

Lab Results for Zachary Ware

DOB: 1981-09-02

Last Test Date: 2016-09-22








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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.

Total Cholesterol A Type of Fat		199
LDL Less Healthy Low-Densit...		121
HDL "Good" Cholesterol		68
Triglycerides Type of Fat		50
Total to HDL Ratio Total Cholesterol to HDL ...		2.9
Triglycerides to HD... Ratio of Triglycerides to H...		0.7
Non-HDL Cholester... All Less Healthy Choleste...		131


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.

Apo B Protein in LDL ("Bad") Ch...		94
Lp(a) Different Form of LDL		17

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.

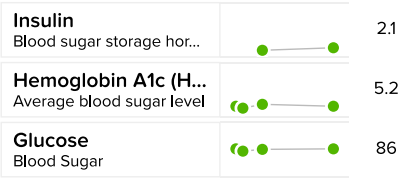
hs-CRP General Inflammation Ma...		0.7
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Metabolic Health

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.

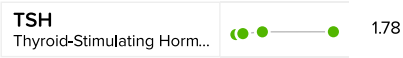
Diabetes & Insulin Resistance

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.



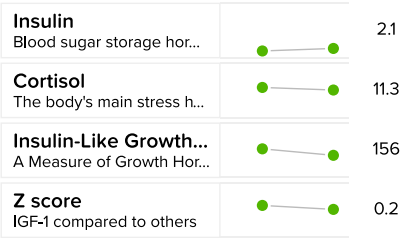
Thyroid

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.



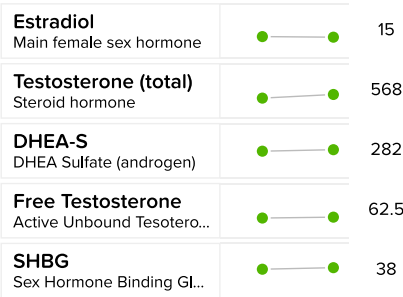
Metabolic Hormones

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.



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.



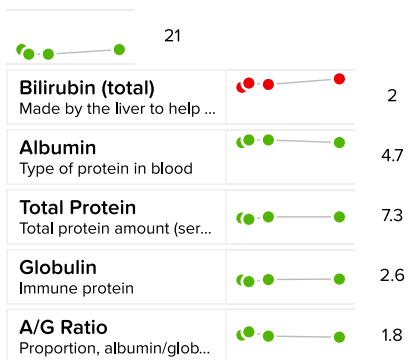
Liver Health

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.



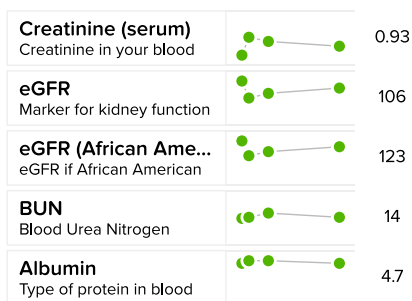


Kidney Health

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.

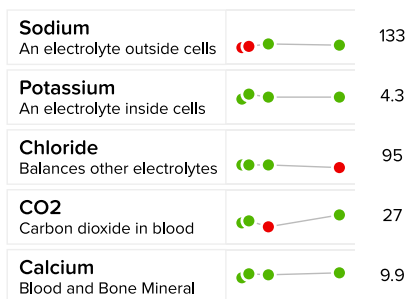


Electrolytes

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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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).



25-Hydroxy Vitami... Precursor to vitamin D		33
ALP Alkaline Phosphatase		93
Calcium Blood and Bone Mineral		9.9

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.

Platelet Count Clot-forming cell fragments		190
Mean Platelet Volu... Average platelet size		8.6






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.

White Blood Cell C... Immune system cells		3.9
Neutrophil Count (...) Type of white blood cell		1.63
% Neutrophil Part of WBC differential		41.8
Lymphocyte Count ... Calculation of WBC type		1.86
% Lymphocytes Part of WBC differential		47.7
Monocytes (absolut... type of white blood cell		0.328
% Monocytes Part of WBC differential		8.4
Eosinophil (absolute) Calculation of WBC type		0.07
% Eosinophils Part of WBC differential		1.8
Basophil (absolute) Calculation of WBC type		0.012
% Basophils Part of WBC differential		0.3

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.

Hematocrit Fraction of red blood cells		41.3
RBC Red blood cell count		4.56
Hemoglobin Protein in red blood cells		14.2
MCV Mean corpuscular volume		90.5
MCH Mean cell hemoglobin		31.2
MCHC		

RBC hemoglobin concent...		34.5
RDW Red cell distribution width		13.1

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.

Iron (serum) Iron in liquid part of blood		99
Ferritin Iron storage protein		165
Total Iron Binding C... Estimates Transferrin level		309
Iron Saturation The percent of Iron trans...		32

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.

25-Hydroxy Vitami... Precursor to vitamin D		33
Folate Folic Acid		7.8
Vitamin B12 Essential nutrient for cells		368

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.

RBC Magnesium The Magnesium in our ce...		4.3
Calcium Blood and Bone Mineral		9.9

Vital Signs

While vital signs often do not give as much specific information as blood tests, they are commonly tracked as macroscopic measures of health.

Weight

Weight Your weight		165
Body Mass Index Measure of weight to hei...		23

Lab Notes

2016-09-22 LDL

Desirable range <100 mg/dL for patients with CHD or diabetes and <70 mg/dL for diabetic patients with known heart disease.

2015-12-21 LDL

Desirable range <100 mg/dL for patients with CHD or diabetes and <70 mg/dL for diabetic patients with known heart disease.

2015-10-07 LDL

Desirable range <100 mg/dL for patients with CHD or diabetes and <70 mg/dL for diabetic patients with known heart disease.

2015-09-10 LDL

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2016-09-22 Non-HDL Cholesterol (Calculated)

Target for non-HDL cholesterol is 30 mg/dL higher than LDL cholesterol target.

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2016-09-22 Apo B

Reference Range: 52-109 Risk Category: Optimal <80 Moderate 80-119 High > or = 120 Cardiovascular event risk category cut points (optimal, moderate, high) are based on National Lipid Association recommendations- Davidson et al. J Clin Lipidol. 2011;5:338

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2016-09-22 hs-CRP

Lower relative cardiovascular risk according to AHA/CDC guidelines. For ages >17 Years: hs-CRP mg/L Risk According to AHA/CDC Guidelines <1.0 Lower relative cardiovascular risk. 1.0-3.0 Average relative cardiovascular risk. 3.1-10.0 Higher relative cardiovascular risk. Consider retesting in 1 to 2 weeks to exclude a benign transient elevation in the baseline CRP value secondary to infection or inflammation. >10.0 Persistent elevation, upon retesting, may be associated with infection and inflammation.

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2015-09-10 hs-CRP

Average relative cardiovascular risk according to AHA/CDC guidelines. For ages >17 Years: hs-CRP mg/L Risk According to AHA/CDC Guidelines <1.0 Lower relative cardiovascular risk. 1.0-3.0 Average relative cardiovascular risk. 3.1-10.0 Higher relative cardiovascular risk. Consider retesting in 1 to 2 weeks to exclude a benign transient elevation in the baseline CRP value secondary to infection or inflammation. >10.0 Persistent elevation, upon retesting, may be associated with infection and inflammation.

2016-09-22 Insulin

This insulin assay shows strong cross-reactivity for some insulin analogs (lispro, aspart, and glargine) and much lower cross-reactivity with others (detemir, glulisine).

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2016-09-22 Hemoglobin A1c (HbA1c)

According to ADA guidelines, hemoglobin A1c <7.0% represents optimal control in non-pregnant diabetic patients. Different metrics may apply to specific patient populations. Standards of Medical Care in Diabetes-2013. Diabetes Care. 2013;36:s11-s66 For the purpose of screening for the presence of diabetes <5.7% Consistent with the absence of diabetes 5.7-6.4% Consistent with increased risk for diabetes (prediabetes) >or=6.5% Consistent with diabetes This assay result is consistent with a decreased risk of diabetes. Currently, no consensus exists for use of hemoglobin A1c for diagnosis of diabetes for children.

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2016-09-22 Glucose

Fasting reference interval

2015-12-21 Glucose

Fasting reference interval

2015-10-07 Glucose

Fasting reference interval

2015-09-10 Glucose

Fasting reference interval

2016-09-22 Cortisol

Reference Range: For 8 a.m.(7-9 a.m.) Specimen: 4.0-22.0 Reference Range: For 4 p.m.(3-5 p.m.) Specimen: 3.0-17.0 * Please interpret above results accordingly *

2015-12-21 Cortisol

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2016-09-22 Z score

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Nichols Institute San Juan Capistrano. It has not been cleared or approved by FDA. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

2015-12-21 Z score

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2016-09-22 Estradiol

Reference range established on post-pubertal patient population. No pre-pubertal reference range established using this assay. For any patients for whom low Estradiol levels are anticipated (e.g. males, pre-pubertal children and hypogonadal/post-menopausal females), the Quest Diagnostics Nichols Institute Estradiol, Ultrasensitive, LCMSMS assay is recommended (order code 30289). Please note: patients being treated with the drug fulvestrant (Faslodex(R)) have demonstrated significant interference in immunoassay methods for estradiol measurement. The cross reactivity could lead to falsely elevated estradiol test results leading to an inappropriate clinical assessment of estrogen status. Quest Diagnostics order code 30289-Estradiol, Ultrasensitive LC/MS/MS demonstrates negligible cross reactivity with fulvestrant.

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2016-09-22 25-Hydroxy Vitamin D

Vitamin D Status 25-OH Vitamin D: Deficiency: <20 ng/mL Insufficiency: 20 - 29 ng/mL Optimal: > or = 30 ng/mL
For 25-OH Vitamin D testing on patients on D2-supplementation and patients for whom quantitation of D2 and D3 fractions is required, the QuestAssureD(TM) 25-OH VIT D, (D2,D3), LC/MS/MS is recommended: order code 92888 (patients >2yrs). For more information on this test, go to: <http://education.questdiagnostics.com/faq/FAQ163> (This link is being provided for informational/educational purposes only.)

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2016-09-22 Folate

Reference Range Low: <3.4 Borderline: 3.4-5.4 Normal: >5.4

2015-12-21 Folate

Reference Range Low: <3.4 Borderline: 3.4-5.4 Normal: >5.4

2016-09-22 Vitamin B12

Please Note: Although the reference range for vitamin B12 is 200-1100 pg/mL, it has been reported that between 5 and 10% of patients with values between 200 and 400 pg/mL may experience neuropsychiatric and hematologic abnormalities due to occult B12 deficiency; less than 1% of patients with values above 400 pg/mL will have symptoms.