

## WellnessFX Results - Josh Trent

### Cardiovascular Health

Your cardiovascular system is made up of your heart and blood vessels, and is responsible for transporting oxygen, nutrients, hormones, and waste products throughout the body. A healthy cardiovascular system ensures a good balance of nutrients and optimal brain and body function.

#### Basic Lipid Panel

The basic lipid panel includes cholesterol levels (both the good HDL and the bad LDL and other non-HDL cholesterol), as well as triglycerides. Elevated levels of triglycerides or non-HDL cholesterol can increase your risk of cardiovascular disease, which can lead to heart attacks and strokes. Higher levels of artery-clearing HDL, however, can reduce this risk.

	Jan 2012	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>Total Cholesterol</b> <i>A Type of Fat</i> mg/dL	195	193	193	≥ 240	200 - 240	< 200
<b>LDL</b> <i>Less Healthy Low-Density Lipoprotein</i> mg/dL	121	111	126	≥ 130	100 - 130	< 100
<b>HDL</b> <i>"Good" Cholesterol</i> mg/dL	51	53	44	< 40		≥ 40
<b>Triglycerides</b> <i>Type of Fat</i> mg/dL	111	143	116	≥ 200	150 - 200	< 150
<b>Total to HDL Ratio</b> <i>Total Cholesterol to HDL</i>	3.8	3.6	4.4	≥ 5		< 5
<b>Triglycerides to HDL Ratio</b> <i>Ratio of Triglycerides to HDL</i>	2.2	2.7	2.6	≥ 4.1	2 - 4.1	< 2
<b>Non-HDL Cholesterol (Calculated)</b> <i>All Less Healthy Cholesterol</i> mg/dL		140	149	≥ 160	130 - 160	< 130

#### LDL Particles

Higher levels of LDL or “bad” cholesterol can result in increased amounts of plaque in your blood vessels, which can obstruct blood and oxygen flow to vital organs. While almost half of those with heart attacks have normal basic lipid panels, two-thirds of heart-attack victims have elevations in other types of LDL particles. By reducing those deeper LDL numbers, you can reduce your risk of a heart attack and stroke.

Jan 2012	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
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	Jan 2012	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>Apo B</b> Protein in LDL ("Bad") Cholesterol mg/dL	85	88	98	≥ 80		< 80
<b>Lp(a)</b> Different Form of LDL nmol/L	3	< 10	< 10	≥ 75		< 75

## Inflammation

Inflammation is your body's reaction to stress or injury. Though inflammation can be helpful in the short-term, long-term inflammation can be harmful and contribute to many chronic diseases, such as cardiovascular disease, cancer, diabetes, dementia, and osteoporosis.

	Jan 2012	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>hs-CRP</b> General Inflammation Marker mg/L	0.4	0.2	0.4	≥ 3	1 - 3	< 1
<b>Lp-PLA2</b> Marker of Inflamed Vessels ng/mL	183			< 81 or ≥ 259		81 - 259
<b>Homocysteine</b> Inflammation marker μmol/L	12.6			≥ 14	11 - 14	< 11
<b>Fibrinogen</b> Inflammation marker important mg/dL	331			≥ 465	391 - 465	< 391

## Metabolic Health

Metabolism is your body's way of chemically processing sugar and fat for use throughout the body as energy. An optimal metabolism supports healthy weight control and energy levels, while a dysfunctional metabolism can lead to undesired fluctuations in weight and fatigue or hyperactivity.

### Diabetes & Insulin Resistance

High blood sugar can lead to cardiovascular disease, kidney disease, blindness, or ulcers. Insulin, a hormone created in the pancreas, helps the body use or store blood glucose from food. Insulin resistance can lead to higher levels of insulin and blood sugar, resulting in type 2 diabetes.

	Jan 2012	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>Insulin</b> Blood sugar storage hormone mIU/L	6	4.6	3.7	≥ 13	9 - 13	< 9
<b>Hemoglobin A1c (HbA1c)</b> Average blood sugar %		5.6	5.5	≥ 6.5	5.7 - 6.5	< 5.7

## Glucose *Blood Sugar*

mg/dL

94

84

< 40 or ≥ 126

40 - 50 or  
100 - 126

50 - 100

## Thyroid

The thyroid gland is your body's regulator of metabolism. An underactive thyroid, or hypothyroid, can result in low energy, weight gain, and cold intolerance, while an overactive thyroid, or hyperthyroid, can cause hyperactivity, undesired weight loss, and heat intolerance.

Aug 2015

Mar 2016

High Risk

Moderate

Low Risk

## TSH *Thyroid-Stimulating Hormone*

mIU/L

1.62

1.96

< 0.45 or ≥  
4.21

0.45 - 4.21

## Metabolic Hormones

Hormones influence how you metabolize fat, sugar, and protein to produce and store energy, and build tissues such as fat or muscle. Hormonal imbalance can lead to excess fat storage or the inability to gain muscle.

Jan 2012

Aug 2015

Mar 2016

High Risk

Moderate

Low Risk

## Cortisol *The body's main stress hormone*

µg/dL

9

7.3

< 2.3 or ≥  
19.5

2.3 - 19.5

## Insulin *Blood sugar storage hormone*

mIU/L

6

4.6

3.7

≥ 13

9 - 13

< 9

## Insulin-Like Growth Factor IA *Measure of*

ng/mL

213

176

< 117 or ≥  
330

117 - 330

## Z score *IGF-1 compared to others*

0.9

0.4

< -2 or ≥ 2

-2 - 2

## Reproductive Hormones

Reproductive hormones are controlled and produced by a complex interaction of your brain, adrenal glands, and reproductive organs. An imbalance in these hormones can affect many important functions, including overall growth and muscle gain, metabolism, mood, libido, and reproductive health.

Aug 2015

Mar 2016

High Risk

Moderate

Low Risk

<b>Estradiol</b> <i>Main female sex hormone</i>	pg/mL	30	31	< 12 or ≥ 39	<b>12 - 39</b>
<b>Free Testosterone</b> <i>Active Unbound Testosterone</i>	pg/mL	128.1	72.6	< 46 or ≥ 224	<b>46 - 224</b>
<b>Testosterone (total)</b> <i>Steroid hormone</i>	ng/dL	597	443	< 290 or ≥ 1301	<b>290 - 1301</b>
<b>DHEA-S</b> <i>DHEA Sulfate (androgen)</i>	µg/dL	255	201	< 89 or ≥ 428	<b>89 - 428</b>
<b>SHBG</b> <i>Sex Hormone Binding Globulin</i>	nmol/L	31	30	< 10 or ≥ 51	<b>10 - 51</b>

## Liver Health

Your liver's main function is to filter blood coming from the digestive tract before passing it throughout the body. A vital organ, your liver is also responsible for detoxifying chemicals, metabolizing drugs, producing proteins, and more. Liver dysfunction can have a negative impact on your immune system and energy levels and can lead to liver disease and cancer.

### Liver Enzymes and Function Tests

Liver enzymes help monitor liver function and liver inflammation, most commonly from medications, infections, or excess fat on the body. A marked elevation in liver enzymes can signify liver dysfunction.

		Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>ALT / SGPT</b> <i>Alanine aminotransferase</i>	IU/L	30	26	< 0 or ≥ 55	0 - 8 or 41 - 55	<b>8 - 41</b>
<b>ALP</b> <i>Alkaline Phosphatase</i>	IU/L	54	58	< 25 or ≥ 150	25 - 40 or 129 - 150	<b>40 - 129</b>
<b>AST / SGOT</b> <i>Aspartate aminotransferase</i>	IU/L	19	22	≥ 40		<b>&lt; 40</b>
<b>Bilirubin (total)</b> <i>Made by the liver to help digest fats</i>	mg/dL	1.7	1.4	< 0 or ≥ 1.3	0 - 0.2 or 1.2 - 1.3	0.2 - 1.2
<b>Albumin</b> <i>Type of protein in blood</i>	g/dL	4.7	4.6	< 3.5		<b>≥ 3.5</b>
<b>Total Protein</b> <i>Total protein amount (serum)</i>	g/dL	7.2	6.9	< 6 or ≥ 8.6		<b>6 - 8.6</b>

<b>Globulin</b> <i>Immune protein</i>	g/dL	2.5	2.3	< 1.5 or ≥ 4.6	1.5 - 4.6
<b>A/G Ratio</b> <i>Proportion, albumin/globulin</i>		1.9	2	< 1.1 or ≥ 2.6	1.1 - 2.6

## Kidney Health

Your kidneys help maintain blood pressure, keep the blood's acid-base level within a healthy range, and filter the blood so nutrients are absorbed and waste is passed out of the body as urine.

### Kidney Function

Your kidney function reflects how well your kidneys are filtering your blood. Abnormal kidney function could result in the accumulation of waste products in the body, which can cause fatigue, headaches, nausea, and more.

	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>Creatinine (serum)</b> <i>Creatinine in your blood</i>	mg/dL	1	1.01	≥ 1.35	< 1.35
<b>eGFR</b> <i>Marker for kidney function</i>	mL/min/1.73m <sup>2</sup>	97	96	< 60	≥ 60
<b>eGFR (African American ethnicity)</b> <i>eGFR</i>	mL/min/1.73m <sup>2</sup>	113	111	< 60	≥ 60
<b>BUN</b> <i>Blood Urea Nitrogen</i>	mg/dL	20	20	< 6 or ≥ 21	6 - 21
<b>Albumin</b> <i>Type of protein in blood</i>	g/dL	4.7	4.6	< 3.5	≥ 3.5

## Electrolytes

An electrolyte imbalance can lead to an imbalance in your body's acid-base status, hydration, or conduction of charges across cells, all of which are essential, especially with increased activity.

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Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
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<b>Sodium</b> <i>An electrolyte outside cells</i> mmol/L	139	141	< 133 or ≥ 146	133 - 146
<b>Potassium</b> <i>An electrolyte inside cells</i> mmol/L	4.1	4.4	< 3.5 or ≥ 5.1	3.5 - 5.1
<b>Chloride</b> <i>Balances other electrolytes</i> mmol/L	103	104	< 97 or ≥ 109	97 - 109
<b>CO2</b> <i>Carbon dioxide in blood</i> mmol/L	25	26	< 22 or ≥ 30	22 - 30
<b>Calcium</b> <i>Blood and Bone Mineral</i> mg/dL	9.7	9.7	< 8.7 or ≥ 10.3	8.7 - 10.3

## Bone Health

Your bones play many roles in your body, from storing minerals to protecting organs such as the brain. Bone markers are indicators of how well bone tissue is being removed and replaced, aka “bone remodeling.” Significantly abnormal marker levels suggest possible bone disorders.

### Bone

Bones are primarily made of calcium, supported by vitamin D, and regulated through constant bone remodeling. When bones remodel excessively or become inflamed, there may be large elevations in an enzyme called ALP (alkaline phosphatase).

	Jan 2012	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>25-Hydroxy Vitamin D</b> <i>Precursor to vitamin</i> ng/mL		42	48	< 30 or ≥ 100		30 - 100
<b>1-25 hydroxy Vitamin D Total</b> <i>Total amount</i> pg/mL	47			< 18 or ≥ 72		18 - 72
<b>Calcium</b> <i>Blood and Bone Mineral</i> mg/dL		9.7	9.7	< 8.7 or ≥ 10.3		8.7 - 10.3
<b>ALP</b> <i>Alkaline Phosphatase</i> IU/L		54	58	< 25 or ≥ 150	25 - 40 or 129 - 150	40 - 129

## Blood Health

Your blood consists of two main components: the cellular components (red blood cells, white blood cells, and the cell fragments known as platelets); and the liquid component, called plasma. Together, these two parts of the blood are responsible for many functions, including oxygen transport, temperature regulation, blood clotting, and immune defense.

## Platelets

Platelets help form blood clots at the site of an injured blood vessel. Knowing your platelet count, as well as how large your platelets are, may help reveal any bleeding or clotting problems.

	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>Platelet Count</b> <i>Clot-forming cell fragments</i> <small>x10E3/<math>\mu</math>L</small>	159	164	< 155 or $\geq$ 379		155 - 379
<b>Mean Platelet Volume (MPV)</b> <i>Average platelet volume</i> <small>fL</small>	8.6	9.1	< 7.5 or $\geq$ 11.6		7.5 - 11.6

## White Blood Cells

Your white blood cells are responsible for protecting your body from disease and foreign materials. A low white blood cell count is a decrease in the disease-fighting cells your body depends on, while an overproduction of white blood cells could indicate the presence of diseases like leukemia.

	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>White Blood Cell Count</b> <i>Immune system cells</i> <small>x10E3/<math>\mu</math>L</small>	3.4	3.8	< 3.8 or $\geq$ 10.8		3.8 - 10.8
<b>Neutrophil Count (ANC)</b> <i>Type of white blood cell</i> <small>x10E3/<math>\mu</math>L</small>	2.094	2.333	< 1.5 or $\geq$ 7		1.5 - 7
<b>% Neutrophil</b> <i>Part of WBC differential</i> <small>%</small>	61.6	61.4	< 40 or $\geq$ 75		40 - 75
<b>Lymphocyte Count (absolute)</b> <i>Calculation of white blood cells</i> <small>x10E3/<math>\mu</math>L</small>	1.064	1.129	< 0.8 or $\geq$ 3.1		0.8 - 3.1
<b>% Lymphocytes</b> <i>Part of WBC differential</i> <small>%</small>	31.3	29.7	< 14 or $\geq$ 47		14 - 47
<b>Monocytes (absolute)</b> <i>type of white blood cell</i> <small>x10E3/<math>\mu</math>L</small>	0.194	0.281	< 0.2 or $\geq$ 0.9		0.2 - 0.9
<b>% Monocytes</b> <i>Part of WBC differential</i> <small>%</small>	5.7	7.4	< 4 or $\geq$ 12		4 - 12

<b>Eosinophil (absolute)</b> Calculation of WBC x10E3/ $\mu$ L	0.034	0.046	< 0 or $\geq$ 0.5	<b>0 - 0.5</b>
<b>% Eosinophils</b> Part of WBC differential %	1	1.2	< 0 or $\geq$ 5	<b>0 - 5</b>
<b>Basophil (absolute)</b> Calculation of WBC ty x10E3/ $\mu$ L	0.014	0.011	< 0 or $\geq$ 0.3	<b>0 - 0.3</b>
<b>% Basophils</b> Part of WBC differential %	0.4	0.3	< 0 or $\geq$ 4	<b>0 - 4</b>

## Red Blood Cells

Red blood cells are the most numerous cell type in your blood and have one main role: to carry oxygen to tissues in your body and transport carbon dioxide back to the lungs to be exhaled. If your blood lacks enough healthy red blood cells, you may be anemic.

	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>Hematocrit</b> Fraction of red blood cells %	43.1	42	< 36 or $\geq$ 51		<b>36 - 51</b>
<b>RBC</b> Red blood cell count x10E6/ $\mu$ L	5.01	4.85	< 4.1 or $\geq$ 5.7		<b>4.1 - 5.7</b>
<b>Hemoglobin</b> Protein in red blood cells g/dL	14.2	13.7	< 12.5 or $\geq$ 17.1		<b>12.5 - 17.1</b>
<b>MCV</b> Mean corpuscular volume fL	86	86.5	< 80 or $\geq$ 99		<b>80 - 99</b>
<b>MCH</b> Mean cell hemoglobin pg	28.4	28.3	< 27 or $\geq$ 35		<b>27 - 35</b>
<b>MCHC</b> RBC hemoglobin concentration g/dL	33	32.7	< 32 or $\geq$ 37		<b>32 - 37</b>
<b>RDW</b> Red cell distribution width %	14	14.3	$\geq$ 15.1		<b>&lt; 15.1</b>



## Iron

Iron is an essential mineral needed to form hemoglobin, the main protein found in red blood cells. Iron deficiency can lead to anemia, while excess iron can be toxic to the liver or other organs.

	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>Iron (serum)</b> <i>Iron in liquid part of blood</i> µg/dL	138	97	< 45 or ≥ 170	45 - 65 or 166 - 170	65 - 166
<b>Ferritin</b> <i>Iron storage protein</i> ng/mL	190	155	< 30 or ≥ 301		30 - 301
<b>Total Iron Binding Capacity</b> <i>Estimates Transferrin</i> µg/dL	304	300	< 250 or ≥ 426		250 - 426
<b>Iron Saturation</b> <i>The percent of Iron transported by transferrin</i> %	45	32	< 20 or ≥ 50		20 - 50

## Vitamins & Minerals

Vitamins and minerals are substances obtained from food and supplements needed for normal growth and body processes. Deficiencies in certain vitamins and minerals can interfere with normal body function.

### Vitamins

Vitamins are organic substances required for normal health and function. For example, vitamin B12 is essential for cellular development, including the development of red and white blood cells. Deficiency in B12 can lead to anemia and immune dysfunction.

	Jan 2012	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>Folate</b> <i>Folic Acid</i> ng/mL		14.8	6.9	< 3		≥ 3
<b>25-Hydroxy Vitamin D</b> <i>Precursor to vitamin D</i> ng/mL		42	48	< 30 or ≥ 100		30 - 100
<b>Vitamin B12</b> <i>Essential nutrient for cells</i> pg/mL		392	556	< 211	211 - 300	≥ 300
<b>1-25 hydroxy Vitamin D Total</b> <i>Total amount of 1-25 hydroxy vitamin D</i> pg/mL	47			< 18 or ≥ 72		18 - 72

## Minerals

Minerals are inorganic substances needed for many of your body's processes such as cellular development, carrying oxygen to tissues, and bone growth. Mineral deficiencies result in weak bones, organ malfunction, and poor cellular development, which can cause conditions such as anemia.

	Aug 2015	Mar 2016	High Risk	Moderate	Low Risk
<b>RBC Magnesium</b> <i>The Magnesium in our cells</i> mg/dL	5.7	6.2	< 4.2 or ≥ 6.4		4.2 - 6.4
<b>Calcium</b> <i>Blood and Bone Mineral</i> mg/dL	9.7	9.7	< 8.7 or ≥ 10.3		8.7 - 10.3