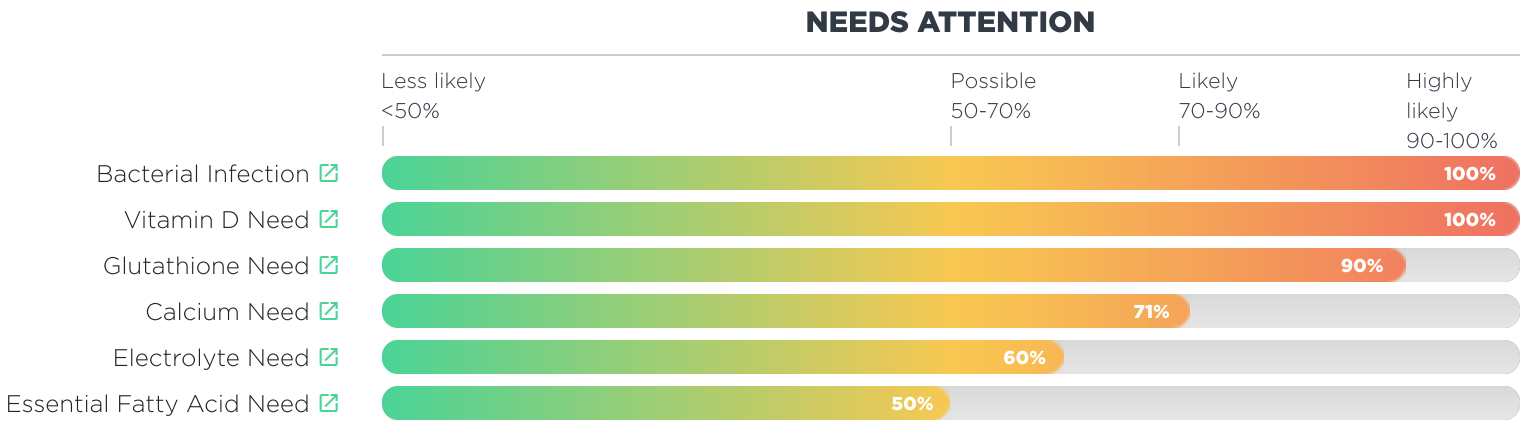
Health Improvement Plan

30 Health Improvement

Health Improvement

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

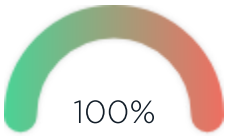
Each area of Health Improvement is included in the section that follows so you can read a detailed description and individual explanation of the results shown in this report.



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.

BACTERIAL INFECTION

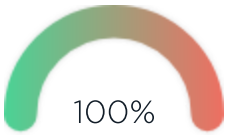


The results of your blood test indicate a tendency towards a bacterial infection and a need for immune support.

Rationale

Neutrophils - % ↑, Total WBCs ↑, Neutrophils - Absolute ↑, Monocytes - % ↑, Lymphocytes - % ↓

VITAMIN D NEED

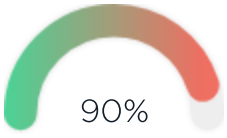


The results of your blood test indicate that your vitamin D levels might be lower than optimal and shows a need for vitamin D supplementation.

Rationale

Vitamin D (25-OH) ↓

GLUTATHIONE NEED

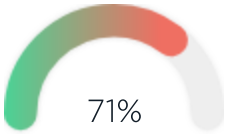


The results of your blood test indicate that your glutathione levels might be lower than optimal and may show a need for glutathione supplementation.

Rationale

GGT ↑

CALCIUM NEED

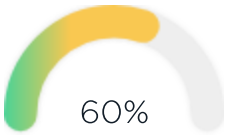


The results of your blood test indicate that your calcium levels might be lower than optimal and shows a need for calcium supplementation.

Rationale

Calcium ↓, Vitamin D (25-OH) ↓

ELECTROLYTE NEED

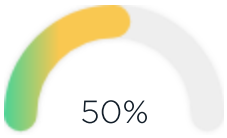


The results of your blood test indicate that your electrolytes might be lower than optimal and shows a need for electrolyte/mineral supplementation.

Rationale

Calcium ↓, Phosphorus ↓

ESSENTIAL FATTY ACID NEED



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

Rationale

Triglycerides ↓, GGT ↑

5

Appendix

33 Disclaimer

Disclaimer

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Neither this Report, nor any information contained in this Report, should be considered complete, or exhaustive. This report does not contain information on all diseases, ailments, physical conditions or their treatment. This report is based on the lab data provided, which may or may not include all relevant and appropriate measures of your biochemistry.

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) and any mentioned supplement, product or treatment is not intended to diagnose, treat, cure or prevent any disease. The information contained in this Report has not been evaluated by the FDA.

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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.

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