



CANYON HEALTH CENTER/Jennifer Reilly

Functional Health Report Patient Copy

[REDACTED]

Lab Test on Aug 27, 2021
Conventional US Units

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Blood Test Results Report



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

Above Optimal Range

9 Current | 0 Previous



Above Standard Range

5 Current | 0 Previous



Alarm High

0 Current | 0 Previous



Below Optimal Range

11 Current | 0 Previous



Below Standard Range

1 Current | 0 Previous



Alarm Low

0 Current | 0 Previous



| Element | Current | Previous | Impr | Optimal Range | Standard Range | Units |
|---------------------------|-------------|---------------|------|-----------------|-----------------|---------------|
| | Aug 27 2021 | Not Available | | | | |
| Glucose | 96.00 | | | 72.00 - 90.00 | 65.00 - 99.00 | mg/dL |
| Hemoglobin A1C | 5.70 | | | 5.00 - 5.50 | 0.00 - 5.60 | % |
| BUN | 16.00 | | | 10.00 - 16.00 | 7.00 - 25.00 | mg/dL |
| Creatinine | 0.75 | | | 0.80 - 1.10 | 0.40 - 1.35 | mg/dL |
| BUN/Creatinine Ratio | 21.33 | | | 10.00 - 16.00 | 6.00 - 22.00 | Ratio |
| eGFR Non-Afr. American | 77.00 | | | 90.00 - 120.00 | 60.00 - 90.00 | mL/min/1.73m2 |
| eGFR African American | 88.00 | | | 90.00 - 120.00 | 60.00 - 90.00 | mL/min/1.73m2 |
| Sodium | 144.00 | | | 135.00 - 142.00 | 135.00 - 146.00 | mEq/L |
| Potassium | 4.30 | | | 4.00 - 4.50 | 3.50 - 5.30 | mEq/L |
| Sodium/Potassium Ratio | 33.48 | | | 30.00 - 35.00 | 30.00 - 35.00 | ratio |
| Chloride | 106.00 | | | 100.00 - 106.00 | 98.00 - 110.00 | mEq/L |
| CO2 | 29.00 | | | 25.00 - 30.00 | 19.00 - 30.00 | mEq/L |
| Anion gap | 13.30 | | | 7.00 - 12.00 | 6.00 - 16.00 | mEq/L |
| Uric Acid, female | 4.00 | | | 3.00 - 5.50 | 2.50 - 7.00 | mg/dL |
| Protein, total | 6.50 | | | 6.90 - 7.40 | 6.10 - 8.10 | g/dL |
| Albumin | 4.10 | | | 4.00 - 5.00 | 3.60 - 5.10 | g/dL |
| Globulin, total | 2.40 | | | 2.40 - 2.80 | 2.00 - 3.50 | g/dL |
| Albumin/Globulin Ratio | 1.70 | | | 1.40 - 2.10 | 1.00 - 2.50 | ratio |
| Calcium | 9.10 | | | 9.40 - 10.10 | 8.60 - 10.40 | mg/dL |
| Calcium/Albumin Ratio | 2.21 | | | 0.00 - 2.60 | 0.00 - 2.70 | ratio |
| Phosphorus | 3.20 | | | 3.50 - 4.00 | 2.50 - 4.50 | mg/dL |
| Calcium/Phosphorous Ratio | 2.84 | | | 2.30 - 2.80 | 1.90 - 4.20 | ratio |
| Magnesium | 2.30 | | | 2.20 - 2.50 | 1.50 - 2.50 | mg/dl |
| Alk Phos | 53.00 | | | 70.00 - 100.00 | 35.00 - 115.00 | IU/L |
| AST (SGOT) | 18.00 | | | 10.00 - 26.00 | 10.00 - 35.00 | IU/L |
| ALT (SGPT) | 14.00 | | | 10.00 - 26.00 | 6.00 - 29.00 | IU/L |
| LDH | 166.00 | | | 140.00 - 200.00 | 120.00 - 250.00 | IU/L |
| Bilirubin - Total | 0.40 | | | 0.10 - 0.90 | 0.20 - 1.20 | mg/dL |
| GGT | 10.00 | | | 10.00 - 30.00 | 3.00 - 70.00 | IU/L |

| | | | | |
|------------------------------|----------|-----------------|-----------------|--------|
| Iron - Serum | 130.00 | 85.00 - 130.00 | 40.00 - 160.00 | µg/dL |
| Ferritin | 97.00 | 40.00 - 150.00 | 10.00 - 232.00 | ng/ml |
| TIBC | 299.00 | 250.00 - 350.00 | 250.00 - 425.00 | µg/dL |
| % Transferrin saturation | 43.00 | 24.00 - 50.00 | 20.00 - 48.00 | % |
| Cholesterol - Total | 219.00 ↑ | 155.00 - 190.00 | 125.00 - 200.00 | mg/dL |
| Triglycerides | 72.00 | 50.00 - 100.00 | 0.00 - 150.00 | mg/dL |
| LDL Cholesterol | 134.00 ↑ | 0.00 - 120.00 | 0.00 - 100.00 | mg/dL |
| HDL Cholesterol | 72.00 ↑ | 55.00 - 70.00 | 48.00 - 100.00 | mg/dL |
| Cholesterol/HDL Ratio | 3.00 | 0.00 - 3.00 | 0.00 - 5.00 | Ratio |
| Triglyceride/HDL Ratio | 1.00 | 0.00 - 2.00 | 0.00 - 3.30 | ratio |
| TSH | 0.89 ↓ | 1.00 - 3.00 | 0.40 - 4.50 | µU/ml |
| Free T3 | 2.70 ↓ | 2.80 - 3.50 | 2.30 - 4.20 | pg/ml |
| Total T3 | 112.00 | 80.00 - 168.00 | 76.00 - 181.00 | ng/dL |
| Free T4 | 1.39 | 1.00 - 1.50 | 0.80 - 1.80 | ng/dL |
| Total T4 | 8.20 | 6.00 - 11.90 | 4.50 - 12.00 | µg/dL |
| T3 Uptake | 28.00 | 27.00 - 35.00 | 22.00 - 35.00 | % |
| Free Thyroxine Index (T7) | 2.29 | 1.70 - 4.80 | 1.40 - 3.80 | Index |
| Reverse T3 | 22.20 | 10.00 - 25.00 | 8.00 - 25.00 | ng/dl |
| Thyroid Peroxidase (TPO) Abs | 11.00 | 0.00 - 34.00 | 0.00 - 34.00 | IU/ml |
| C-Reactive Protein | 2.00 | 0.00 - 5.00 | 0.00 - 7.90 | mg/L |
| Homocysteine | 13.20 ↑ | 0.00 - 6.00 | 0.00 - 10.30 | µmol/L |
| Fibrinogen | 386.00 ↑ | 295.00 - 389.00 | 175.00 - 425.00 | mg/dl |
| Vitamin D (25-OH) | 54.50 | 50.00 - 90.00 | 30.00 - 100.00 | ng/ml |
| Total WBCs | 3.90 ↓ | 5.30 - 7.50 | 3.80 - 10.80 | k/cumm |
| RBC, Female | 4.38 | 3.90 - 4.50 | 3.80 - 5.10 | m/cumm |
| Hemoglobin, Female | 13.20 ↓ | 13.50 - 14.50 | 11.70 - 15.50 | g/dl |
| Hematocrit, Female | 41.50 | 37.00 - 44.00 | 35.00 - 45.00 | % |
| MCV | 95.00 ↑ | 85.00 - 92.00 | 80.00 - 100.00 | fL |
| MCH | 30.10 | 27.00 - 31.90 | 27.00 - 33.00 | pg |
| MCHC | 31.00 ↓ | 32.00 - 35.00 | 32.00 - 36.00 | g/dL |
| Platelets | 198.00 | 150.00 - 400.00 | 140.00 - 400.00 | k/cumm |
| RDW | 12.70 | 11.70 - 13.00 | 11.00 - 15.00 | % |
| Neutrophils | 45.00 | 40.00 - 60.00 | 38.00 - 74.00 | % |
| Lymphocytes | 44.00 ↑ | 25.00 - 40.00 | 14.00 - 46.00 | % |
| Monocytes | 6.00 ↑ | 0.00 - 7.00 | 0.00 - 7.00 | % |
| Eosinophils | 1.00 | 0.00 - 3.00 | 0.00 - 3.00 | % |
| Basophils | 1.00 | 0.00 - 1.00 | 0.00 - 1.00 | % |

Out of Optimal Range Report



The following results show all of the elements that are out of the optimal reference range. The elements that appear closest to the top of each section are those elements that are farthest from optimal.

Above Optimal Range

14 Total



Below Optimal Range

12 Total



Above Optimal

Homocysteine ↑ 13.20 μmol/L (+ 170 %)

Homocysteine is a molecule formed from the incomplete metabolism of the amino acid methionine. Deficiencies in Vitamins B6, B12 and folate cause methionine to be converted into homocysteine. Homocysteine increases the risk of cardiovascular disease by causing damage to the endothelial lining of the arteries, especially in the heart. Increased levels of homocysteine are associated with an increased risk of cardiovascular disease and stroke, as well as cancer, depression and inflammatory bowel disease.

BUN/Creatinine Ratio ↑ 21.33 Ratio (+ 139 %)

The BUN/Creatinine is a ratio between the BUN and Creatinine levels. An increased level is associated with renal dysfunction. A decreased level is associated with a diet low in protein.

Cholesterol - Total ↑ 219.00 mg/dL (+ 133 %)

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.

MCV ↑ 95.00 fL (+ 93 %)

The MCV is a measurement of the volume in cubic microns of an average single red blood cell. MCV indicates whether the red blood cell size appears normal (normocytic), small (microcytic), or large (macrocytic). An increase or decrease in MCV can help determine the type of anemia present. An increased MCV is associated with B12, folate, or vitamin C deficiency. A decreased MCV is associated with iron and B6 deficiency.

Hemoglobin A1C ↑ 5.70 % (+ 90 %)

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.

Glucose ↑ 96.00 mg/dL (+ 83 %)

Blood glucose levels are regulated by several important hormones including insulin and glucagon. Glucose is also directly formed in the body from carbohydrate digestion and from the conversion in the liver of other sugars, such as fructose, into glucose. Increased blood glucose is associated with type 1 & 2 diabetes, metabolic syndrome, and insulin resistance. Decreased levels of blood glucose are associated with hypoglycemia.

Sodium ↑ 144.00 mEq/L (+ 79 %)

Sodium is an important blood electrolyte and functions to maintain osmotic pressure, acid-base balance; aids in nerve impulse transmission, as well as renal, cardiac and adrenal functions. Increased sodium is most often due dehydration (sweating, diarrhea, vomiting, polyuria, etc.) or adrenal stress. Decreased sodium levels are associated with adrenal insufficiency and edema.

Monocytes ↑ 9.00 % (+ 79 %)

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.

Lymphocytes ↑ 44.00 % (+ 77 %)

Lymphocytes are a type of white blood cell. An increase in lymphocyte concentration is usually a sign of a viral infection but can also be a sign of increased toxicity in the body or inflammation. Decreased levels are often seen in a chronic viral infection and oxidative stress.

Anion gap ↑ 13.30 mEq/L (+ 76 %)

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.

Fibrinogen ↑ 386.00 mg/dl (+ 73 %)

Fibrinogen is one of the principle blood clotting proteins. It is produced in the liver and liver disease and dysfunction can cause a decrease in the level of circulating fibrinogen. Levels increase with tissue inflammation or tissue destruction. Elevated fibrinogen levels are associated with an increased risk of cardiovascular disease, heart attack, and stroke. Fibrinogen levels are often elevated in patients suffering from cancer, especially colon cancer.

HDL Cholesterol ↑ 72.00 mg/dL (+ 63 %)

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.

