JIAN,VASILE

DOB: 03/18/1991 | **Sex:** M | **Specimen:** WC378862S | **Collected Date:** 06/25/2021 08:40

MyQuest™

Iron, TIBC and Ferritin Panel

Iron, TIBC (total iron-binding capacity), Ferritin

Levels of iron, TIBC, and ferritin in the blood are measured when iron-deficiency anemia is suspected. Iron is an important component of red blood cells and it plays a major role in transporting oxygen throughout the body. Iron-deficiency anemia is very common, especially among younger women. It can lead to symptoms of tiredness, shortness of breath, and sometimes chest pain.

If you are diagnosed with iron-deficiency anemia you may be asked to adhere to a healthy diet and take iron supplements. More on iron-deficiency anemia can be found by clicking here: https://www.nhlbi.nih.gov/health-topics/iron-deficiency-anemia to move to the health topics website of the National Heart, Lung, and Blood Institute.

Ferritin, another protein, is the best indicator of the amount of uncommitted iron reserve that the body has in storage and is useful in the diagnosis of hypochromic microcytic anemia (low red blood cell count associated with small red blood cells).
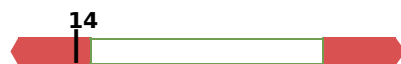
Ferritin Blood Test

The ferritin test is ordered to assess a person's iron stores in the body. Learn more at the American Association for Clinical Chemistry's (AACC) Lab Tests Online website.

Go to the Lab Tests Online website : https://labtestsonline.org/understanding/analytes/ferritin/tab/test/

Your Results

⚠ Ferritin

Desired Range: 38-380 ng/mL

14

No Historical Data

What is Ferritin?

Ferritin, a protein, is the best indicator of the amount of uncommitted iron reserve that the body has in storage and is useful in the diagnosis of hypochromic microcytic anemia (low red blood cell count associated with small red blood cells).

Iron and Total Iron Binding Capacity

Iron is best interpreted with the total iron binding capacity (TIBC). The TIBC reflects the total capacity of the blood to carry iron. The percent saturation is the ratio of the iron to TIBC. It is a reflection of remaining capacity to carry iron.

Iron is an essential micronutrient in the body, where it plays an important role in the production of healthy red blood cells. It also is an important constituent of proteins, such as hemoglobin (the protein in red blood cells that carry oxygen), myoglobin (the protein in the musclea that binds to oxygen), and enzymes (proteins that enable the metabolic processes to occur).

In regards to performance, since iron is a key micronutrient important for your body's ability to transport oxygen so that you can breathe, deficiencies in iron may result in the impairment of your ability to transport oxygen, which may result in fatigue, weakness and keeping you from reaching your full potential in your sport.

Your Results

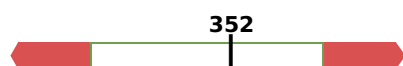### Iron, Total

Desired Range: 50-180 mcg/dL

92

No Historical Data

What is Total Iron?

The body must have iron to make hemoglobin and to help transfer oxygen to the muscles. If the body is low in iron, all body cells, particularly muscles in adults and brain cells in children, do not function up to par. On the other hand too much iron in the body can cause injury to the heart, pancreas, joints, testicles, ovaries, and other organs and tissues. Iron excess is found in the hereditary disease called hemochromatosis which occurs in about 3 out of every 1000 people. Any value outside the specified Reference Range should be evaluated by your healthcare provider.

Iron Binding Capacity
Desired Range: 250-425 mcg/dL (calc)

352

No Historical Data

What is Iron Binding Capacity?

Iron is best interpreted with the total iron binding capacity (TIBC). The TIBC reflects the total capacity of the blood to carry iron. The percent saturation is the ratio of the iron to TIBC. It is a reflection of remaining capacity to carry iron.

% Saturation
Desired Range: 20-48 % (calc)

26

No Historical Data

What is % Saturation?

Transferrin percent saturation (Percent Saturation) is obtained by comparing the iron level to the TIBC level. It is a simple way to compare the amount of iron in the blood to the capacity of the blood to transport iron. The calculated ratio sometimes highlights an abnormality that is not obvious by reviewing the individual test results.

Basic Health Profile

Basic Health Profile

A person's overall general health can be evaluated by a few comprehensive lab tests and are commonly ordered in a wellness visit from your healthcare provider.

- Complete Blood Count (CBC): A CBC screens for many blood components, including red and white blood cells, platelets, and hemoglobin. It is useful for detection of an infection, anemia, or bleeding disorder, among several other common conditions.
- Comprehensive Metabolic Panel (CMP): A CMP refers to a broad screening tool that includes 14 tests that evaluate the functioning of a person's liver and kidneys, as well as fluid balance and general metabolism.
- Lipid Panel: In a lipid panel, levels of triglycerides, high-density lipoprotein cholesterol (HDL - good cholesterol), low-density lipoprotein cholesterol (LDL - bad cholesterol), and total cholesterol are measured. The results of the test may be useful for determining your risk of cardiovascular disease and stroke.
- Urinalysis: In a urinalysis, byproducts of metabolism, cells and their fragments, and certain bacteria types are tested for by physical, chemical, and microscopic examination. The results of the test may be useful for detecting certain conditions, such as a urinary tract infection, diabetes, liver, or kidney disease.

To find out more about general lab tests used in clinical care and how to interpret your results visit the MedlinePlus website of the U.S. National Library of Medicine by clicking here: https://medlineplus.gov/laboratorytests.html.

What is Heart Disease?

There are many kinds of heart disease. Some of these are atherosclerosis, heart failure, heart valve problems, heart rhythm problems, and heart problems that a child can be born with. Atherosclerosis is a common type of coronary heart disease. This type of heart disease affects the blood vessels of the heart. It happens when lipids (eg, cholesterol) build up in the arteries of the heart and form a plaque. When a plaque ruptures, it can cause a blood clot. The blood clot can block the flow of blood to the heart, causing a heart attack. Coronary heart disease is the leading cause of death in the United States. It caused about a third of all deaths in 2010. Many of these occurred without warning or symptoms.

What are the basic risk factors for coronary heart disease?

These things increase your risk of developing heart disease:
- Age (older than 45 for men, older than 55 for women)
- High blood pressure
- High levels of bad cholesterol (LDL-cholesterol)
- Low levels of good cholesterol (HDL-cholesterol)
- Smoking
- Diabetes
- Being overweight
- Lack of physical activity
- Family history of early coronary heart disease

What other risk factors are there?

There are many other things that might affect your risk of heart disease. These can be as important or more important than the basic risk factors. They include:
- The types, size, and number of HDL and LDL cholesterol particles you have
- The amount of proteins that carry cholesterol in the body
- The amount of inflammation in your arteries
- Your genetic makeup

How will my doctor determine my risk?

Your doctor will ask questions to find out how old you are, whether you smoke, and how physically active you are. He or she will take your blood pressure and find out how much you weigh. Your doctor will also order some blood tests to learn about your cholesterol levels. Once the results are back, your doctor can put it all together and let you know your risk.

What else might my doctor do?

Your doctor might ask if anyone in your family has had heart disease. If you answer yes, your doctor might order more blood tests. These tests can find out if the DNA in your genes increases your risk of heart disease. If you have certain risk factors, like diabetes or being overweight, your doctor might also order more blood tests. These tests can give your doctor a more complete picture of your risk.If you have an increased risk of heart disease, your doctor may suggest treatment. Once your treatment has begun, your doctor might order more blood tests to see if the treatment is working. Some blood tests can tell if you are still at risk after being treated. That is, they can determine your residual risk.

How can the laboratory help?

The laboratory does all the blood testing for your doctor. If your doctor orders Cardio IQ™ tests from Quest Diagnostics, the laboratory will send a special report. This report can help you and your doctor better understand your results and what they mean. It can also help your doctor:

- Get a better idea of your risk of coronary heart disease
- Decide whether you need treatment
- Decide what is the best treatment for you
- Find out how well the treatment is working
- Decide whether changes need to be made to your treatment
- Determine whether family members may be at risk and could benefit from testing

What can I do to reduce my risk and/or keep it low?

These things can help you be healthy and lower your risk of heart disease:

- Eat a healthy diet.
- Get to or stay at a healthy weight.
- Stop smoking (if you smoke).
- Get plenty of exercise.
- Manage your stress.

What else can I do?

- Talk with your doctor about your risk factors.
- Ask if there are other tests you should have to get a more complete picture of your risk.
- Make sure you follow all your doctor's instructions for lifestyle changes and drug treatment.

Atherosclerotic Cardiovascular Disease (ASCVD) Risk Calculator

This Risk Estimator enables health care providers and patients to estimate 10-year and lifetime risks for atherosclerotic cardiovascular disease (ASCVD), defined as coronary death or nonfatal myocardial infarction, or fatal or nonfatal stroke, based on the Pooled Cohort Equations and lifetime risk prediction tools. This Risk Estimator is provided by the American College of Cardiology (ACC) and the American Heart Association (AHA).

Click here to view the risk estimator. : http://tools.acc.org/ASCVD-Risk-Estimator/

Know the Facts about High Cholesterol

Nearly 1 in 3 American adults has high cholesterol. Too much cholesterol puts you at risk for heart disease and stroke, two leading causes of death in the United States. High cholesterol has no signs or symptoms, so the only way to know if you have it is to get your cholesterol checked. Talk to your health care team about how you can manage your cholesterol levels and lower your risk.

Read more in this handout from the American Heart website :
https://www.heart.org/-/media/files/health-topics/cholesterol/cccc_my-cholesterol-guide.pdf
Or view the CDC website for more information about Cholesterol : https://www.cdc.gov/cholesterol/index.htm

Heart Medication Facts

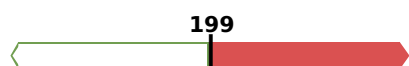This fact sheet discusses heart medications and finding the right dose.

View More :
https://iicontent.care360.com/ii-content-service/media/image?path=/insights/6f85afcf-0811-4cdf-9c34-fa812f5c1c7f/images/11FebFactsheartmeds.pdf

Your Results

Cholesterol, Total
Desired Range: <200 mg/dL

199

No Historical Data

What is Total Cholesterol?
Total Cholesterol is a combination of three types of cholesterol: HDL, LDL, and part of triglycerides. High cholesterol may put you at risk for heart disease or stroke. A low cholesterol measurement can indicate other health conditions. It is possible for your total cholesterol to be high when your other cholesterol results are in healthy ranges. In this case, we recommend focusing on your triglycerides (if available), LDL, and HDL cholesterol results.

HDL Cholesterol
Desired Range: > OR = 40 mg/dL

51

No Historical Data

What is HDL Cholesterol?
High-Density Lipoprotein (HDL) cholesterol is commonly called "good" cholesterol. Unlike other cholesterol levels, the HDL cholesterol test result is best if it is high. Elevated HDL cholesterol is associated with decreased risk of heart disease. A low level of HDL cholesterol can be associated with increased risk for heart disease. Genetic factors or conditions including liver disease, malnutrition, or hyperthyroidism may decrease HDL cholesterol levels. Smoking and drinking alcohol may also decrease your HDL cholesterol level.

Triglycerides
Desired Range: <150 mg/dL

63

No Historical Data

What is Triglycerides?
Triglycerides are a type of fat found in a person's blood and also in many foods.

⚠ LDL Cholesterol
Unit of Measure: mg/dL (calc)

Result: 133 HIGH

No Historical Data

Reference range: <100

Desirable range <100 mg/dL for primary prevention; <70 mg/dL for patients with CHD or diabetic patients with > or = 2 CHD risk factors.

LDL-C is now calculated using the Martin-Hopkins calculation, which is a validated novel method providing better accuracy than the Friedewald equation in the estimation of LDL-C.
Martin SS et al. JAMA. 2013;310(19): 2061-2068
(http://education.QuestDiagnostics.com/faq/FAQ164)

What is LDL Cholesterol?
Low Density Lipoprotein (LDL) cholesterol is considered "bad" cholesterol. Elevated LDL cholesterol is associated with an increased risk of heart disease. LDL cholesterol often increases with a diet high in cholesterol and saturated fats. For many people, their LDL cholesterol is based on heredity. Lifestyle choices including diet and many medications are effective in lowering the LDL cholesterol level.

Cholesterol Total/Cholesterol HDL Ratio

Desired Range: <5.0 (calc)

3.9

No Historical Data

What is Cholesterol Total/Cholesterol HDL Ratio?

The total cholesterol/HDL cholesterol ratio is a calculation obtained by dividing the total cholesterol level by the HDL cholesterol level and is another indicator of heart disease risk. A ratio of 5.0 or less is associated with a lower risk of heart disease. A ratio of less than 3.5 is highly desirable.

⚠ Non HDL Cholesterol

Desired Range: <130 mg/dL (calc)

148

No Historical Data

For patients with diabetes plus 1 major ASCVD risk factor, treating to a non-HDL-C goal of <100 mg/dL (LDL-C of <70 mg/dL) is considered a therapeutic option.

What is Non-HDL Cholesterol?

Non-HDL cholesterol is an important measure of heart disease risk that has a stronger relationship with heart disease than any other individual lipid measurement. Doctors use it primarily as a secondary target. Specifically, if triglycerides are more than 199 mg/dL after LDL cholesterol goal is reached, the secondary goal for non-HDL cholesterol (total cholesterol – HDL cholesterol) is 30 mg/dL higher than the LDL cholesterol goal.

Complete Blood Count (CBC)

Complete Blood Count (CBC)

A CBC is a commonly ordered blood test that may be helpful to diagnose a variety of health conditions, such as an infection, anemia, or bleeding disorder. It is also a general indicator of overall health. A CBC test screens for many blood components, including red and white blood cells, platelets, and hemoglobin. Learn more about the various components of a CBC from this table provided by the International Waldenstrom's Macroglobulinemia Foundation (IWMF). Download the table from the IWMF website by clicking here. : https://iwmf.com/wp-content/uploads/2020/10/bloodcharts_cbc1.pdf

Blood Test Results: CBC Explained

A complete blood count (CBC) with differential measures the essential components of the blood including white blood cells, red blood cells, and platelets. Learn more about the various components of a CBC from this table provided by the International Waldenstrom's Macroglobulinemia Foundation (IWMF).

Download the table from the IWMF website : https://iwmf.com/wp-content/uploads/2020/10/bloodcharts_cbc1.pdf

Your Results

White Blood Cell Count

Desired Range: 3.8-10.8 Thousand/uL

5.9

No Historical Data

What is White Blood Cell Count?

White blood cells (WBCs) are the body's protectors. Each of the five varieties of WBCs plays its own specific role in defending your body against illness or injury.

Red Blood Cell Count
Desired Range: 4.20-5.80 Million/uL

5.37

No Historical Data

What is Red Blood Cell Count?
Red Blood Cell (RBC) Count - This is a count of the actual number of RBCs per unit of blood. The RBC count is used to aid in the diagnosis of anemia or other conditions that affect red blood cells.

Hemoglobin
Desired Range: 13.2-17.1 g/dL

15.1

No Historical Data

What is Hemoglobin?
Hemoglobin is an iron-containing protein found in red blood cells (RBCs), enabling the cells to carry oxygen and carbon dioxide in the blood. Measuring hemoglobin gives a picture of the ability of the blood to carry oxygen to every cell of your body. A low hemoglobin level may indicate anemia. Hemoglobin increases with altitude adaptation. In general, women have lower hemoglobin values than men.

Hematocrit
Desired Range: 38.5-50.0 %

46.5

No Historical Data

What is Hematocrit?
This screening measures how much of your blood is made of red blood cells (RBCs). A hematocrit measurement is useful in identifying anemia, the presence of liver disease, bleeding disorders and red cell production within the circulatory system. Hematocrit increases with altitude adaptation or dehydration. Women generally have lower hematocrit values than men.

Mean RBC Volume
Desired Range: 80.0-100.0 fL

86.6

No Historical Data

What is Mean RBC Volume?
Mean corpuscular volume (MCV) is a measurement of the average size of your red blood cells (RBCs). A high MCV indicates large, or macrocytic, RBCs. A high MCV is associated with specific varieties of anemia and can indicate a deficiency in vitamin B12 or folic acid. A low MCV indicates small, or microcytic, red blood cells. A low MCV is associated with anemia, and can indicate an iron deficiency, chronic illness or the hereditary disease, thalassemia.

Mean RBC Iron

Desired Range: 27.0-33.0 pg

28.1

No Historical Data

What is Mean RBC Iron?

Mean corpuscular hemoglobin (MCH) is a calculation of the amount of oxygen-carrying hemoglobin inside your red blood cells (RBCs). A high MCH indicates an increased level of hemoglobin, the oxygen-carrying protein, in your RBCs. Increases can be associated with anemia. Often, increased MCH occurs in conjunction with a high mean corpuscular volume—or large red blood cells-which suggest macrocytic anemia. A low MCH indicates that you have a decreased level of oxygen-carrying protein in your red blood cells. Decreases can be associated with certain types of anemia. Often, decreases occur in conjunction with low mean corpuscular volume—or small RBCs—which suggest microcytic anemia. Hypochromic anemia, resulting from hemoglobin deficiency, can be a possibility as well.

## Mean RBC Iron Concentration

Desired Range: 32.0-36.0 g/dL

32.5

No Historical Data

What is Mean RBC Iron Concentration?

Mean corpuscular hemoglobin concentration (MCHC) is the calculation of the percentage of oxygen-carrying hemoglobin in the individual red blood cells (RBCs). A high MCHC indicates an increased level of hemoglobin in your RBCs. Increased MCHC is usually a technical rather than a medical issue. A high level may be caused by distortions in the shape of your RBCs caused by problems in collection, transport or storage of the blood sample. A low MCHC indicates a decreased level of hemoglobin in your RBCs. Decreases can be associated with certain types of anemia, such as iron-deficiency or the hereditary disease, thalassemia.

RBC Distribution Width

Desired Range: 11.0-15.0 %

12.7
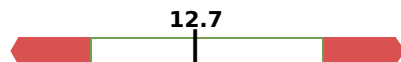
No Historical Data

What is RBC Distribution Width?

Red cell distribution width (RDW) is a calculation of the variation in the size of your red blood cells (RBCs).
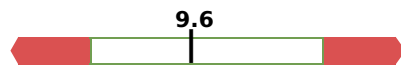
Platelets

Desired Range: 140-400 Thousand/uL

292

No Historical Data

What are Platelets?

Platelets are the smallest type of cell found in the blood. Platelets help stop bleeding after an injury by gathering around the injury site, plugging the hole in the bleeding vessel and helping the blood to clot more quickly. Platelet counts may be done if you are prone to bruising or if you are about to have surgery. The platelet count may change with bleeding disorders, heart disease, diabetes and inflammatory disorders.

MPV
Desired Range: 7.5-12.5 fL

9.6

No Historical Data

What is MPV?
MPV stands for Mean Platelet Volume. Platelet volume varies with the age of the platelets. Newer platelets are larger than older ones.

Absolute Neutrophils
Desired Range: 1500-7800 cells/uL

2932

No Historical Data

What are Neutrophils?
Neutrophilic granulocytes ("neutrophils") are the most abundant white blood cell. Neutrophils are an essential component of the immune system. They respond to bacterial infections and other types of inflammation. In an infection, neutrophils seep out of the blood vessels in response to factors released as sites of infection. The predominant cells in pus that we observe in a wound are neutrophils.

## Absolute Lymphocytes
Desired Range: 850-3900 cells/uL

2331
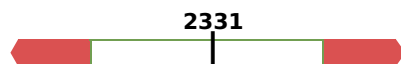
No Historical Data

What are Lymphocytes?
Lymphocytes are the second most common white blood cell (WBC). Lymphocytes are divided into larger cells that are also known as natural killer lymphocytes and smaller cells known as B and T lymphocytes. Natural killer cells are important in our immune system to defend against tumors and viral infections. They respond to alterations in the surface of tumor cells and infected cells. B and T lymphocytes adapt to infected cells by either a cellular response mediated by T lymphocytes or antibodies mediated by B lymphocytes.

Absolute Monocytes
Desired Range: 200-950 cells/uL

425
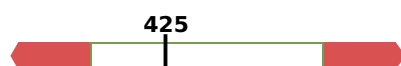
No Historical Data

What are Monocytes?
Monocytes, like the other white blood cells (WBCs), originate in the bone marrow, the complex spaces within many of our larger bones. Monocytes are responsible for eating foreign intruders (phagocytosis) and killing infected cells. Monocytes are important in triggering atherosclerosis that affects our arteries and can lead to heart disease and stroke.

Absolute Eosinophils
Desired Range: 15-500 cells/uL

171
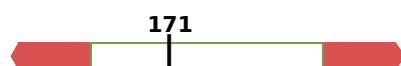
No Historical Data

What are Eosinophils?
Eosinophilic granulocytes ("eosinophils") are part of our immune system's response to infection including from parasites. Eosinophils, along with basophils and mast cells, are important in allergic responses and in asthma.

Absolute Basophils

Desired Range: 0-200 cells/uL

41

No Historical Data

What are Basophils?

Basophilic granulocytes ("basophils") - are the least common of the five white blood cell types. When activated, basophils secrete or release many compounds including histamine and interleukin-4. Both compounds are important in the allergic response.

Comprehensive Metabolic Panel (CMP)

Comprehensive Metabolic Panel Result: What does it mean?

A CMP refers to a broad screening tool that includes 14 tests that evaluate the functioning of a person's liver and kidneys, as well as the body's fluid balance and general metabolism. The results additionally provide a general indicator of your overall health; a CMP is often ordered in your yearly physical exam.

In a CMP, levels of liver enzymes, waste products of the kidneys (BUN and creatinine), electrolytes (calcium, sodium, potassium), and glucose, among other indicators of general body function are detected. The test results of a CMP are useful to examine for conditions, such as diabetes, liver disease, and kidney disease and also to monitor present conditions, such as hypertension.

See More : http://labtestsonline.org/understanding/analytes/cmp/tab/test#what

Source: http://labtestsonline.org : http://labtestsonline.org/understanding/analytes/cmp/tab/test#what

Your Results

Glucose (Blood Sugar)

Desired Range: 65-99 mg/dL

86

No Historical Data

Fasting reference interval

What is Glucose (Blood Sugar)?

Glucose ("blood sugar") is the chief source of energy for all cells in the body. Glucose levels are regulated by hormones produced by your pancreas, including insulin. A glucose level outside the optimal range could be a sign that the body is not correctly producing or using insulin. These conditions are hypoglycemia (low blood sugar), prediabetes (elevated blood sugar), and diabetes (high blood sugar). For the most accurate result you should fast (not eat or drink anything but water) for at least 8 hours before your screening. If you were not fasting at the time of your screening, you should interpret your result against an optimal range of less than 140 mg/dL.

Urea Nitrogen (BUN)

Desired Range: 7-25 mg/dL

13
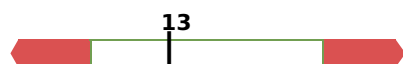
No Historical Data

What is Blood Urea Nitrogen (BUN)?

Urea, measured as blood urea nitrogen (BUN) is a waste product derived from the natural breakdown of protein in the liver. Urea is excreted in the urine after blood is filtered through the kidneys. The urea nitrogen level reflects both the metabolism of protein and the effectiveness of the kidneys in filtering blood.

Creatinine
Desired Range: 0.60-1.35 mg/dL

1.12

No Historical Data

What is Creatinine?
Creatinine is derived from muscles and released into the blood. It is removed from the body by the kidneys. When the creatinine level is elevated, a decrease in kidney function is suggested. For patients 50 years of age and older, and whom identify as African-American the upper reference range for creatinine is approximately 10-15% higher.

eGFR Non-African American
Desired Range: 60 > OR = mL/min/1.73m2

88

No Historical Data

What is Estimated Glomerular Filtration Rate (eGFR)?
Estimated Glomerular Filtration Rate (eGFR) is a test for kidney damage. eGFR is calculated using your serum creatinine result, age and gender. Creatinine is not sensitive to early renal damage since it varies with age, gender and ethnic background. If you are African American, your eGFR is estimated differently. Since race is not reported in this screening, you will need to use the reported result that is associated with your race. To get a African American specific result, you can multiply this result by 1.21 to get your true eGFR. The same reference ranges will apply.

eGFR African American
Desired Range: 60 > OR = mL/min/1.73m2

102

No Historical Data

What is Estimated Glomerular Filtration Rate (eGFR)?
Estimated Glomerular Filtration Rate (eGFR) is a test for kidney damage. eGFR is calculated using your serum creatinine result, age and gender. Creatinine is not sensitive to early renal damage since it varies with age, gender and ethnic background. If you are African American, your eGFR is estimated differently. Since race is not reported in this screening, you will need to use the reported result that is associated with your race. To get a African American specific result, you can multiply this result by 1.21 to get your true eGFR. The same reference ranges will apply.

BUN/Creatinine Ratio
Desired Range: 6-22 (calc)

Result: NOT APPLICABLE   No Historical Data

What is BUN/Creatinine Ratio?
The BUN/creatinine ratio is a calculated value derived by dividing the urea nitrogen result by the creatinine result. This ratio can be helpful in determining whether elevated urea nitrogen is due to impaired kidney function or to other factors such as dehydration, urinary blockage or excessive blood loss.

Sodium
Desired Range: 135-146 mmol/L

139
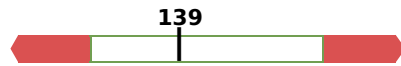
No Historical Data

What is Sodium?
Sodium is one of the body's principal minerals, regulated by the kidneys. It plays an important role in water balance in your body. A high level can be caused by dehydration, excessive salt intake in your diet or certain diseases. A low level of sodium may be caused by diarrhea, vomiting, or excessive sweating. Numerous drugs, including diuretics, certain blood pressure medications and steroids, may alter the sodium level.

Potassium
Desired Range: 3.5-5.3 mmol/L

4.0

No Historical Data

What is Potassium?
Potassium is one of the body's principal minerals, found primarily inside cells. It helps maintain water balance as well as proper function of nerves and muscles. Low or high levels in the blood are of critical significance and should be evaluated by your healthcare provider. This is especially important if you are taking a diuretic or heart medication. A high level may indicate kidney or liver disease, too much medication or bodily injury, such as a burn. A low level of potassium can develop rapidly, most frequently produced as a side effect of drugs that cause increased urination.

Chloride
Desired Range: 98-110 mmol/L

103
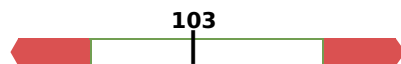
No Historical Data

What is Chloride?
Chloride is one of the body's minerals involved with water balance. Most body chloride comes from salt in the diet. A high chloride level may mean severe dehydration, certain kidney disorders or hyperventilation. A low chloride level may result from excessive vomiting, diarrhea, severe burns, excessive sweating or kidney failure. Borderline low or high levels of chloride have very little significance.

Carbon Dioxide
Desired Range: 20-32 mmol/L

31

No Historical Data

What is Carbon Dioxide?
In the body, most of the carbon dioxide (CO_2) is in the form of a substance called bicarbonate (HCO_3). Therefore, the CO_2 blood test is really a measure of your blood bicarbonate level. Changes in your CO_2 level may suggest that you are losing or retaining fluid, which causes an imbalance in your body's electrolytes. CO_2 levels in the blood are influenced by kidney and lung function. The kidneys are mainly responsible for maintaining the normal bicarbonate levels. The CO_2 level is interpreted with other results to aid in medical diagnoses.

Calcium
Desired Range: 8.6-10.3 mg/dL

9.7

No Historical Data

What is Calcium?
Calcium is one of the most important elements in the body. It is essential for maintenance and repair of bone and teeth, heart function, muscle function, and blood clotting. Ninety-nine percent of the calcium in your body is contained in your bones and only one percent is in the blood. Although most of the calcium in the body is in the bones, the body regulates blood calcium levels very tightly, since its functions are essential to health and performance.

Protein, Total
Desired Range: 6.1-8.1 g/dL

7.4

No Historical Data

What is Total Protein?
Total protein has two main components—albumin and globulin. The body's protein is derived from ingested food and therefore is influenced by the quality of diet, as well as by liver and kidney function.

Albumin
Desired Range: 3.6-5.1 g/dL

4.7

No Historical Data

What is Albumin?
Albumin is the largest portion of total blood protein. Decreased blood albumin may indicate many disorders including poor nutrition and advanced liver disease. Modest decreases in albumin may be seen in people with low thyroid gland function and protein-losing conditions.

Globulin
Desired Range: 1.9-3.7 g/dL (calc)

2.7

No Historical Data

What is Globulin?
Globulin is not measured directly. It is calculated as the difference between the total protein and the albumin levels. The globulins are a group of about 60 different proteins that are part of the immune system, which helps to fight and prevent infections. The globulins also play an important role in blood clotting and serve as carrier proteins for hormones.

Albumin/Globulin Ratio
Desired Range: 1.0-2.5 (calc)

1.7

No Historical Data

What is Albumin/Globulin Ratio?
Albumin/Globulin Ratio - An alternative way to tell if the albumin or globulin levels in the blood are abnormal is to compare the level of albumin to the level of globulin. If both the albumin and globulin results fall within the specified reference ranges, then a high or low A/G ratio result is not generally considered significant. A high globulin level and low albumin/globulin ratio may suggest high production of globulin that may be due to chronic infections, autoimmune disease, multiple myeloma, and other medical conditions.

Bilirubin, Total

Desired Range: 0.2-1.2 mg/dL

0.5
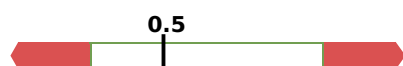
No Historical Data

What is Total Bilirubin?

Bilirubin is the main pigment in bile and a major product of normal red cell breakdown. It is helpful in evaluating liver function, various anemias and in evaluating jaundice, yellowing of the skin.

## Alkaline Phosphatase

Desired Range: 36-130 U/L

60

No Historical Data

What is Alkaline Phosphatase?

Alkaline phosphatase is an enzyme found primarily in bone and the liver. Elevated levels may indicate the presence of bone or liver disorders. It is commonly increased when the bile duct is blocked which may be caused by gallstones.

Aspartate Aminotransferase
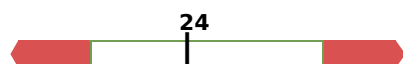
Desired Range: 10-40 U/L

21
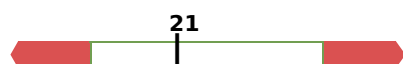
No Historical Data

What is Aspartate Aminotransferase?

Aspartate aminotransferase (AST) is an enzyme found in the liver and in cardiac and skeletal muscle. AST may rise in liver, heart, and muscle disorders. It can also rise following strenuous, prolonged exercise.

Alanine Aminotransferase

Desired Range: 9-46 U/L

24

No Historical Data

What is Alanine Aminotransferase?

Alanine aminotransferase (ALT) is an enzyme produced primarily in the liver, skeletal and heart muscle. ALT is present in the liver in a higher concentration than AST and is more specific for differentiating liver injury from muscle damage. ALT rises in the instance of liver disease.

Urine Analysis

Urinalysis Result: What does it mean?

A urinalysis is typically used during a routine physical or when you have symptoms of a UTI, such as abdominal pain, back pain, frequent or painful urination; as part of a pregnancy check-up, a hospital admission, or a pre-surgical work-up.

See More : http://labtestsonline.org/understanding/analytes/urinalysis/tab/test#what

Source: http://www.labtestsonline.org/: *http://labtestsonline.org/understanding/analytes/urinalysis/tab/test#what*

Your Results

Color

Desired Result: YELLOW

Result: YELLOW   No Historical Data

What is a Urine Color Test?

This test describes the color of your urine. Many things can affect urine color, including your diet, hydration level, medications and diseases. The color is can tell you how much water is in it. Dark yellow has less water and may be a sign of dehydration. Clear, light or pale yellow is a sign of adequate water intake. Some supplements can cause urine to turn bright yellow, green or blue. Some medicines, blackberries, beets, rhubarb, or blood in the urine can turn urine red or brown.

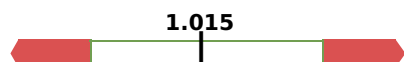## Appearance

Desired Result: CLEAR

Result: CLEAR   No Historical Data

Why is the appearance of urine important?

Urine is normally clear. It can look cloudy when there are bacteria, blood, sperm, crystals, or mucus in the urine.

Specific Gravity

Desired Range: 1.001-1.035

1.015

No Historical Data

What is Specific Gravity?

Specific gravity looks at the amount of substances in the urine. It can be used to see how well the kidneys are working and as a measure of hydration. When you specific gravity is high, it means there more solid material is in your urine. This often occurs when you are not drinking enough fluids. When specific gravity is low, your kidneys make urine with a high amount of water in it, which is often the result of drinking lots of fluids.

pH

Desired Range: 5.0-8.0

6.0
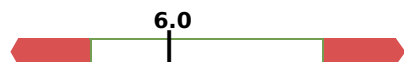
No Historical Data

What is pH?

pH of a liquid, such as urine, reflects how it is acidic or alkaline.   A typical range is 4.5-8.0, although there are no abnormal urine pH levels.   Modification of the urine pH by diet or medication may be helpful for some people who experience kidney stones.

Glucose (Blood Sugar)

Desired Result: NEGATIVE

Result: NEGATIVE   No Historical Data

What is Glucose (Blood Sugar)?

Glucose ("blood sugar") is the chief source of energy for all cells in the body. Glucose levels are regulated by hormones produced by your pancreas, including insulin. A glucose level outside the optimal range could be a sign that the body is not correctly producing or using insulin. These conditions are hypoglycemia (low blood sugar), prediabetes (elevated blood sugar), and diabetes (high blood sugar). For the most accurate result you should fast (not eat or drink anything but water) for at least 8 hours before your screening. If you were not fasting at the time of your screening, you should interpret your result against an optimal range of less than 140 mg/dL.

Bilirubin

Desired Result: NEGATIVE

Result: NEGATIVE   No Historical Data

What is Bilirubin?

Bilirubin is a product of red blood cell breakdown. Normally, bilirubin is carried in the blood and passes into your liver, where it's removed and becomes part of bile. Bilirubin in your urine may indicate liver damage or disease.

Ketones

Desired Result: NEGATIVE

Result: NEGATIVE   No Historical Data

What are Ketones?

When fat is broken down for energy, the body makes substances called ketones (or ketone bodies). These are passed in the urine. Large amounts of ketones in the urine may be as sign of diabetic ketoacidosis, which is a very serious condition. A diet low in carbohydrates, starvation, or severe vomiting may also cause ketones to be in the urine.

Occult Blood

Desired Result: NEGATIVE

Result: NEGATIVE   No Historical Data

Occult Blood in Urine

Occult blood in urine (also known as microscopic hematuria) is blood that can only be seen with a microscope.

Occult Blood in Urine

Gross hematuria means the urine appears red or the color of tea or cola to the naked eye, whereas occult blood (microscopic hematuria) can only be seen with a microscope.

Causes of both gross and microscopic hematuria include:

- Inflammation of the kidney, urethra, bladder, or prostate (in men)
- Abnormal structures in the urinary tract
- Inherited diseases, like polycystic kidney disease, sickle cell disease, or hemophilia
- Mineral imbalances in the urine
- Glomerulonephritis
- In some cases, no cause of hematuria may be found (idiopathic hematuria)

For more information please visit the National Kidney Foundation site by clicking here: https://www.kidney.org/atoz/content/hematuria-adults.

Protein

Desired Result: NEGATIVE

Result: NEGATIVE   No Historical Data

What is Protein?

Protein normally isn't found in the urine. Fever, hard exercise, pregnancy, and some diseases, especially kidney disease, may cause protein to be in the urine.

Nitrite

Desired Result: NEGATIVE

Result: NEGATIVE   No Historical Data

What are Nitrites?

Nitrites are produced when the normally occurring chemical nitrates are converted to nitrites by bacteria that have infected the urinary tract. Nitrites in urine may be a sign of a urinary tract bacterial infection.

Urinary Tract Infections (UTIs)

Urinary Tract Infections (UTIs) are most often caused by bacteria and are common among women. UTIs usually affect the bladder, but also can be present in other parts of the urinary system, including the kidneys. Click here : https://www.womenshealth.gov/files/documents/fact-sheet-urinary-tract-infections.pdf to read a fact sheet on UTIs from the US Department of Health & Human Services Office on Women's Health.

Leukocyte Esterase
Desired Result: NEGATIVE

Result: NEGATIVE   No Historical Data

What is Leukocyte Esterase?
Leukocyte Esterase shows leukocytes (white blood cells [WBCs]) in the urine. WBCs in the urine may mean a UTI is present.

Urinary Tract Infections (UTIs)
Urinary Tract Infections (UTIs) are most often caused by bacteria and are common among women. UTIs usually affect the bladder, but also can be present in other parts of the urinary system, including the kidneys. Click here : https://www.womenshealth.gov/files/documents/fact-sheet-urinary-tract-infections.pdf to read a fact sheet on UTIs from the US Department of Health & Human Services Office on Women's Health.

WBC
Desired Range: $\leq$ 5 /HPF

Result: NONE SEEN   No Historical Data

What is WBC?
Blood cells aren't found in urine normally. Inflammation, disease, or injury to the kidneys, ureters, bladder, or urethra can cause blood in urine. White blood cells (WBCs) may be a sign of infection or kidney disease.

RBC
Desired Range: $\leq$ 2 /HPF

Result: NONE SEEN   No Historical Data

What is RBC?
RBCs (female)
The test identifies the presence of red blood cells (RBCs) in the urine. A few RBCs may be present in urine (0-5 RBCs per high power field as viewed with a microscope). Blood in the urine is not a normal finding, but it is not uncommon to have a low level. Excessive RBCs in urine may reflect a medical condition that requires treatment. This test cannot determine the source of the RBCs; therefore, blood from menstrual, vaginal or urinary tract system bleeding cannot be distinguished.
RBCs (male)
The test identifies the presence of red blood cells (RBCs) in the urine. A few RBCs may be present in urine (0-5 RBCs per high power field as viewed with a microscope). Blood in the urine is not a normal finding, but it is not uncommon to have a low level. Excessive RBCs in urine may reflect a medical condition that requires treatment. This test cannot determine the source of the RBCs (i.e., upper or lower urinary tract system).

Squamous Epithelial Cells
Desired Range: $\leq$ 5 /HPF

Result: NONE SEEN   No Historical Data

What are Squamous Epithelial Cells?
Squamous epithelial cells are from the skin surface or from the outer urethra. The presence of squamous cells in urine may mean that the urine sample is contaminated. These cells do not mean there is a medical problem.

Bacteria

Desired Range: NONE SEEN /HPF

Result: NONE SEEN   No Historical Data

What is Bacteria?

This test looks for bacteria in your urine. There are no bacteria in urine normally. If these are present, it can mean you have an infection.

Urinary Tract Infections (UTIs)

Urinary Tract Infections (UTIs) are most often caused by bacteria and are common among women. UTIs usually affect the bladder, but also can be present in other parts of the urinary system, including the kidneys. Click here : https://www.womenshealth.gov/files/documents/fact-sheet-urinary-tract-infections.pdf to read a fact sheet on UTIs from the US Department of Health & Human Services Office on Women's Health.

Hyaline Cast

Desired Range: NONE SEEN /LPF

Result: NONE SEEN   No Historical Data

What is Hyaline Cast?

Hyaline casts are not thought to be indicative of any disease process, but increased numbers may be seen in concentrated urine specimens. Hyaline casts are normal and only indicate that you may have had somewhat concentrated urine at the time it was collected. Highly concentrated urine may be caused by dehydration, exercise or diuretic medicines (water pills).

Testosterone (Male)

What does testosterone do?

Testosterone is an androgen steroid hormone and the principle male sex hormone. Testosterone plays a key role in development of the male reproductive system and promotes secondary sexual characteristics. It is primarily secreted from the testes. In females, low levels of testosterone are secreted by the ovaries. Small amounts are also secreted by the adrenal gland in both genders.

Testosterone deficiency affects approximately 30% of men aged 40 to 79 years. There is a growing body of evidence that strongly associates deficiency with aging and common medical conditions including obesity, diabetes, and hypertension. Testosterone replacement therapy in hypogonadal men can lead to improvement of metabolic syndrome indicators and cardiovascular risk factors. Maintaining testosterone concentrations in the normal range also contributes to bone health, more lean muscle mass, and better physical and sexual function.

An abnormal testosterone concentration can cause premature or delayed puberty in children and hirsutism, as well as virilization in women.

What is total testosterone comprised of?

A total testosterone measurement is made up of free and bound testosterone. Circulating testosterone is primarily bound to carrier proteins like albumin and sex hormone binding globulin. Only a small percentage of total testosterone (~2%) remains unbound or "free". Sex hormone binding globulin binds testosterone with high affinity and acts as a reservoir for storage and transport. Albumin, on the other hand, binds testosterone with weak affinity. Free and albumin-bound fractions are available for immediate binding to an available receptor; therefore, the sum of free and albumin-bound testosterone is termed bioavailable testosterone.

What is testosterone?

Testosterone is a male hormone that comes mostly from the testes in men. The adrenal gland also makes a little bit. In women, both the ovaries and the adrenal gland make small amounts. Testosterone levels increase in boys as they start to reach puberty. It's the reason men have:

- A deep voice
- More facial and body hair
- Increased height
- Increased muscle mass
- Less body fat

In men, testosterone is needed to:

- Keep muscles and bones strong
- Maintain normal mood and energy level
- Maintain interest in sex
- Produce sperm cells
- Have an erection

What is a normal testosterone level?

Blood levels start out low in young boys. They increase during puberty to adult levels. Normal adult levels are about 250 to 1100 ng/dL.

What causes low testosterone?

Typically starting at age 40 or younger, testosterone levels slowly decrease. But older age doesn't cause low testosterone. Although it's more common in older men, not all of them develop it. These things do cause low testosterone:

- Injury to the testes, hypothalamus, or pituitary glands
– Accident
– Autoimmune disease
– Cancer
– Inflammation
- Certain drugs
– Anabolic steroids
– Glucocorticoids
– Hormone therapy used to treat prostate cancer
– Opioid pain killers
- Radiation and chemotherapy
- Genetic disorders such as Klinefelter syndrome

Can low testosterone be treated?

Yes. Doctors treat it by giving the patient testosterone. The goal is to increase blood levels to the middle of the normal range. That's about 400 ng/dL. Testosterone comes in creams, gels, patches, and injections. Your doctor will help you decide which is best for you.

What are the risks of testosterone treatment?

Some types of testosterone therapy cause a rash or itching (just where it's applied). Other possible side effects include:

- Acne and oily skin
- Breast tenderness
- An increase in red blood cells, which might cause blood clots in the arteries or veins
- A decrease in sperm production and ability to father a child
- Prostate cancer

What are the benefits of testosterone treatment?

It might take several months for the medicine to take effect.
When it does, these are some possible benefits:

- More interest in sex
- Less depression
- More energy and muscular strength
- Less risk of bone fracture

How is low testosterone diagnosed?

Doctors use a blood test to diagnose low testosterone. Blood levels are higher in the morning than they are at night, so, you should have your blood drawn in the morning. If your level is low, your doctor might try to find out why. To do this, he/she will use a medical history, physical exam, and other laboratory tests.

What are the symptoms of low testosterone in men?

Low testosterone can cause many symptoms.
Decreased energy and sex drive are common.
Here are some other symptoms:

- Depression
- Decreased muscle strength
- Low bone density

Your doctor can treat this condition. But first, you have to be diagnosed with it. This starts with a simple blood test that finds out how much testosterone is in your blood.

I am being treated for low T. What testing do I need?

Men being treated might need the following tests1
:

• Total testosterone 3 to 6 months after starting therapy
• Hematocrit 3 to 6 months after starting therapy and annually thereafter (to detect possible increases in the number of red blood cells)
• Bone density after 1 to 2 years of therapy; this test is just for men with osteoporosis or

low-trauma fracture
• Prostate cancer screening tests (DRE and PSA) 3 to 6 months after starting therapy and then per screening guidelines; doctors should do these tests before starting treatment too
References
1. Bhasin S, Cunningham GR, Hayes FJ, et al. Testosterone therapy in adult men with androgen deficiency syndromes: an Endocrine Society Clinical Practice Guideline. J Clin Endocrinol Metab. 2010;95:2536-2559.
2. Rosner W, Auchus RJ, Azziz, R. Position statement: Utility, limitations, and pitfalls in measuring testosterone: an Endocrine Society Position Statement. J Clin Endocrinol Metab. 2007;92:405-413.

What Does Testosterone Do?

Learn more about testosterone, the main sex hormone in men, from this fact sheet provided by the Endocrine Society at their Hormone Health Network (HHN) website.

Read or download the fact sheet from the HHN website :
http://www.hormone.org/hormones-and-health/what-do-hormones-do/what-does-testosterone-do

Testosterone (male)

Testosterone is the primary male sex hormone and it is made in the testes (male reproductive glands). It is a steroid that plays a role in the development and maintenance of male reproductive tissues and sexual characteristics. Many men may experience low testosterone levels, which can affect sex drive, mood, and energy levels. Also, low testosterone levels can contribute to male infertility. Blood-based testing can detect low testosterone levels. Due to natural variation in levels over time, repeat testing on a new specimen is often performed. More information on low testosterone levels and its possible treatment can be found by clicking here :
https://my.clevelandclinic.org/health/diseases/15603-low-testosterone-male-hypogonadism to reach the online health library of the Cleveland Clinic.

Low Testosterone in Men

Read this publication to find out more about the symptoms, diagnosis, and treatment options for low testosterone in men.

View More :
https://iicontent.care360.com/ii-content-service/media/image?path=/insights/4dbbeff3-5ac8-4c2a-a084-284128846ec7/images/12Junelowtestosteroneinmen.pdf

Your Results

Testosterone (Male)
Desired Range: 250-827 ng/dL

620

No Historical Data

What is Testosterone?

Testosterone, the principal male sex hormone, is secreted primarily in the testes in men and the ovaries in women. Men typically have much higher levels than women. Testosterone plays a critical role in men's sexual function and well-being. With aging, testosterone levels decline. Identification of inadequate testosterone in an aging male by symptoms alone can be challenging; the signs and symptoms are non-specific, and might be confused with normal aging characteristics, such as loss of muscle mass and bone density, decreased physical endurance, and loss of libido. There is no widely accepted definition of what is considered too low a level of testosterone that defines hypogonadism.

Next Steps
Still have Questions?

Contact the PWN care coordination team to schedule a session with a physician to discuss your results.

Monday - Friday / 9:00am - 5:30pm EST, Phone: (855) 205-6146

Performing Lab

NL1 Quest Diagnostics LLC-Quest Diagnostics LLC, 200 Forest St, 3Rd Fl, Marlborough, MA 01752-3023 Laboratory Director: Salim E Kabawat M.D.

Ordering Physician

TRUONG,HONG
PWN HEALTH, (888) 362-4321

Key:

⚠ Out of Range *

* Refers to a result that is outside of the provided normal range.

Note: Data displayed only for results that meet strict identification matching. Historical result view may vary based on corrected or updated patient demographics. The reference range displayed may vary due to potential changes in laboratory testing methods. Please refer to the published reference range on each lab report.

To feel fully empowered to make healthy decisions based on your test results, it is recommended that you discuss them with a health care provider. Please note, our patient service centers or laboratories do not have your full medical story to provide you with an interpretation or diagnosis.