

MaxDX

Functional Performance Analysis



Patient Report

Prepared for	A Anon - 19
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Introduction

- What's Inside?
- Functional BCA
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What's Inside?

An introduction to functional blood chemistry anaysis and your report.

Your view into your health through an in-depth functional system and nutrient evaluation.

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

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

SECTION 1: INTRODUCTION

- What's Inside?
- Functional BCA
- Patient Report

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- Functional Body Systems
- Accessory Systems
- Macronutrient Status
- Nutrient Deficiencies
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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 dysfunctional, i.e. their physiological systems are no longer functioning properly and they are starting to feel un-well.

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

THE FUNCTIONAL APPROACH

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

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

THE FUNCTIONAL HEALTH REPORT

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

SUMMARY

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

Patient Report

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



MR. JONATHAN COHEN, MSC MBANT CNHC **REG**

Other Practitioner

THE FUNCTIONAL HEALTH REPORT

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

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

ASSESSMENT

The Assessment section is at the very heart of the Functional Health Report. It is here that the findings of the algorithmic trend analysis are presented. The Body Systems and Accessory Reports show the level of dysfunction that exists in the various physiological and supporting accessory systems in your body. The Nutrient Systems report gives you an indication of your general nutritional status as well as the degree of deficiency for individual nutrients.

All the information on the Assessment section of the report is summarized in the Health Improvement Plan, which focuses on the top areas of need as presented in this report.

ANALYSIS

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

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

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

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

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

APPENDIX

The appendices contain highly detailed descriptions and interpretation explanations of the results presented in each of the reports in the assessment and analysis sections.

Here you will be able to read in depth what each biomarker means, see the patterns used in the algorithmic analysis and see what factors have gone into the creation of the health trend assessment levels reported.

This section is both informative and highly educational.





Your view into your health through an in-depth functional system and nutrient evaluation.



- Functional Body Systems
- 8 Accessory Systems
- Macronutrient Status
- 10 Nutrient Deficiencies
- 11 Health Improvement

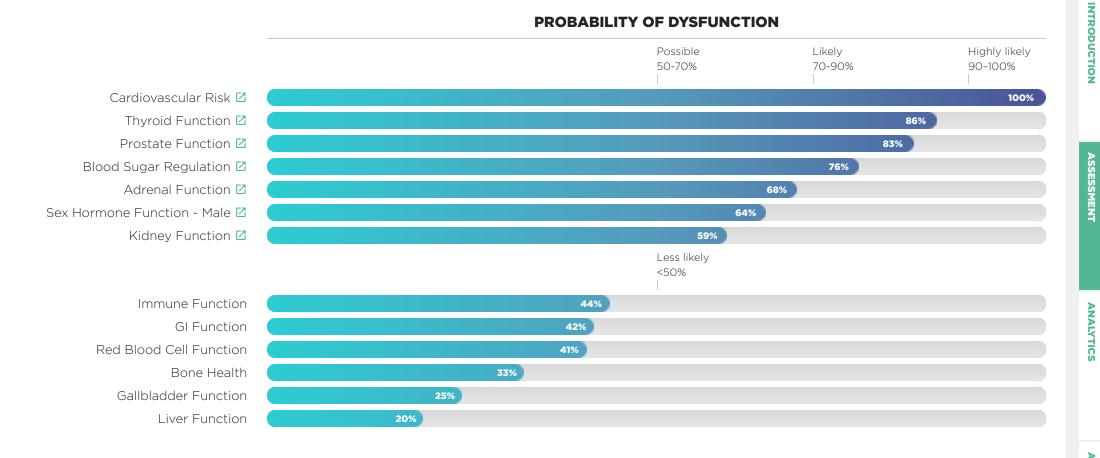


Functional Body Systems

The Functional Body System results opposite 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.

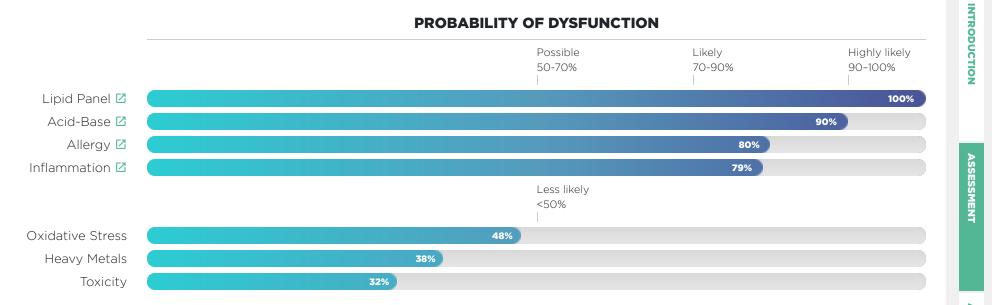
Each Body System that has a probability of dysfunction above 50% is hyperlinked into the appendix section so you can read a highly detailed description and individual explanation of the results shown in this report.



The Accessory System results opposite 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 hyperlinked into the appendix section so you can read a highly detailed description and individual explanation of the results shown in this report.



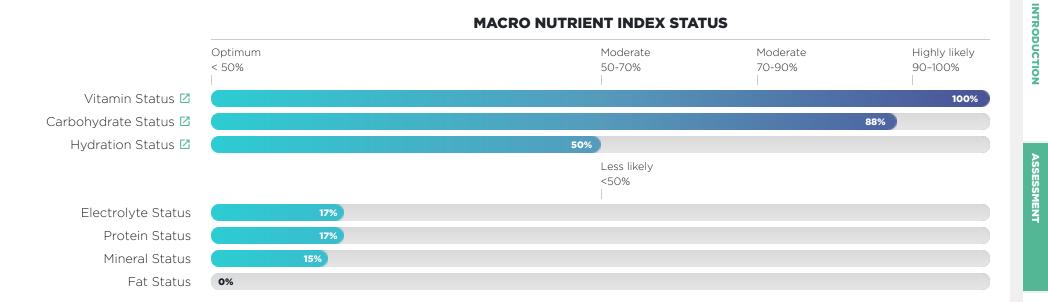


Macronutrient Status

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

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

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



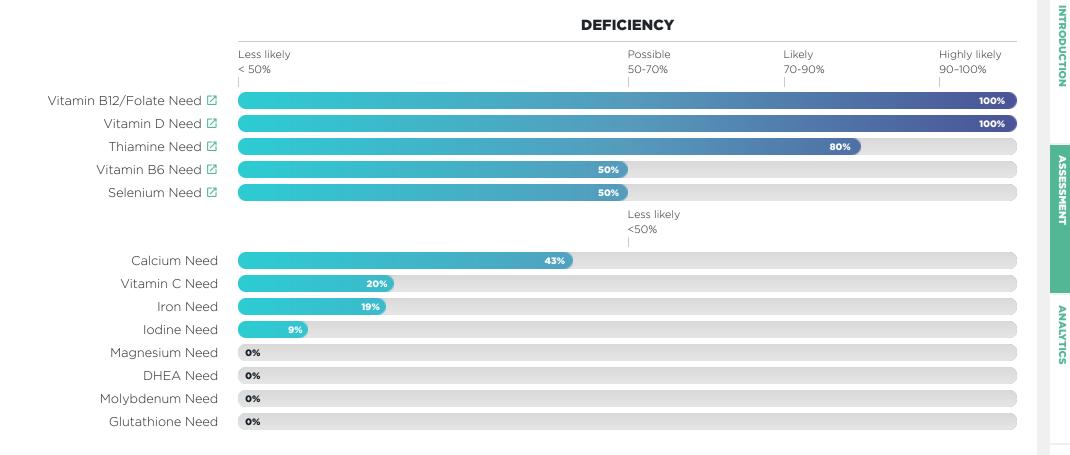
Accessory

Systems

Individual Nutrient Deficiencies

The values opposite 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 hyperlinked into the appendix section so you can read a highly detailed description and individual explanation of the results shown in this report.

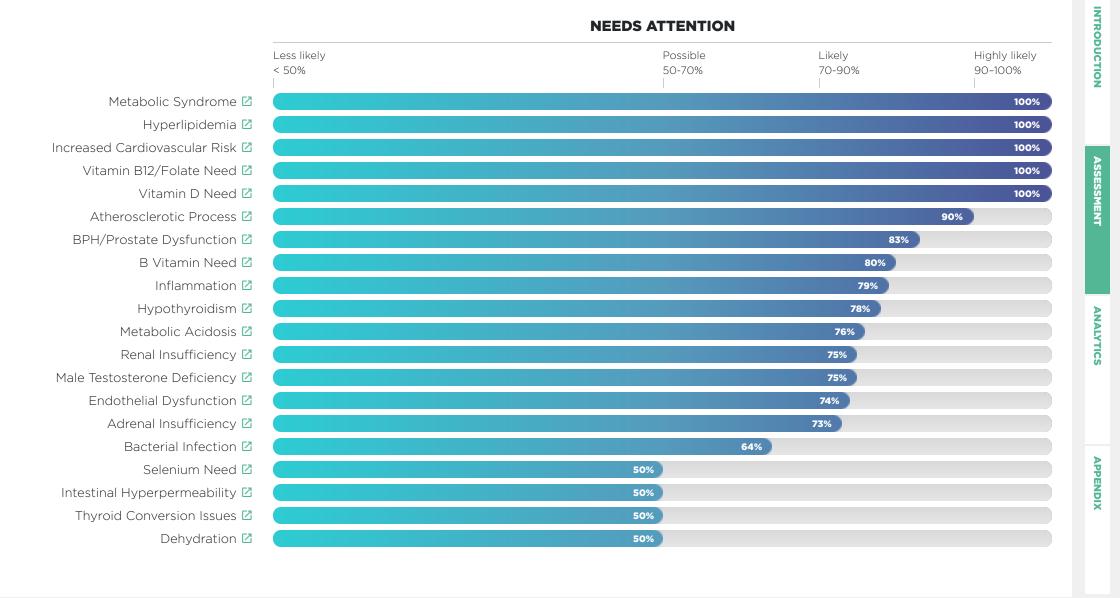


Status

Health Improvement Plan

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





Analytics

- 13 Blood Test Results
- 28 Blood Test Results Comp.
- 32 % Deviation From Optimal
- 35 Blood Test History
- 46 Out of Optimal Range



Lipids

Renal Liver and GB CBC/Hematology Prostate Iron Markers White Blood Cells Electrolytes Metabolic Thyroid

Enzymes Inflammation

Proteins Vitamins

Blood Test Results

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

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

Total number of biomarkers by optimal range















81

Alarm low

Below standard

Below optimal

Optimal

Above optimal

Above standard Alarm high

Total

INTRODUCTION

eGFR 🔼

mL/min

Above standard

0.09 - 0.12

Above optimal

0.06 - 0.09

Below optimal

0.02 - 0.04

Optimal 0.04 - 0.06

Below standard

Optimal

90.00 - 200.00

Above optimal

200.00 - 200.00

Below optimal

90.00 - 90.00

Below standard

29.00 - 90.00

BUN:Creatinine

Ratio

Above standard

INTRODUCTION

ASSESSMENT

Hormones

Blood Test

Results

Renal Liver and GB CBC/Hematology

% Deviation

From Optimal

Blood Test

Results Comp.

Prostate Iron Markers White Blood Cells

Blood Test

History

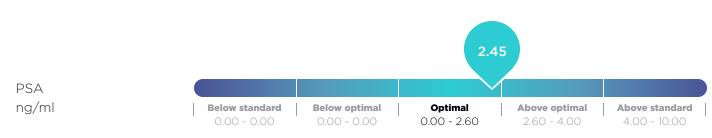
Electrolytes Lipids

Metabolic Thyroid

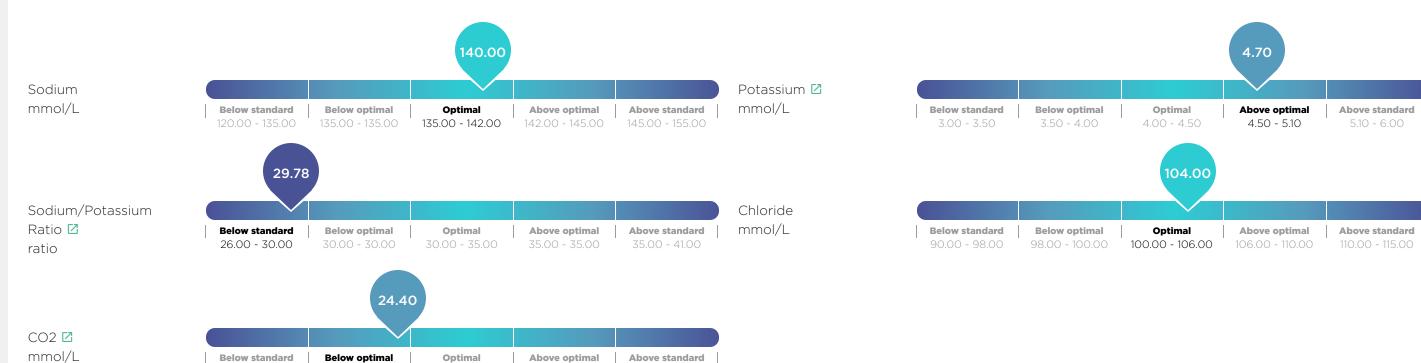
Enzymes Inflammation Proteins Vitamins

PROSTATE

ANALYTICS



ELECTROLYTES



Above standard

30.00 - 40.00

5.10 - 6.00

Below standard

Below optimal

19.00 - 25.00

Above optimal

Optimal

25.00 - 30.00

APPENDIX

Below standard

Below optimal

13.00 - 22.00

Optimal

22.00 - 51.00

Above optimal

51.00 - 60.00

Above standard

Above standard

60.00 - 250.00

Below standard

5.00 - 21.00

Below optimal

21.00 - 28.00

Optimal

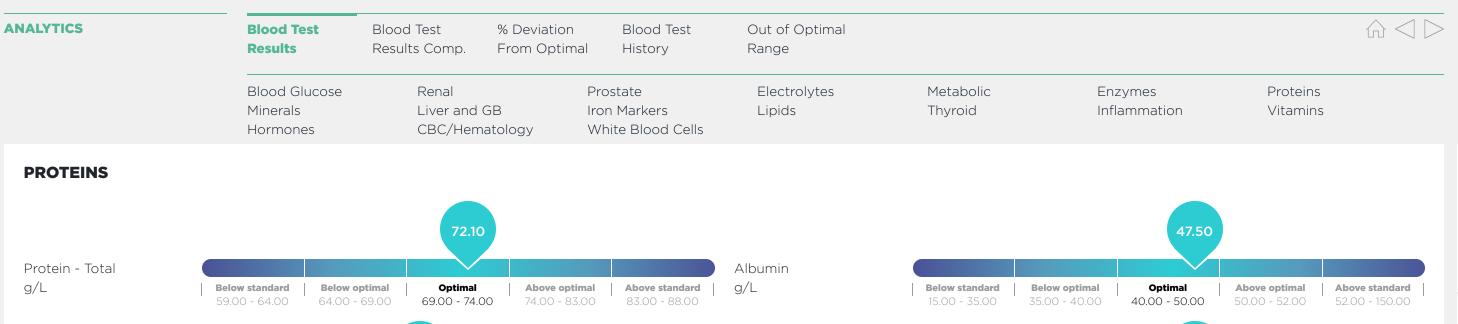
28.00 - 100.00

Above optimal

INTRODUCTION

ASSESSMENT

APPENDIX



Albumin:Globulin

Below standard

Below optimal

0.90 - 1.40

Ratio

Above standard

37.00 - 45.00



Above standard

2.00 - 5.00

1.93

Optimal

1.40 - 2.10

Above optimal

2.10 - 2.00

Globulin - Total

g/L

Below standard

24.60

Optimal

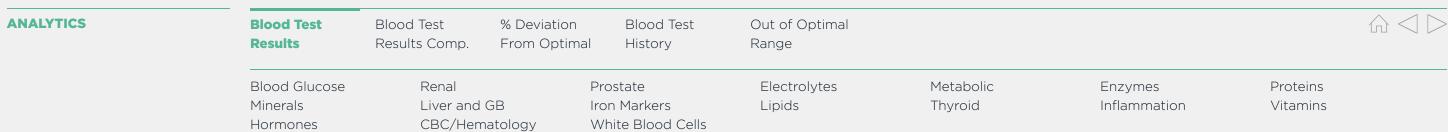
24.00 - 28.00

Above optimal

28.00 - 37.00

Below optimal

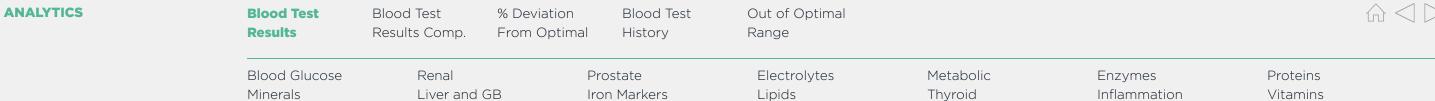
19.00 - 24.00













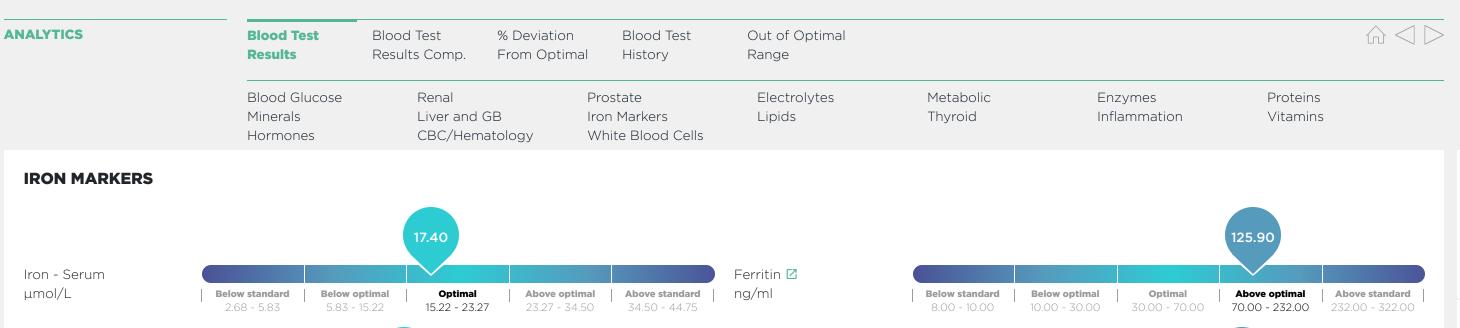
Above standard

38.50

Above optimal

35.00 - 50.00

Optimal



%

Above standard

76.12 - 104.77

% Transferrin saturation

Below standard

0.00 - 20.00

Below optimal

20.00 - 20.00

45.20

Optimal

44.78 - 62.68

Below optimal

44.78 - 44.78

Above optimal

62.68 - 76.12

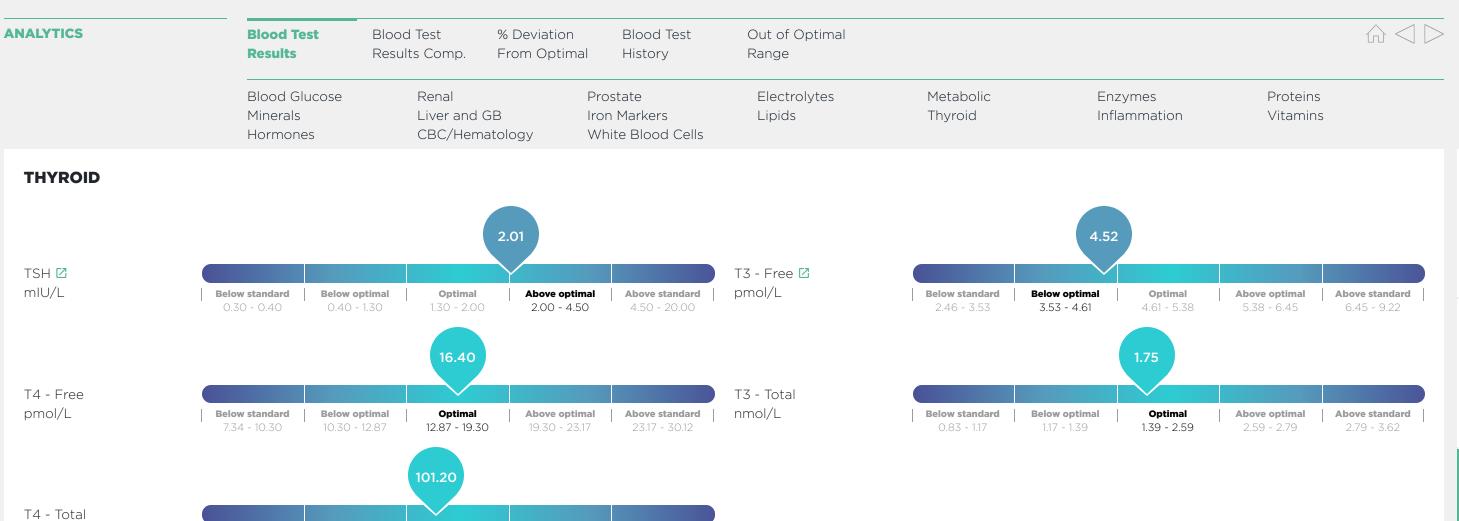
Below standard

31.34 - 44.78

TIBC

umol/L

FunctionalDX Functional Health Report | A Anon - 19 DOB Sep 22, 1959. Age at testing 59 | Lab test May 03, 2019 | functionaldx.com



Above standard

154.44 - 173.74



nmol/L

Below standard

43.76 - 57.92

Below optimal

57.92 - 77.22

Optimal

77.22 - 153.15

Above optimal

153.15 - 154.44

Fibrinogen umol/L

Below optimal

5.14 - 8.67

Optimal

8.67 - 10.85

Above optimal

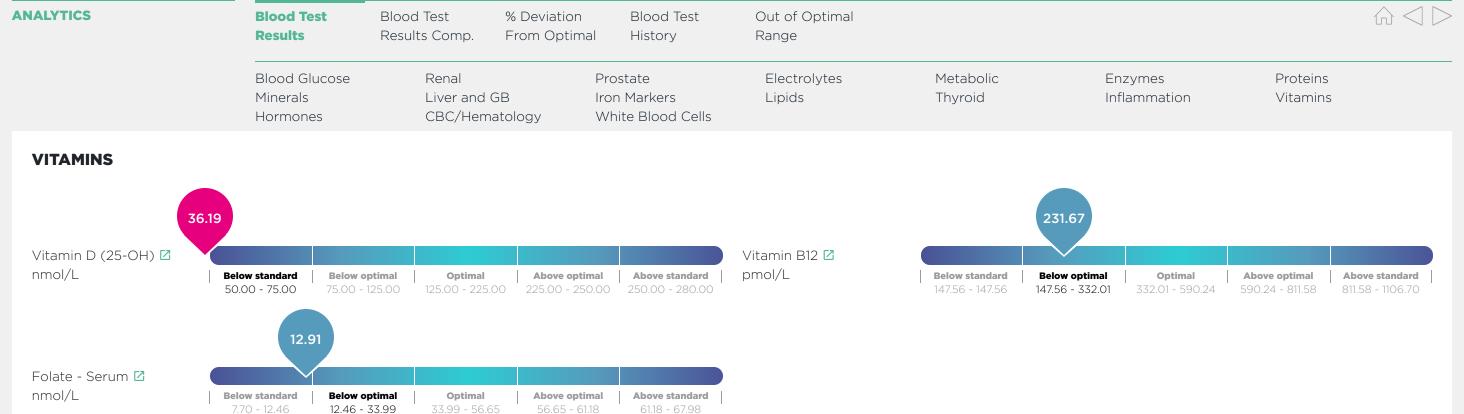
10.85 - 12.50

Below standard

3.62 - 5.14

Above standard

12.50 - 16.17





Blood Glucose Minerals

Blood Test

Results

Renal Liver and GB CBC/Hematology

% Deviation

From Optimal

Blood Test

Results Comp.

Prostate Iron Markers White Blood Cells

Blood Test

History

Electrolytes Lipids

Out of Optimal

Range

Metabolic Thyroid

Enzymes Inflammation Proteins Vitamins



		10.90			
Taskaskanas					
Testosterone					
Bioavailable - Male 🗹 nmol/L	Below standard 1.73 - 3.81	Below optimal 3.81 - 13.00	Optimal 13.00 - 19.94	Above optimal 19.94 - 19.94	Above standard 19.94 - 26.00



ANALYTICS



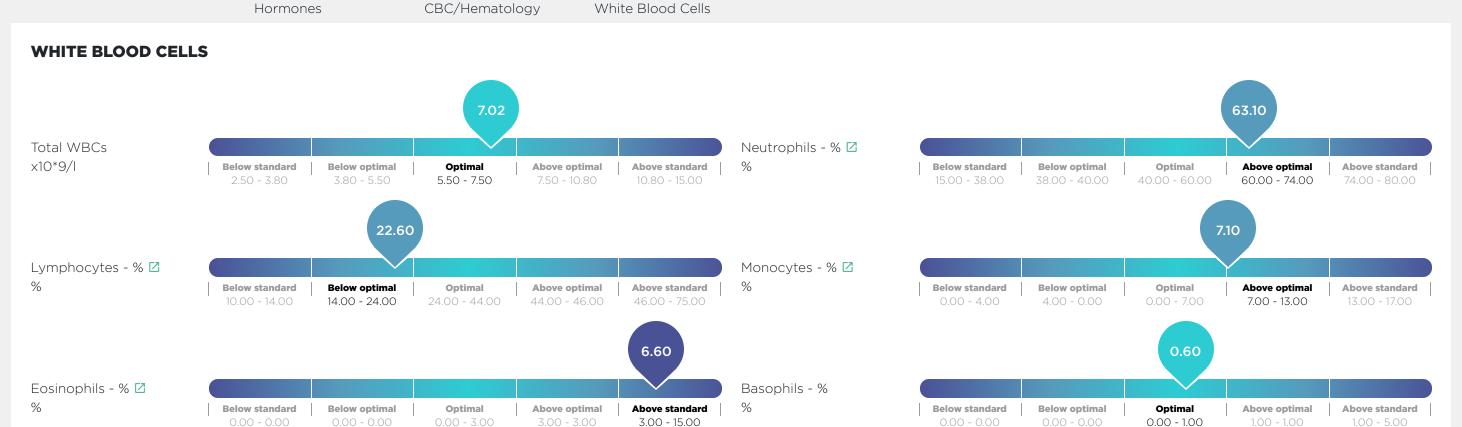




ANALYTICS

Blood Glucose Electrolytes Enzymes Renal Prostate Metabolic Proteins

Thyroid Minerals Liver and GB Iron Markers Lipids Inflammation Vitamins



INTRODUCTION

ASSESSMENT

APPENDIX

Blood Test Results Comparative

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

Comparative total number of biomarkers by optimal range								
Current	1	3	14	35	17	8	3	
Previous	0	0	0	0	0	0	0	
	Alarm low	Below standard	Below optimal	Optimal	Above optimal	Above standard	Alarm high	



Blood Test Results

Blood Test Results Comp. % Deviation From Optimal Blood Test History

Out of Optimal Range

INTRODUCTION

Comparative Report

continued

Biomarker	Current May 03 2019	Optimal range	Standard range	Units
RBC - Male	5.02	4.20 - 4.90	4.20 - 5.80	x10*12/L
Haemoglobin - Male	137.00	140.00 - 150.00	132.00 - 171.00	g/L
Haematocrit - Male	0.41	0.40 - 0.48	0.38 - 0.50	Prop. of 1.0
MCV	82.10	82.00 - 89.90	80.00 - 100.00	fL
MCH	27.30	28.00 - 31.90	27.00 - 33.00	pg
MCHC	333.00	320.00 - 350.00	320.00 - 360.00	g/L
RDW	14.90	11.70 - 13.00	11.00 - 15.00	%
Total WBCs	7.02	5.50 - 7.50	3.80 - 10.80	x10*9/I
Neutrophils - %	63.10	40.00 - 60.00	38.00 - 74.00	%
Lymphocytes - %	22.60	24.00 - 44.00	14.00 - 46.00	%
Monocytes - %	7.10	0.00 - 7.00	4.00 - 13.00	%
Eosinophils - %	6.60	0.00 - 3.00	0.00 - 3.00	%
Basophils - %	0.60	0.00 - 1.00	0.00 - 1.00	%
Platelets	256.00	155.00 - 385.00	140.00 - 400.00	x10*9/I
Glucose - Fasting	4.36	4.16 - 4.77	3.90 - 5.50	mmol/L
Haemoglobin A1C	5.74	4.60 - 5.50	0.00 - 5.90	%
Iron - Serum	17.40	15.22 - 23.27	5.83 - 34.50	μmol/L
Cholesterol - Total	6.23	4.14 - 4.65	3.23 - 5.17	mmol/L
Triglycerides	1.32	0.79 - 0.90	0.00 - 1.69	mmol/L
HDL Cholesterol	1.24	1.42 - 1.81	1.19 - 2.59	mmol/L
LDL Cholesterol	4.38	2.07 - 2.59	0.00 - 2.59	mmol/L
VLDL Cholesterol	0.61	0.00 - 2.59	0.00 - 7.51	mmol/L
Cholesterol:HDL	5.02	0.00 - 4.00	0.00 - 5.00	Ratio
Triglyceride:HDL	1.06	0.00 - 0.87	0.00 - 0.87	Ratio
Alk Phos	80.00	70.00 - 100.00	40.00 - 129.00	U/L
AST	15.00	10.00 - 26.00	0.00 - 32.00	IU/L
ALT	10.00	10.00 - 26.00	0.00 - 33.00	U/L
GGT	29.00	10.00 - 30.00	3.00 - 70.00	U/L
Protein - Total	72.10	69.00 - 74.00	64.00 - 83.00	g/L
Albumin	47.50	40.00 - 50.00	35.00 - 52.00	g/L
Globulin - Total	24.60	24.00 - 28.00	19.00 - 37.00	g/L
Albumin:Globulin	1.93	1.40 - 2.10	0.90 - 2.00	Ratio
Bilirubin - Total	9.30	1.71 - 15.39	3.42 - 20.52	μmol/L
Bilirubin - Direct	3.80	0.00 - 3.25	0.00 - 3.42	Umol/L

ANALYTICS

Blood Test Results

Blood Test Results Comp. % Deviation From Optimal Blood Test History

Out of Optimal Range

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INTRODUCTION

Biomarker	Current May 03 2019	Optimal range	Standard range	Units
Bilirubin - Indirect	5.50	1.71 - 11.97	3.42 - 20.52	Umol/L
Sodium	140.00	135.00 - 142.00	135.00 - 145.00	mmol/L
Potassium	4.70	4.00 - 4.50	3.50 - 5.10	mmol/L
Sodium/Potassium Ratio	29.78	30.00 - 35.00	30.00 - 35.00	ratio
Chloride	104.00	100.00 - 106.00	98.00 - 110.00	mmol/L
Urea	6.10	3.57 - 5.71	2.50 - 8.92	mmol/L
Creatinine	112.00	70.72 - 97.24	35.36 - 132.60	umol/L
eGFR	62.00	90.00 - 200.00	90.00 - 200.00	mL/min
Uric Acid - Male	391.00	208.18 - 350.93	205.21 - 475.84	umol/L
Calcium	2.30	2.30 - 2.50	2.15 - 2.60	mmol/L
Phosphorus	0.96	0.97 - 1.29	0.81 - 1.45	mmol/L
Calcium:Phosphorous	2.39	1.78 - 2.09	1.78 - 2.09	Ratio
Calcium:Albumin	0.04	0.00 - 0.06	0.00 - 0.06	Ratio
Magnesium - Serum	0.91	0.83 - 1.04	0.62 - 1.04	mmol/L
Creatine Kinase	0.97	1.09 - 2.25	0.73 - 3.27	ukat/L
Amylase	63.00	28.00 - 100.00	21.00 - 103.00	U/L
Lipase	29.00	22.00 - 51.00	13.00 - 60.00	U/L
LDH	159.00	140.00 - 200.00	120.00 - 250.00	U/L
C-Reactive Protein	69.53	0.00 - 42.86	0.00 - 75.24	nmol/L
Hs CRP - Male	64.38	0.00 - 5.24	0.00 - 27.62	nmol/L
BUN:Creatinine	0.05	0.04 - 0.06	0.02 - 0.09	Ratio
CO2	24.40	25.00 - 30.00	19.00 - 30.00	mmol/L
Anion Gap	16.30	7.00 - 12.00	6.00 - 16.00	mmol/L
TSH	2.01	1.30 - 2.00	0.40 - 4.50	mIU/L
T3 - Free	4.52	4.61 - 5.38	3.53 - 6.45	pmol/L
T4 - Free	16.40	12.87 - 19.30	10.30 - 23.17	pmol/L
T3 - Total	1.75	1.39 - 2.59	1.17 - 2.79	nmol/L
T4 - Total	101.20	77.22 - 153.15	57.92 - 154.44	nmol/L
Progesterone - Male	0.41	3.18 - 3.82	0.64 - 4.13	nmol/L
Estradiol - Male	128.12	73.42 - 110.13	41.48 - 158.59	pmol/L
Testosterone Total - Male	19.30	24.27 - 28.95	8.67 - 34.67	nmol/L
Sex Hormone Binding Globulin - Male	28.60	30.00 - 40.00	10.00 - 50.00	nmol/L
DHEA-S - Male	10.03	9.45 - 13.23	1.76 - 13.77	umol/L
Homocysteine	18.90	5.00 - 7.20	0.00 - 10.30	μmol/L

ANALYTICS Blood Test **Blood Test** Blood Test Out of Optimal % Deviation Results **Results Comp.** From Optimal History Range

Biomarker	Current May 03 2019	Optimal range	Standard range	Units	
C-Peptide	0.83	0.36 - 0.53	0.26 - 1.03	nmol/L	
Insulin - Fasting	54.17	0.00 - 30.00	0.00 - 114.00	pmol/L	
Vitamin D (25-OH)	36.19	125.00 - 225.00	75.00 - 250.00	nmol/L	
PSA	2.45	0.00 - 2.60	0.00 - 4.00	ng/ml	
ESR - Male	21.00	3.00 - 10.00	0.00 - 15.00	mm/hr	
Ferritin	125.90	30.00 - 70.00	10.00 - 232.00	ng/ml	
Fibrinogen	10.67	8.67 - 10.85	5.14 - 12.50	umol/L	
TIBC	45.20	44.78 - 62.68	44.78 - 76.12	umol/L	
% Transferrin saturation	38.50	20.00 - 35.00	20.00 - 50.00	%	
Vitamin B12	231.67	332.01 - 590.24	147.56 - 811.58	pmol/L	
Folate - Serum	12.91	33.99 - 56.65	12.46 - 61.18	nmol/L	
Testosterone Free - Male	0.42	0.52 - 0.78	0.16 - 0.78	nmol/L	
Testosterone Bioavailable - Male	10.90	13.00 - 19.94	3.81 - 19.94	nmol/L	

% Deviation Report

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

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

Biomarker	Lab result	Optim	nal range	% deviation		Optimal range	
		Low	High	Lov	W		High
Hs CRP - Male	64.38	0.00	5.24	1179			
Homocysteine	18.90	5.00	7.20	582			
Triglycerides	1.32	0.79	0.90	419			
LDL Cholesterol	4.38	2.07	2.59	396			
Cholesterol - Total	6.23	4.14	4.65	355			
C-Peptide	0.83	0.36	0.53	231			
ESR - Male	21.00	3.00	10.00	207			
RDW	14.90	11.70	13.00	196			
Ferritin	125.90	30.00	70.00	190			
Eosinophils - %	6.60	0.00	3.00	170			
Calcium:Phosphorous	2.39	1.78	2.09	147			
Anion Gap	16.30	7.00	12.00	136			
Insulin - Fasting	54.17	0.00	30.00	131			
C-Reactive Protein	69.53	0.00	42.86	112			
Creatinine	112.00	70.72	97.24	106			
Estradiol - Male	128.12	73.42	110.13	99			
Potassium	4.70	4.00	4.50	90			
Uric Acid - Male	391.00	208.18	350.93	78			
Haemoglobin A1C	5.74	4.60	5.50	77			
Cholesterol:HDL	5.02	0.00	4.00	76			
% Transferrin saturation	38.50	20.00	35.00	73			
Triglyceride:HDL	1.06	0.00	0.87	72			
Urea	6.10	3.57	5.71	68			
RBC - Male	5.02	4.20	4.90	67			
Bilirubin - Direct	3.80	0.00	3.25	67			
Neutrophils - %	63.10	40.00	60.00	66			
Monocytes - %	7.10	0.00	7.00	51			
TSH	2.01	1.30	2.00	51			
GGT	29.00	10.00	30.00	45			
PSA	2.45	0.00	2.60	44			
Fibrinogen	10.67	8.67	10.85	42			
Total WBCs	7.02	5.50	7.50	26		•	
Albumin:Globulin	1.93	1.40	2.10	26		•	

ANALYTICS

Blood Test Results

Blood Test Results Comp. % Deviation **From Optimal** Blood Test History

Out of Optimal Range

INTRODUCTION

Biomarker	Lab result	Optim	nal range	% deviation	Optimal range	
		Low	High	Low		High
Albumin	47.50	40.00	50.00	25	•	
Sodium	140.00	135.00	142.00	21	•	
Chloride	104.00	100.00	106.00	17	1	
Protein - Total	72.10	69.00	74.00	12	1	
Calcium:Albumin	0.04	0.00	0.06	12	1	
Basophils - %	0.60	0.00	1.00	10	1	
Bilirubin - Total	9.30	1.71	15.39	5		
T4 - Free	16.40	12.87	19.30	5		
Amylase	63.00	28.00	100.00	1		
Platelets	256.00	155.00	385.00	6	l l	
MCHC	333.00	320.00	350.00	7	l l	
BUN:Creatinine	0.05	0.04	0.06	10	T. Comment	
Magnesium - Serum	0.91	0.83	1.04	10	T. Comment	
Bilirubin - Indirect	5.50	1.71	11.97	13	C C	
Alk Phos	80.00	70.00	100.00	17	T. Comment	
Glucose - Fasting	4.36	4.16	4.77	18	•	
LDH	159.00	140.00	200.00	18		
T4 - Total	101.20	77.22	153.15	18		
AST	15.00	10.00	26.00	19	•	
T3 - Total	1.75	1.39	2.59	20	•	
Iron - Serum	17.40	15.22	23.27	23	•	
Lipase	29.00	22.00	51.00	26	•	
VLDL Cholesterol	0.61	0.00	2.59	26	•	
DHEA-S - Male	10.03	9.45	13.23	35	•	
Globulin - Total	24.60	24.00	28.00	35	•	
Haematocrit - Male	0.41	0.40	0.48	38	•	
TIBC	45.20	44.78	62.68	48		
MCV	82.10	82.00	89.90	49		
Calcium	2.30	2.30	2.50	50		
ALT	10.00	10.00	26.00	50		
Phosphorus	0.96	0.97	1.29	53		
Sodium/Potassium Ratio	29.78	30.00	35.00	54		
Lymphocytes - %	22.60	24.00	44.00	57		

ANALYTICS

Blood Test Results

Blood Test Results Comp. % Deviation **From Optimal** Blood Test History

Out of Optimal Range

	<	

INTRODUCTION

Biomarker	Lab result	Optimal range		% deviation	Optimal range		
		Low	High		Low		High
Creatine Kinase	0.97	1.09	2.25	60			
T3 - Free	4.52	4.61	5.38	61			
CO2	24.40	25.00	30.00	62			
Sex Hormone Binding Globulin - Male	28.60	30.00	40.00	64			
MCH	27.30	28.00	31.90	68			
eGFR	62.00	90.00	200.00	75			
Haemoglobin - Male	137.00	140.00	150.00	80			
Testosterone Bioavailable - Male	10.90	13.00	19.94	80			
Vitamin B12	231.67	332.01	590.24	89			
Testosterone Free - Male	0.42	0.52	0.78	89			
HDL Cholesterol	1.24	1.42	1.81	97			
Vitamin D (25-OH)	36.19	125.00	225.00	139			
Folate - Serum	12.91	33.99	56.65	143			
Testosterone Total - Male	19.30	24.27	28.95	156			
Progesterone - Male	0.41	3.18	3.82	486			

INTRODUCTION

The Blood Test History Report lists the results of your Chemistry Screen and CBC tests side by side with the latest test listed on the right hand side. This report allows you to compare results over time and see where improvement has been made and allows you to track progress.

Key
Optimal
Above / Below optimal
Above / Below standard



Biomarker	2019 May 3	Biomarker	2019 May 3
GLUCOSE - FASTING		HAEMOGLOBIN A1C	5.74
	4.36		
INSULIN - FASTING	54.17	C-PEPTIDE	0.83
UREA	6.1	CREATININE	112

ANALYTICS

Blood Test Results

Blood Test Results Comp. % Deviation From Optimal

Blood Test History

Out of Optimal Range



INTRODUCTION

Biomarker	2019 May 3	Biomarker	2019 May 3	-
BUN:CREATININE	0.05	EGFR		
	0.05		62	
PSA	2.45	SODIUM		
			140	١
POTASSIUM	4.7	SODIUM/ POTASSIUM RATIO		
			29.78	
CHLORIDE	104	CO2		
			24.4	

Blood Test Results

Blood Test Results Comp. % Deviation From Optimal

Blood Test History

Out of Optimal Range

Biomarker	2019 May 3	Biomarker	2019 May 3	INTRODUCTION
ANION GAP	16.3	URIC ACID - MALE	391	JCTION
				ASSESSMENT
CREATINE KINASE		AMYLASE		Ë
	0.97		63	ANALYTICS
LIPASE		PROTEIN - TOTAL	72.1	
	29			APPENDIX
ALBUMIN	47.5	GLOBULIN - TOTAL		
			24.6	

Blood Test Results

Blood Test Results Comp. % Deviation From Optimal **Blood Test** History

Out of Optimal Range

APPENDIX

Blood Test Results

Blood Test Results Comp.

Blood Test History

% Deviation

From Optimal

Out of Optimal Range

	\langle	

Biomarker	2019 May 3	Biomarker	INTRODUCTION
AST	15	ALT 10	ON ASSESSMENT
GGT	29	BILIRUBIN - TOTAL 9.3	U
BILIRUBIN - DIRECT	3.8	BILIRUBIN - INDIRECT 5.5	ANALYTICS APPENDIX
IRON - SERUM	17.4	FERRITIN 125.9	

Blood Test Results

Blood Test Results Comp. % Deviation From Optimal **Blood Test** History

Out of Optimal Range

Blood Test Results

Blood Test Results Comp.

Blood Test % Deviation From Optimal History

Out of Optimal Range



Biomarker	2019 May 3	Biomarker	2019 May 3	
TRIGLYCERIDE:HDL	1.06	TSH	2.01	
T4 - TOTAL		T3 - TOTAL		
	101.2		1.75	
T4 - FREE		T3 - FREE		
	16.4		4.52	
HS CRP - MALE	64.38	C-REACTIVE PROTEIN	69.53	

Blood Test Results

Blood Test Results Comp. % Deviation From Optimal

Blood Test History

Out of Optimal Range

Blood Test Results

Blood Test Results Comp.

Blood Test % Deviation From Optimal History

Out of Optimal Range

Biomarker	2019 May 3	Biomarker	2019 May 3	-
TESTOSTERONE TOTAL - MALE	19.3	SEX HORMONE BINDING GLOBULIN - MALE	28.6	
ESTRADIOL - MALE	128.12	PROGESTERONE - MALE	0.41	
TOTAL WBCS	7.02	RBC - MALE	5.02	
HAEMOGLOBIN - MALE	137	HAEMATOCRIT - MALE	0.41	

Blood Test Results

Blood Test Results Comp. % Deviation From Optimal

Blood Test History

Out of Optimal Range

Biomarker	2019 May 3	Biomarker	2019 May 3
MCV		МСН	
	82.1		27.3
мснс		PLATELETS	
	333		256
RDW		NEUTROPHILS - %	63.1
	14.9		
LYMPHOCYTES - %		MONOCYTES - %	7.1
	22.6		

% Deviation

From Optimal

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

Above Optimal



HS CRP - MALE

High Sensitivity C-Reactive Protein (Hs-CRP) is a blood marker that can help indicate the level of chronic inflammation in the body. Increased levels are associated with in increased risk of inflammation, cardiovascular disease, stroke, and diabetes.



HOMOCYSTEINE

Homocysteine is a molecule formed from the incomplete metabolism of the amino acid methionine. Increased levels of homocysteine are associated with an increased risk of cardiovascular disease and stroke.



TRIGLYCERIDES [2]

Serum triglycerides are composed of fatty acid molecules that enter the blood stream either from the liver or from the diet. Patients that are optimally metabolizing their fats and carbohydrates tend to have a triglyceride level about one-half of the total cholesterol level. Levels will be elevated in metabolic syndrome, fatty liver, in patients with an increased risk of cardiovascular disease, hypothyroidism and adrenal dysfunction. Levels will be decreased in liver dysfunction, a diet deficient in fat, and inflammatory processes.



LDL CHOLESTEROL [2]

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 iust one of many independent risk factors for cardiovascular disease. It is also associated with metabolic syndrome, oxidative stress and fatty liver.

Blood Test

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CHOLESTEROL - TOTAL

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

0.83

C-PEPTIDE

C-Peptide is used as an indicator for insulin production from the pancreas. It can help assess whether a high blood glucose is due to reduced insulin output from the pancreas or due to reduced glucose uptake by the cells, a condition called insulin resistance.



ESR - MALE 🗹

The ESR test is based on the fact that certain blood proteins will become altered in inflammatory conditions, causing aggregation of the red blood cells and as such it is a non-specific measure for inflammation in the body. The ESR is useful for determining the level of tissue destruction, inflammation, and is an indication that a disease process is ongoing and must be investigated.



RDW 🗹

The Red Cell Distribution Width (RDW) is essentially an indication of the degree of abnormal variation in size of red blood cells (called anisocytosis). Although the RDW will increase with vitamin BI2 deficiency, folic acid, and iron anemia, it is increased most frequently with vitamin B12 deficiency anemia.

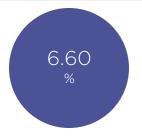
INTRODUCTION

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INTRODUCTION

FERRITIN

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



EOSINOPHILS - %

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.



CALCIUM:PHOSPHOROUS 🖸

The calcium:phosphorous ratio is determined from the serum calcium and serum phosphorous levels. This ratio is maintained by the parathyroid glands and is also affected by various foods. Foods high in phosphorus and low in calcium tend to disrupt the balance and shift the body toward metabolic acidity, depleting calcium and other minerals and increasing inflammation.



ANION GAP

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



INSULIN - FASTING

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



C-REACTIVE PROTEIN

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

CREATININE

Creatinine is produced primarily from the contraction of muscle and is removed by the kidneys. A disorder of the kidney and/or urinary tract will reduce the excretion of creatinine and thus raise blood serum levels. Creatinine is traditionally used with BUN to assess for impaired kidney function. Elevated levels can also indicate dysfunction in the prostate.

% Deviation



ESTRADIOL - MALE

Estradiol is a minor hormone in men. Estradiol is synthesized from testosterone and androstenedione in men and plays a role in male sex hormone physiology. Low levels of estradiol in men affect bone density and risk of fractures if too low.



POTASSIUM

Potassium is one of the main electrolytes in the body. Due to the critical functions of potassium for human metabolism and physiology, it is essential for the body to maintain optimal serum levels even though a small concentration is found outside of the cell. Potassium levels should always be viewed in relation to the other electrolytes. Potassium concentration is greatly influenced by adrenal hormones. Increased levels are associated with adrenal insufficiency and may also be elevated in dehydration.



URIC ACID - MALE

Uric acid is produced as an end product of purine, nucleic acid, and nucleoprotein metabolism. Levels can increase due to overproduction by the body or decreased excretion by the kidneys. Increased uric acid levels are associated with gout, atherosclerosis, oxidative stress, arthritis, kidney dysfunction, circulatory disorders and intestinal permeability. Decreased levels are associated with detoxification issues, molybdenum deficiency, B12/folate anemia and copper deficiency.



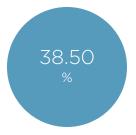
HAEMOGLOBIN A1C

The Hemoglobin A1C test measure the amount of glucose that combines with hemoglobin to form glycohemoglobin during the normal lifespan of a red blood cell, which is about 120 days. The amount of glycohemoglobin formed is in direct proportion to the amount of glucose present in the blood stream during the 120-day red blood cell lifespan. In the presence of high blood glucose levels (hyperglycemia) the amount of hemoglobin that is glycosylated to form glycohemoglobin increases and the hemoglobin A1C level will be high. It is used primarily to monitor long-term blood glucose control and to help determine therapeutic options for treatment and management. Studies have shown that the closer to normal the hemoglobin A1C levels are kept, the less likely those patients are to develop the long-term complications of diabetes.



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%.



% TRANSFERRIN SATURATION

The % transferrin saturation index is a calculated value that tells how much serum iron is actually bound to the iron carrying protein transferrin. A % transferrin saturation value of 15% means that 15% of iron-binding sites of transferrin is being occupied by iron. It is a sign of iron overload or too much iron in the blood if it is above the optimal range.



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.

UREA 🛂

Urea or Blood Urea Nitrogen (BUN) 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 Urea varies with the amount of dietary protein intake. Increased Urea may be due to an increased production of urea by the liver or decreased excretion by the kidney. Urea is a test used predominantly to measure kidney function, where it will be increased. An increased Urea is also associated with dehydration and hypochlorhydria.

5.02

RBC - MALE

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



BILIRUBIN - DIRECT

Direct or conjugated bilirubin is the form of bilirubin that has been made water soluble in the liver so it can be excreted in the bile. An increase in direct or conjugated bilirubin is usually associated with a dysfunction or blockage in the liver, gallbladder, or biliary tree.



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.

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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.



TSH 🗹

TSH is a hormone produced from the anterior pituitary to control thyroid function. TSH stimulates the thyroid cells to increase the production of thyroid hormone (T-4), to store thyroid hormone and to release thyroid hormone into the blood stream. TSH synthesis and secretion is regulated by the release of TRH (Thyroid Releasing Hormone) from the hypothalamus. TSH levels describes the body's desire for more thyroid hormone (T4 or T3), which is done in relation to the body's ability to use energy. A high TSH is the body's way of saying "we need more thyroid hormone". A low TSH is a reflection of the body's low need for thyroid hormone. Optimal TSH levels tell us that the thyroid hormone levels match the body's current need and/or ability to utilize the energy.

Below Optimal



PROGESTERONE - MALE

Progesterone is often considered to be a female hormone but men produce progesterone too. In the body it's converted into testosterone and also serves to oppose and balance estrogen. As men age, their progesterone levels drop, which may cause the testosterone levels to fall.



TESTOSTERONE TOTAL - MALE 🗹

Testosterone is the primary sex hormone for men. The total testosterone test measures both the testosterone that is bound to serum proteins and the unbound form (free testosterone). Decreased total testosterone levels are associated with a number of dysfunctions including metabolic syndrome, an increased risk of cardiovascular disease, increase in abdominal obesity, decreased libido and erectile dysfunction.



FOLATE - SERUM 🗹

Folate functions as a coenzyme in the process of methylation. Along with vitamin B12, folate is essential for DNA synthesis. Low folate intake can result in folate deficiency, which can impair methylation, DNA synthesis, and red blood cell production.



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. Vitamin D deficiency has been associated with many disorders including many forms of cancer, hypertension, cardiovascular disease, chronic inflammation, chronic pain, mental illness including depression, diabetes, multiple sclerosis to name just a few.



HDL CHOLESTEROL

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



TESTOSTERONE FREE - MALE

Testosterone is the primary sex hormone for men. The free testosterone test measures the testosterone that is unbound to serum proteins such as Sex Hormone Binding Globulin (SHBG) and albumin. Decreased free testosterone levels are associated with a number of dysfunctions including metabolic syndrome, an increased risk of cardiovascular disease, increase in abdominal obesity, decreased libido and erectile dysfunction.



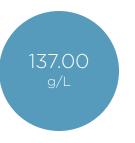
VITAMIN B12 🔼

Vitamin B12 is an essential nutrient for DNA synthesis and red blood cell maturation, and is also necessary for myelin sheath formation and the maintenance of nerves in the body. Decreased serum B12 levels are associated with a deficiency of B12, insufficient B12 intake in the diet or malabsorption.



TESTOSTERONE BIOAVAILABLE - MALE

Bioavailable testosterone is the amount of testosterone in the blood is readily available for biological activity. Decreased bioavailable testosterone levels are associated with a number of dysfunctions including metabolic syndrome, an increased risk of cardiovascular disease, increase in abdominal obesity, decreased libido and erectile dysfunction.



HAEMOGLOBIN - MALE

Hemoglobin is the oxygen carrying molecule in red blood cells. Measuring hemoglobin is useful to determine the cause and type of anemia and for evaluating the efficacy of anemia treatment. Hemoglobin levels may be increased in cases of dehydration.



EGFR 🗹

The eGFR is a calculated estimate of the kidney's Glomerular Filtration Rate. It uses 4 variables: age, race, creatinine levels and gender to estimate kidney function. Levels below 60 are an indication of a loss of kidney function and may require a visit to a renal specialist for further evaluation.

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MCH 🗹

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

% Deviation

28.60

SEX HORMONE BINDING GLOBULIN - MALE [7]

Sex Hormone Binding Globulin (SHBG) is a protein produced primarily in the liver and to some extent the testes, uterus, brain, and placenta. SHBG acts as a transport molecule for carrying estrogen and testosterone around the body and delivering them to receptors on the cells.



CO2 🛂

Carbon Dioxide is a measure of bicarbonate in the blood. CO₂, as bicarbonate, is available for acid-base balancing. Bicarbonate neutralizes metabolic acids in the body. Decreased levels are associated with metabolic acidosis.



T3 - FREE [2]

T-3 is the most active thyroid hormone and is primarily produced from the conversion of thyroxine (T-4) in the peripheral tissue. Free T3 is the unbound form of T3 measured in the blood. Free T3 represents approximately 8 - 10% of circulating T3 in the blood. Free T-3 levels may be elevated with hyperthyroidism and decreased with hypothyroidism.



CREATINE KINASE

Creatine Kinase (CPK) is a group of enzymes found in skeletal muscle, the brain and heart muscle. Damage to one or more of these tissues will liberate CPK into the serum thus raising serum levels. Increased levels of CPK are associated with muscle damage or breakdown, damage to the heart muscle as in an acute MI, heavy exercise and brain damage or inflammation.



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.

Blood Test Results Blood Test Results Comp. % Deviation From Optimal **Blood Test**

History

Out of Optimal Range

SODIUM/POTASSIUM RATIO 🗹

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. An increased sodium:potassium ratio is associated with acute stress and a decreased sodium:potassium ratio is associated with chronic stress and adrenal insufficiency.



PHOSPHORUS [2]

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

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- 59 Functional Body Systems
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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 Highly Likely. Much improvement required.

CARDIOVASCULAR RISK 🔼

The Cardiovascular Risk score looks at 15 biomarkers on a blood test to assess your risk of cardiovascular dysfunction. A high Cardiovascular Risk score indicates that you may be at an increased risk of developing cardiovascular disease. The Cardiovascular Risk score will be used along with information from an examination of your diet, lifestyle, exercise, body mass index and family history to give us a more complete picture of what is going on.

Rationale

Triglyceride: HDL ↑, Cholesterol - Total ↑, Triglycerides ↑, LDL Cholesterol ↑, HDL Cholesterol ↓, Hs CRP - Male ↑, Homocysteine ↑, Haemoglobin A1C ↑, Estradiol - Male ↑, Testosterone Total - Male ↓, Insulin - Fasting ↑, Vitamin D (25-OH) ↓, Testosterone Free - Male $oldsymbol{\psi}$, Sex Hormone Binding Globulin - Male $oldsymbol{\psi}$

Biomarkers considered

Triglyceride: HDL, Glucose - Fasting, AST, LDH, Cholesterol - Total, Triglycerides, LDL Cholesterol, HDL Cholesterol, Ferritin, Fibrinogen, Hs CRP - Male, Homocysteine, Haemoglobin A1C, Estradiol - Male, Testosterone Total - Male, Insulin - Fasting, Vitamin D (25-OH), Testosterone Free - Male, Sex Hormone Binding Globulin - Male



Dysfunction Likely. Improvement required

THYROID FUNCTION [2]

The Thyroid Function score allows us to assess the functional health of your thyroid. The thyroid produces hormones that control how the body uses energy. They are responsible for controlling metabolism in the body, for maintaining body temperature, regulating cholesterol and controlling mood. By examining specific elements on the blood test we can see if your thyroid is in a state of increased function (a condition called hyperthyroidism), in a state of decreased function (hypothyroidism) or hopefully optimal function!

Rationale

TSH ↑. T3 - Free ↓

Biomarkers considered

TSH. T4 - Total. T4 - Free. T3 - Total. T3 - Free

Patient result not available - consider running in future tests:

Reverse T3, T3 Uptake, Free Thyroxine Index (T7), Thyroglobulin Abs, Thyroid Peroxidase (TPO) Abs

PROSTATE FUNCTION [2]

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

Creatinine ↑, Monocytes - % ↑

Biomarkers considered

Creatinine, PSA, Monocytes - %



Dysfunction Likely. Improvement required

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

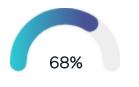
Haemoglobin A1C ↑, Insulin - Fasting ↑, Cholesterol - Total ↑, Triglycerides ↑, LDL Cholesterol ↑, HDL Cholesterol ↓, C-Peptide ↑

Biomarkers considered

Glucose - Fasting, LDH, Haemoglobin A1C, Insulin - Fasting, Cholesterol - Total, Triglycerides, LDL Cholesterol, HDL Cholesterol, DHEA-S - Male, C-Peptide

Patient result not available - consider running in future tests:

Fructosamine



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

ADRENAL FUNCTION

The Adrenal Function score reflects the degree of function in your adrenal glands. The adrenal glands produce certain hormones in response to stress. They are responsible for what is commonly called "the fight or flight response". Unfortunately, when your body is under constant stress, which is very common, your adrenal glands become less functional. Adrenal dysfunction can be caused by an increased output of stress hormones (adrenal stress) or more commonly a decreased output of adrenal hormones (adrenal insufficiency).

Rationale

Potassium ↑, Sodium/Potassium Ratio ↓, Urea ↑, Cholesterol - Total ↑, Triglycerides 1

Biomarkers considered

Sodium, Potassium, Sodium/Potassium Ratio, Glucose - Fasting, Urea, Chloride, CO2, Cholesterol - Total, Triglycerides, DHEA-S - Male

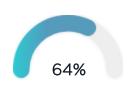
Patient result not available - consider running in future tests:

Cortisol - AM. Cortisol - PM

ANALYTICS

Health

Improvement



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

SEX HORMONE FUNCTION - MALE

The Male Sex Hormone Function score helps us assess levels of important hormones in your body: testosterone, DHEA, progesterone, and estradiol. Blood levels of these crucial hormones diminish with age, contributing to age-related dysfunctions such as low libido, blood sugar problems, excess weight, heart disease, etc. We can measure sex hormone levels in your blood and determine from the Sex Hormone Function score whether the levels are optimal for your continued optimal health and wellness.

Rationale

Estradiol - Male \uparrow , Testosterone Free - Male \downarrow , Testosterone Total - Male \downarrow , Progesterone - Male ↓

Biomarkers considered

DHEA-S - Male, Estradiol - Male, Testosterone Free - Male, Testosterone Total - Male, PSA, Progesterone - Male, Sex Hormone Binding Globulin - Male



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

KIDNEY FUNCTION

The Kidney Function score reflects the degree of function in your kidneys. The kidneys help to filter waste and toxins from the body and also help regulate fluid and mineral balance, help regulate blood pressure and regulate acid-alkaline balance in the body. Factors affecting kidney function include heavy metal toxicity, dehydration, caffeine and alcohol, liver dysfunction and may over the counter and prescription drugs. Kidney dysfunction can be a slow decrease in function (a condition called renal insufficiency) or impaired function associated with kidney infections and disease.

Rationale

Urea ↑, Creatinine ↑, eGFR ↓, Uric Acid - Male ↑

Biomarkers considered

Urea, Creatinine, BUN: Creatinine, Phosphorus, eGFR, Uric Acid - Male, AST, LDH, Magnesium - Serum

Patient result not available - consider running in future tests:

eGFR African American

Accessory Systems Details

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



Dysfunction Highly Likely. Much improvement required.

LIPID PANEL

The Lipid Panel score gives us an indication of the levels of cholesterol and fat in your blood. An increased Lipid Panel score indicates that you have higher than optimal levels of cholesterol and fat in your blood (a condition called hyperlipidemia). Hyperlipidemia is associated with an increased risk of cardiovascular disease and may be genetic or be due to dietary factors, hormonal imbalances, blood sugar dysregulation and/or other metabolic imbalances.

Rationale

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

Biomarkers considered

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



Dysfunction Highly Likely. Much improvement required.

ACID-BASE

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

Rationale

Anion Gap ↑, Potassium ↑, CO2 ↓

Biomarkers considered

Anion Gap, Potassium, Chloride, CO2, Calcium

Improvement



Dysfunction Likely. Improvement required

ALLERGY

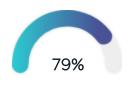
The Allergy score reflects the degree of food or environmental sensitivities/allergies you may be dealing with. A number of biomarkers on a blood test may increase in association with food allergies and/or sensitivities. A high Allergy score may indicate the need for further assessment or evaluation of food or environmental sensitivities/allergies.

Rationale

Eosinophils - % 1

Biomarkers considered

Eosinophils - %. Basophils - %



Dysfunction Likely. Improvement required

INFLAMMATION [2]

The Inflammation score can help us identify whether or not you are suffering from inflammation. This is important because inflammation can be silent, i.e. not have any symptoms. A number of biomarkers on a blood test can indicate the presence of inflammation. These are markers of inflammation and are not specific to any particular inflammatory condition or disease but they can help us look at the underlying dysfunctions that are the true cause of inflammation in the body.

Rationale

Hs CRP - Male ↑, Uric Acid - Male ↑, Homocysteine ↑, ESR - Male ↑, RDW ↑, Vitamin D (25-OH) ↓

Biomarkers considered

Hs CRP - Male, Uric Acid - Male, LDH, Fibrinogen, Homocysteine, Sodium/Potassium Ratio, Globulin - Total, Cholesterol - Total, Triglycerides, HDL Cholesterol, Iron - Serum, Ferritin, ESR - Male, Platelets, Lymphocytes - %, Basophils - %, Creatine Kinase, Alk Phos, C-Reactive Protein, RDW, Vitamin D (25-OH)

Macronutrient Statuses Details

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



Dysfunction Highly Likely. Much improvement required.

VITAMIN STATUS

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

Rationale

Anion Gap ↑, Homocysteine ↑, Vitamin D (25-OH) ↓, Folate - Serum ↓, Vitamin B12 **↓**

Biomarkers considered

Anion Gap, Albumin, AST, ALT, GGT, Homocysteine, Vitamin D (25-OH), MCV, Folate -Serum. Vitamin B12



Dysfunction Likely. Improvement required

CARBOHYDRATE STATUS

The Carbohydrate Status score gives us an assessment of how your body copes with your dietary intake of carbohydrates, especially refined carbohydrates (white flour, white rice, white pasta, etc.) and sugars. A diet high in refined carbohydrates and sugars will deplete important nutrients that are used by the body to handle carbohydrates and may also increase blood glucose and blood fat levels, all of which can be measured in your blood.

Rationale

Phosphorus ↓, Cholesterol - Total ↑, Triglycerides ↑, LDL Cholesterol ↑, HDL Cholesterol ↓

Biomarkers considered

Glucose - Fasting, Phosphorus, LDH, Cholesterol - Total, Triglycerides, LDL Cholesterol, HDL Cholesterol. Total WBCs

Improvement



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

HYDRATION STATUS

Accessory

Systems

The Hydration Status score gives us a good indication of how well hydrated you were at the time your blood was drawn. Adequate hydration is necessary for many basic chemical reactions in your body, including digestion, electrolyte balance, hormone transport, and kidney and heart function. Dehydration is a very common problem and is most often due to insufficient water intake and/or excessive use of diuretics (substances that increase water loss from the body). These would include certain over the counter and prescription drugs, botanical medicines, caffeine, etc. These are some of the most common causes of dehydration and may be a cause of an increased Hydration Status score.

Rationale

Urea ↑, Potassium ↑, RBC - Male ↑

Biomarkers considered

Albumin, Urea, Sodium, Potassium, Protein - Total, RBC - Male, Haemoglobin - Male, Haematocrit - Male



Improvement

Individual Nutrient Deficiencies Details

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



Dysfunction Highly Likely.

Much improvement required.

VITAMIN B12/FOLATE NEED []

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



Homocysteine ↑, Haemoglobin - Male ↓, RDW ↑, Folate - Serum ↓, Vitamin B12

Biomarkers considered

MCV, LDH, Homocysteine, Uric Acid - Male, Albumin, Total WBCs, RBC - Male, Haemoglobin - Male, Haematocrit - Male, MCH, MCHC, RDW, Neutrophils - %, Folate -Serum, Vitamin B12



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)

ANALYTICS

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



Anion Gap ↑, CO2 ↓, Haemoglobin - Male ↓

Biomarkers considered

Anion Gap, CO2, Glucose - Fasting, LDH, Haemoglobin - Male, Haematocrit - Male



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

VITAMIN B6 NEED 🗹

The results of your blood test indicate that your Vitamin B6 levels might be lower than optimal.



Haemoglobin - Male ψ , MCH ψ , Ferritin \uparrow

Biomarkers considered

AST, ALT, GGT, Haemoglobin - Male, Haematocrit - Male, MCV, MCH, MCHC, Ferritin, Iron - Serum



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

SELENIUM NEED [2]

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

Rationale

T3 - Free ↓

Biomarkers considered

T3 - Total, T3 - Free

Patient result not available - consider running in future tests:

T3 Uptake



ANALYTICS

Health Improvement Plan 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.



METABOLIC SYNDROME

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



Triglycerides ↑, Haemoglobin A1C ↑, Insulin - Fasting ↑, Uric Acid - Male ↑, Cholesterol - Total ↑, LDL Cholesterol ↑, HDL Cholesterol ↓, Sex Hormone Binding Globulin - Male ↓



HYPERLIPIDEMIA

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.

Rationale

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



INCREASED CARDIOVASCULAR RISK 🗹

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

Rationale

Triglyceride: HDL ↑, Cholesterol - Total ↑, Triglycerides ↑, LDL Cholesterol ↑, HDL Cholesterol ↓, Hs CRP - Male ↑, Homocysteine ↑, Haemoglobin A1C ↑, Estradiol - Male ↑, Testosterone Total - Male ↓, Insulin - Fasting ↑, Vitamin D (25-OH) ↓, Testosterone Free - Male ψ , Sex Hormone Binding Globulin - Male ψ



VITAMIN B12/FOLATE NEED

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



Homocysteine ↑, Haemoglobin - Male ↓, RDW ↑, Folate - Serum ↓, Vitamin B12



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) ↓



ATHEROSCLEROTIC PROCESS [2]

The results of your blood test indicate a tendency towards atherosclerosis and a need for cardiovascular support.

Rationale

Uric Acid - Male ↑, Homocysteine ↑, Cholesterol - Total ↑, LDL Cholesterol ↑, HDL Cholesterol ↓, Hs CRP - Male ↑



BPH/PROSTATE DYSFUNCTION

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

Rationale

Creatinine ↑, Monocytes - % ↑

ANALYTICS

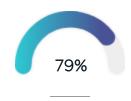


B VITAMIN NEED

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

Rationale

Anion Gap ↑, CO2 ↓, Haemoglobin - Male ↓



INFLAMMATION 🗹

The results of your blood test indicate a tendency towards inflammation and show a need for antiinflammatory support.

Rationale

Hs CRP - Male ↑, Uric Acid - Male ↑, Homocysteine ↑, ESR - Male ↑, RDW ↑, Vitamin D (25-OH) ↓

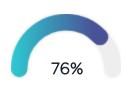


HYPOTHYROIDISM

The results of your blood test indicate a tendency towards hypothyroidism and a need for thyroid gland support.

Rationale

TSH ↑, Cholesterol - Total ↑, Triglycerides ↑, T3 - Free ↓



METABOLIC ACIDOSIS 🗹

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

Rationale

Anion Gap ↑, Potassium ↑, CO2 ↓

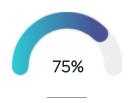
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RENAL INSUFFICIENCY [2]

The results of your blood test indicate a tendency towards renal insufficiency and a need for kidney support.

Rationale

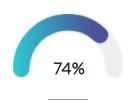
Urea ↑, Creatinine ↑, eGFR ↓, Uric Acid - Male ↑



MALE TESTOSTERONE DEFICIENCY 🖸

The results of your blood test indicate a trend towards testosterone deficiency and a need for testosterone metabolism support.

Testosterone Total - Male ψ , Testosterone Free - Male ψ

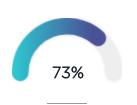


ENDOTHELIAL DYSFUNCTION

The results of your blood test indicate a tendency towards endothelial dysfunction and a need for support for your cardiovascular system.

Rationale

Hs CRP - Male ↑, Homocysteine ↑, Testosterone Free - Male ↓



ADRENAL INSUFFICIENCY

The results of your blood test indicate a tendency towards adrenal insufficiency and a need for adrenal gland support. The adrenal glands produce certain hormones in response to stress. They are responsible for what is commonly called "the fight or flight response". Unfortunately, when your body is under constant stress, which is very common, your adrenal glands become less functional and we recommend adrenal gland support.

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

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



Neutrophils - % ↑, Monocytes - % ↑, Lymphocytes - % ↓



SELENIUM NEED

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

Rationale

T3 - Free ↓



INTESTINAL HYPERPERMEABILITY [2]

The results of your blood test indicate a tendency towards intestinal hyperpermeability, a condition commonly called Leaky Gut Syndrome, and a need for support for the mucosal lining of the gastrointestinal tract.

Rationale

Uric Acid - Male 🔨



THYROID CONVERSION ISSUES [2]

The results of your blood test indicate a tendency towards a difficulty converting thyroxine (T4) into triiodothyronine (T3), which can cause symptoms of hypothyroidism, and a need for thyroid gland support.

Rationale

T3 - Free ↓

Disclaimer



DEHYDRATION

The results of your blood test indicate that you may be dealing with dehydration, which is a very common problem. Insufficient water intake and/or excessive use of diuretics such as over the counter and prescription drugs, botanical medicines, caffeine etc. are the most common cause of dehydration.

Rationale

Urea ↑, Potassium ↑, RBC - Male ↑



INTRODUCTION



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