PRECISION POINT DIAGNOSTICS

# Final Report

**Patient Information**

**Name:** Female Mock, Report
**DOB :** 01/01/1990
**Gender:** Female
**Phone Number:** 6787366374
**Ethnicity:** Not Specified

**Accession #:** B233140008
**Sample Type :** Whole Blood,Serum,
**Collected:** 11/09/2023 14:46:00 CST
**Received:**11/10/2023 14:49:42 CST
**Result Date:**

**Facility Information**

**Facility Name:** Precision Point Diagnostics
**Provider Name :**TMIT Physician
**Address:** 9 Dunwoody Park, Dunwoody, GA, 30338
**Lab Director:** Michael Heck, PhD
**CLIA #:** 1D2251528

**MRN:**
**Comments:**

*Detailed Results Summary by Panel*

## COMPLETE METABOLIC PANEL

| TEST | RESULT | UNITS | Flag | Reference |
|---|---|---|---|---|
| Lactate Dehydrogenase (LDH) | 245 | U/L | High | 135-225 |
| Sodium (Na) | 140 | mEq/L | | 136-144 |
| A/G | 3.26667 | | High | 1.5-2.5 |

High albumin concentration can be caused either by overproduction of albumin by the liver, or when fluid (serum) levels are too low. When a high A/G ratio is caused by high albumin levels, this can be due to severe dehydration or diarrhea, but can also occur during pregnancy. As the National Institutes of Health (NIH) explains, healthy kidneys don't allow albumin to pass from blood into urine. High albumin in the urine (albuminuria) can be an indicator of kidney disease. A high A/G result might also indicate low levels of globulin, which are found in people with antibody deficiencies, meaning a weakened immune system. Low globulin levels can also occur due to malnutrition. Malnutrition can be caused by inflammatory bowel or other gastrointestinal diseases, eating disorders, and not eating a balanced diet.

| | | | | |
|---|---|---|---|---|
| Alanine Aminotransferase (ALT) | 38 | U/L | High | 4-36 |

High ALT is associated with hepatocellular disease (moderate to high increase), alcoholic cirrhosis (mild increase), metastatic liver tumor (mild increase), obstructive jaundice or biliary obstruction (mild increase), cholecystitis; viral, infectious, or toxic hepatitis (30–50 times normal); infectious mononucleosis, pancreatitis (mild increase), MI, heart failure, polymyositis, severe burns, trauma to striated muscle, and severe shock.

| | | | | |
|---|---|---|---|---|
| Albumin (ALB) | 4.9 | g/dL | | 3.5-5.5 |
| Alkaline Phosphatase (ALP) | 154 | IU/L | High | 37-147 |

Elevated levels of ALP are associated with liver disease (correlated with abnormal liver function tests), and occur in the following conditions: obstructive jaundice (gallstones obstructing major biliary ducts; accompanying elevated bilirubin), space-occupying lesions of the liver such as cancer (hepatic carcinoma) and malignancy with liver metastasis, hepatocellular cirrhosis, biliary cirrhosis, intrahepatic and extrahepatic cholestasis, hepatitis, infectious mononucleosis, cytomegalovirus, diabetes (causes increased synthesis), diabetic hepatic lipidosis, chronic alcohol ingestion, Gilbert syndrome (hyperbilirubinemia), and bone diseases. In bone diseases, elevated ALP levels occur in the following conditions: Paget disease (osteitis deformans; levels 10– 25 times normal), metastatic bone tumor, osteogenic sarcoma, osteomalacia (elevated levels help differentiate between osteomalacia and osteoporosis, in which there is no elevation), rickets, and healing factors (osteogenesis imperfecta). Other diseases involving elevated ALP levels include the following: Hyperparathyroidism (accompanied by hypercalcemia), hyperthyroidism, pulmonary and MIs, Hodgkin's disease, cancer of the lung or pancreas, ulcerative colitis, peptic ulcer, sarcoidosis, perforation of the bowel (acute infarction), amyloidosis, CKD, heart failure, and hyperphosphataemia (primary and secondary).

| | | | | |
|---|---|---|---|---|
| Anion | 11.4 | mEq/L | High | 3-11 |

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A positive value (higher than + 2 mEq/ L or + 2 mmol/ L) reflects a nonvolatile acid deficit or true base excess. An AG occurs with acidosis that is caused by excess metabolic acids and excess serum chloride levels. If there is no change in sodium content, anions such as phosphates, sulfates, and organic acids increase the AG because they replace bicarbonate. Increased AG is associated with an increase in metabolic acid when there is excessive production of metabolic acids, as in alcoholic ketoacidosis, diabetic ketoacidosis, fasting and starvation, ketogenic diets, lactic acidosis, poisoning (by salicylate, ethylene glycol (antifreeze), methanol, or propyl alcohol). Increased AG is also associated with decreased loss of metabolic acids as in acute kidney injury and kidney disease. In the absence of kidney disease or intoxication with drugs or toxins, an increase in AG is assumed to be caused by ketoacidosis or lactate accumulation. AG includes the determination of three gaps of toxicology (influence of drugs and heavy metals): (1) anion = type A lactic acidosis due to tissue hypoxia, (2) osmolar gap, and (3) oxygen saturation gap. A list of drugs and toxic substances that cause increased AG (> 12 mEq/ L or > 12 mmol/ L) include the following: toxins that cause osmolar gap > 10 mOsm from baseline include ethanol, ethylene glycol, glycerol, hypermagnesemia (> 9.5 mEq/ L or > 9.5 mmol/ L), isopropanol (acetone), iodine (questionable), mannitol, methanol, and sorbitol.

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| | | | | |
|---|---|---|---|---|
| Aspartate Aminotransferase (AST) | 54 | U/L | High | 8-34 |

Increased AST levels occur in liver diseases (10– 100 times normal), acute hepatitis and chronic hepatitis (ALT > AST), active cirrhosis (drug-induced; alcohol-induced: AST > ALT), infectious mononucleosis, hepatic necrosis and metastasis, primary or metastatic carcinoma, alcoholic hepatitis, and Reye syndrome. AST is extremely high (> 20,000 U/ L; > 333 µkat/ L) in alcohol–acetaminophen syndrome. Other diseases associated with elevated AST levels include the following: hypothyroidism, trauma, and irradiation of skeletal muscle; dermatomyositis, polymyositis, toxic shock syndrome, cardiac catheterization, recent brain trauma with brain necrosis; cerebral infarction, crushing and traumatic injuries, head trauma, and surgery; progressive muscular dystrophy (Duchenne), pulmonary emboli and lung infarction, gangrene, malignant hyperthermia, heat angiography, mushroom poisoning, shock, hemolytic anemia, exhaustion, and heat stroke.

| | | | | |
|---|---|---|---|---|
| Bicarbonate (CO2) | 28.0 | mEq/L | | 22-29 |
| BUN/CRE | 14 | | | 5-20 |
| Calcium Arsenazo (CALA) | 9.8 | mg/dL | | 8.4-10.2 |
| Chloride (Cl) | 108 | mEq/L | | 95-111 |
| Creatinine(CRE) | 0.8 | mg/dL | | 0.6-1.3 |
| Direct Bilirubin (DBILC) | 0.2 | mg/dL | | 0-0.3 |
| eGFR- Non-African American | 122.54 | | High | 59-120 |
| eGFR-African American | 141.27 | | High | 59-120 |
| Globulin | 1.5 | g/dL | | 1.5-4.5 |
| Glucose(GLU) | 345 | mg/dL | High | 70-100 |

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Increased glucose occurs with DM endocrine disorders (thyrotoxicosis, Cushing's syndrome, acromegaly, liver and pancreatic disease, central nervous system disorders (brain injury, stroke), impaired tubular reabsorption, Fanconi syndrome, advanced renal tubular disease, and pregnancy with possible latent diabetes (gestational diabetes). Any changes in blood sugar are reflected in the CSF approximately 1 hour later because of the lag in CSF glucose equilibrium time. This measurement is helpful in determining impaired transport of glucose from plasma to CSF, increased use of glucose in the CNS, and glucose use by leukocytes and microorganisms.

| | | | |
|---|---|---|---|
| Inorganic Phosphorous(PHOS) | 3.1 | mg/dL | 2.8-4.5 |
| Potassium (K) | 4.0 | mEq/L | 3.7-5 |
| Total Bilirubin (TBILC) | 0.8 | mg/dL | 0.1-1.2 |
| Total Protein (TP) | 6.4 | g/dL | 6.4-8.3 |
| Urea Nitrogen (BUN) | 11.2 | mg/dL | 6-20 |
| Uric Acid(UA) | 4.5 | mg/dL | 2.4-6.1 |

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*Detailed Results Summary by Panel*

## COMPREHENSIVE THYROID W/ANTIBODIES

| TEST | RESULT | UNITS | Flag | Reference |
|---|---|---|---|---|
| Thyroid Peroxidase Antibodies (TPOAb) | 140 | IU/mL | High | 0-3 |
| In the case of TPOAb, rule out Graves disease, thyroid carcinoma, idiopathic myxedema, pernicious anemia, SLE, RA, Sjögren syndrome, subacute thyroiditis, and nontoxic nodular goiter. Iodine is indicated to decrease TPO antibodies. | | | | |
| Free Thyroxine (FT4) | 0.7 | ng/dL | Low | 0.9-1.7 |
| Decreased FT 4 levels are associated with the following conditions: primary hypothyroidism, secondary hypothyroidism (pituitary), tertiary hypothyroidism (hypothalamic), and hypothyroidism treated with T3. T4 can be given to increase levels. ~ Lower levels of T4 can contribute to fatigue, hair loss, feeling cold, hormonal imbalance, headaches, constipation, and many other symptoms. T4 can be increased with tyrosine, zinc, Ashwagandha, and thyroid glandulars. | | | | |
| Free Triiodothyronine (FT3) | 2.1 | pg/mL | Low | 2.3-4.1 |
| Decreased FT 3 values are associated with hypothyroidism (primary and secondary), and the third trimester of pregnancy. ~ Lower levels of T3 can contribute to fatigue, hair loss, feeling cold, hormonal imbalance, headaches, constipation, and many other symptoms. T3 can be increased with tyrosine, zinc, Ashwagandha, and thyroid glandulars. | | | | |
| Thyroglobulin (Tg2) | 43 | ng/mL | High | 0-32 |
| Thyroid stimulating Hormone (TSH3) | 1.2 | µIU/mL | | 0.3-4.2 |
| Total Thyroxine (TotT4) | 3.4 | µg/dL | Low | 4.5-11.7 |
| Low levels of T4 are associated with primary hypothyroidism, secondary hypothyroidism (pituitary), tertiary hypothyroidism (hypothalamic), and hypothyroidism treated with T3. ~ Lower levels of T4 can contribute to fatigue, hair loss, feeling cold, hormonal imbalance, headaches, constipation, hair loss, lack of focus, depression, and many other symptoms. T4 can be increased with tyrosine, zinc, Ashwagandha, and thyroid glandulars. | | | | |
| Total Triiodothyronine (TotT3) | 1.2 | ng/mL | | 0.8-1.7 |

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## CARDIAC PROFILE, ADVANCED

| TEST | RESULT | UNITS | Flag | Reference |
|---|---|---|---|---|
| C/H | 5.2 | | High | 0-5 |
| Cholesterol (CHOL) | 234 | mg/dL | High | 140-180 |
| HDL Cholesterol (HDL-C) | 45 | mg/dL | | 60 |
| Triglyceride(TRIG) | 324 | mg/dL | High | 0-150 |

Increased triglycerides occur with the following conditions: hyperlipoproteinemia types I, IIb, III, IV, and V; liver disease, alcoholism (can be extremely high with alcoholism), nephrotic syndrome, renal disease, hypothyroidism, poorly controlled diabetes, pancreatitis, glycogen storage disease (von Gierke disease), MI (elevated levels may persist for several months), Gout Werner syndrome (rare autosomal recessive progeroid syndrome, premature aging), down syndrome, and anorexia nervosa.

| | | | | |
|---|---|---|---|---|
| LDL Cholesterol (LDL-C) | 180 | mg/dL | High | 0-130 |

Increased LDL levels are caused by familial type II hyperlipidemia, and familial hypercholesterolemia. Secondary causes include the following: a diet high in cholesterol and saturated fats, hyperlipidemia secondary to hypothyroidism, nephrotic syndrome, multiple myeloma and other dysglobulinemias, hepatic obstruction or disease, anorexia nervosa, diabetes, CKD, porphyria (inherited or acquired disorders of certain enzymes that affect the nervous system), and premature CHD. Increased LDLs are associated with pregnancy and certain drugs such as steroids, progestins, and androgens. Not fasting may cause false elevation.

| | | | | |
|---|---|---|---|---|
| hs C-Reactive Protein(CRPHS) | 1.0 | mg/dL | High | 0-0.5 |

During an inflammatory process, a specific abnormal protein named C-reactive protein (CRP) appears in the blood in response to inflammatory cytokines such as interleukin 6 (IL-6). This protein is virtually absent from the blood serum of healthy persons. CRP is one of the most sensitive acute-phase reactants. Levels of CRP can increase dramatically (100-fold or more) after severe trauma, bacterial infection, inflammation, surgery, or neoplastic proliferation. Measurement of CRP has been used historically to assess the activity of inflammatory disease, to detect infections after surgery, to detect transplant rejection, and to monitor these inflammatory processes. hs-CRP those that may be of value in measuring the risk for a cardiac event. The traditional test for CRP has added significance over the elevated erythrocyte sedimentation rate (ESR), which may be influenced by altered physiologic states. CRP tends to increase before rises in antibody titers and ESR levels occur. CRP levels also tend to decrease sooner than ESR levels. The traditional test for CRP is elevated in rheumatic fever, RA, MI, malignancy, bacterial and viral infections, and postoperatively (declines after the fourth postoperative day). A single test for hs-CRP may not reflect an individual patient's basal hs-CRP level; therefore, follow-up tests or serial measurements may be required in patients presenting with increased hs-CRP levels. CRP levels may predict future cardiovascular events and can be used as a screening tool. CRP Levels < 0.1 mg/ dL or < 1 mg/ L: low risk 0.1– 0.3 mg/ dL or 1– 3 mg/ L: average risk > 0.3 mg/ dL or > 3 mg/ L: high risk > 1.0 mg/ dL or > 10 mg/ L: noncardiovascular cause should be considered. A positive test indicates active inflammation but not its cause. CRP is an excellent tool for monitoring disease activity. hs-CRP is a tool for assessing cardiovascular risk.

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## CBC-D

| TEST | RESULT | UNITS | Flag | Reference |
|---|---|---|---|---|
| Basophil% | 2.0 | % | | 0-3 |
| Basophils# | 0.2 | X 10^3/µL | | 0-0.3 |
| Eosinophils# | 0.3 | X 10^3/µL | | 0-0.4 |
| Eosinophils% | 3.0 | % | | 1-4 |
| Hematocrit | 33.4 | % | Low | 34.7-48 |
| Hemoglobin | 10.9 | g/dL | Low | 11.5-16 |

Decreased Hb levels are found in anemia states (a condition in which there is a reduction of Hb, Hct, or RBC values). The Hb must be evaluated along with the RBC count and Hct. This can be caused by iron deficiency, thalassemia, pernicious anemia, hemoglobinopathies, liver disease, hypothyroidism, hemorrhage (chronic or acute); hemolytic anemia caused by transfusions of incompatible blood, reactions to chemicals or drugs, and reactions to infectious agents.

~ Hemoglobin will begin to decrease as iron becomes lower and with chronic infection. Malabsorption can contribute to decreased iron levels or poor intake. Vitamin C increases absorption of iron and digestive enzymes can be considered as well. Low B6 will prevent the incorporation of iron into the cell.

| | | | | |
|---|---|---|---|---|
| IG# | 0.0 | X 10^3/µL | | 0-0.1 |
| IG% | 0.0 | % | | 0-1 |
| Lymph # | 3.2 | X 10^3/µL | | 0.8-4 |
| Lymph% | 45.0 | % | | 16-51 |
| MCH | 26.3 | pg | | 26-34 |
| MCHC | 31.3 | g/dL | Low | 32-36 |
| MCV | 82.1 | fL | | 80-97 |
| Monocytes# | 0.8 | X 10^3/µL | | 0-1.2 |
| Monocytes% | 8.0 | % | | 0-12 |
| MPV | 10.2 | fL | | 6.5-12.4 |
| Neutrophils# | 4.3 | X 10^3/µL | | 1.5-8 |
| Neutrophils% | 43 | % | | 37-80 |
| Platelet | 320 | X 10^3/µL | | 140-450 |
| RBC | 3.2 | X 10^6/µL | Low | 3.8-5.7 |

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Low levels of RBC are characterized by the following issues- Pathology Issues: iron-deficiency anemia: the most prevalent worldwide cause of anemia; the major causes are dietary inadequacy, malabsorption, increased iron loss, and increased iron requirements; anemia of chronic disease, and hereditary atransferrinemia. Idiopathic refractory sideroblastic anemia complicates other diseases associated with drugs or toxins (ethanol, isoniazid, lead); thalassemias and hemoglobinopathies, characterized by unstable Hb; hemolytic anemia, marrow hypoplasia, and decreased erythropoietin production. Decreased RBC values occur in: (This list is not meant to be all-inclusive) anemia, a condition in which there is a reduction in the number of circulating erythrocytes, the amount of Hb, or the volume of packed cells (Hct). Anemia is associated with cell destruction, blood loss, or dietary insufficiency of iron or certain vitamins that are essential in the production of RBCs. Disorders such as: Hodgkin's disease and other lymphomas, multiple myeloma, myeloproliferative disorders, leukemia, acute and chronic hemorrhage, lupus erythematosus, Addison's disease, rheumatic fever, subacute endocarditis, and chronic infection.

~ Nutritional Issues for low levels include decreased amounts of iron, B12, folates, copper, thiamin, or vitamin A can contribute to lower levels of RBC. Low protein can also be a cause. Adequate vitamin D and melatonin are required to stimulate EPO which tells the bone marrow to make more RBC. Toxicity can minimize RBC production in the bone marrow as toxins like to store in fatty tissue. Heavy metal toxicity can also cause RBC to begin to decrease. Things that stimulate EPO to stimulate production include Vitamin D and Melatonin as well as testosterone and DHEA.

| | | | |
|---|---|---|---|
| RDW | 14.4 | % | 10.5-15.4 |
| WBC | 5.6 | X 10^3/µL | 4.2-10.8 |

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## FEMALE HORMONE PANEL

| TEST | RESULT | UNITS | Flag | Reference |
|---|---|---|---|---|
| Follicle stimulating hormone(hFSH) | 4.3 | mIU/mL | Low | 4.7-21.5 |
| Associated with feminizing and masculinizing ovarian tumors when FSH production is inhibited because of: increased estrogen secretion, failure of the hypothalamus to function properly (Kallmann syndrome), pituitary LH or FSH deficiency; neoplasm of the testes, or the adrenal glands that influence the secretion of estrogens or androgens; Polycystic ovary syndrome, hemochromatosis, (increased iron in the body), or anorexia.<br><br>~ If FSH is lower than expected this can indicate pituitary issues. Pituitary stimulants include Vitex, iodine, and Ashwagandha. | | | | |
| Luteinizing Hormone (hLH) | 4.6 | mIU/mL | | 2.4-100 |
| FEMALE MID-FOLLICULAR: 2.12 - 10.89\|FEMALE MID-CYCLE PEAK: 19.18 - 103.03\|FEMALE MID-LUTEAL: 1.20 - 12.86\|FEMALE PREMENOPAUSAL: 5.00 - 25.00\|FEMALE POST-MENOPAUSAL: 10.87 - 58.64 | | | | |
| Progesterone (Prog) | 11.0 | ng/mL | | 0-20 |
| FEMALE (PRE-OVULATION): =1ng/mL\|FEMALE (MID-CYCLE): 5 - 20ng/mL\|FEMALE (POST-MENOPAUSAL): =1ng/mL\|PREGNANCY ( FIRST TRIMESTER): 11.2 - 90.0ng/mL\|PREGNANCY (SECOND TRIMESTER): 25.6 - 89.4ng/mL\|PREGNANCY (THIRD TRIMESTER): 48 - 300ng/mL | | | | |
| Sensitive Estradiol (SNSE2) | 34.0 | pg/mL | Low | 40-400 |
| Low levels of estradiol are associated with ovarian hypofunction (ovarian agenesis, primary ovarian malfunction), intrauterine death, preeclampsia hypopituitarism, hypofunction of the adrenal cortex, menopause, and anorexia nervosa.<br><br>~ Lower levels of estrogen can contribute to fatigue, depression, cognitive decline, poor bone density, and weakened connective tissue. Estrogen improves levels of HDL cholesterol. Estrogen can be supported by giving it or precursors such as DHEA. Phytoestrogens may be considered such as hops, Trifollium, Black Cohosh, and licorice. Adrenal support will often be helpful. | | | | |
| Dehydroepiandrosterone sulfate (DHE-S) | 36.3 | µg/dL | | 32-380 |
| Sex Hormone Binding Globulin(SHBG) | 91.0 | nmol/L | High | 13-90 |
| High SHBG is associated with liver disease, hyperthyroidism, and eating disorders. In females, using estrogen in medicine, such as hormone replacement therapy, birth control pills. In males, SHBG is associated with the reduced production of sex hormones. | | | | |
| Testosterone (Testo) | 16.0 | ng/mL | Low | 20-68 |
| Low testosterone in females is correlated with menopause. ~ When testosterone is low, rule out hypogonadism (pituitary failure), Klinefelter syndrome, hypopituitarism (primary and secondary), orchidectomy, hepatic cirrhosis, Down syndrome, delayed puberty, and poor production.<br><br>~ Low Normal testosterone can be due to a number of causes that will affect treatment choices. Stress that lowers testosterone can be effectively addressed with Ashwagandha, Maca, and Malaysian Ginseng. Nutrients that increase testosterone include zinc and arginine. Precursors like DHEA can be used as well. Low testosterone can contribute to muscle aches and pains, depression, and certain autoimmune conditions. ~ Low Normal testosterone can be due to a number of causes that will affect treatment choices. Stress that lowers testosterone can be effectively addressed with Ashwagandha. Nutrients that increase testosterone include zinc and arginine. Precursors like DHEA can be used as well. Malaysian Ginseng, Maca, and Shalijet also increase testosterone levels. Low testosterone can contribute to muscle aches and pains, depression, and certain autoimmune conditions. | | | | |

## INDIVIDUAL TESTS

PRECISION POINT DIAGNOSTICS

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*Detailed Results Summary by Panel*

| TEST | RESULT | UNITS | Flag | Reference |
|---|---|---|---|---|
| 25-Hydroxy Vitamin D (VitdA) | 14.0 | ng/mL | Low | 20-110 |
| Low levels of vitamin D can be associated with the use of anticonvulsants, familial hypophosphatemic rickets, diabetes mellitus, Fanconi syndrome, hypoparathyroidism, renal osteodystrophy, renal tubular acidosis, high phosphate or phytate intake, inadequate diet, inadequate exposure to sunlight (especially in the elderly), liver disease, and malabsorption syndromes.<br><br>~ Low levels of vitamin D occur when the tissue is not fully saturated, and therefore serum levels have not gone up. It can also be due to increased utilization secondary to infection, malabsorption, and increased need in cases of autoimmunity. Low normal levels may not be enough to control many symptoms and conditions. If one is taking Vitamin D and levels are low rule out malabsorption. | | | | |
| Cortisol (Cortisol) | 9.0 | µg/dL | | 8-22 |
| ADULTS/ ELDERLY: 8:00am: 5 - 23µg/dL\|ADULTS/ ELDERLY: 4:00pm: 3 - 13µg/dL\|ADOLESCENTS; 8:00am: 5 - 25µg/dL\|ADOLESCENTS: 4:00pm: 3 - 13µg/dL | | | | |
| Ferritin (Ferritin) | 33.1 | ng/mL | Low | 34-280 |
| Folate (FOLW) | 1.9 | ng/mL | Low | 2.7-17 |
| HBA1C(HBA1C) | 9.9 | % | High | 4-5.9 |
| Values are frequently increased in persons with poorly controlled or newly diagnosed diabetes. With optimal control, the HbA1c moves toward normal levels. A patient with diabetes who recently comes under good control may still show higher concentrations of glycosylated hemoglobin. This level declines gradually over several months as nearly normal glycosylated hemoglobin replaces older RBCs with higher concentrations. | | | | |
| Homocysteine(HCY) | 3.9 | µmol/L | Low | 4-7 |
| Lower levels of homocysteine can be seen in hypermethylation. Increased methylation depletes homocysteine, decreasing production of glutathione. ~ Lower levels of homocysteine can be seen in hypermethylation. Increased methylation depletes homocysteine, which is a major source of glutathione. | | | | |
| hs C-Reactive Protein(CRPHS) | 1.0 | mg/dL | High | 0-0.5 |

PRECISION POINT DIAGNOSTICS

# Final Report

## Patient Information

**Name:** Female Mock, Report
**DOB :** 01/01/1990
**Gender:** Female
**Phone Number:** 6787366374
**Ethnicity:** Not Specified

**Accession #:** B233140008
**Sample Type :** Whole Blood,Serum,
**Collected:** 11/09/2023 14:46:00 CST
**Received:**11/10/2023 14:49:42 CST
**Result Date:**

## Facility Information

**Facility Name:** Precision Point Diagnostics
**Provider Name :**TMIT Physician
**Address:** 9 Dunwoody Park, Dunwoody, GA, 30338
**Lab Director:** Michael Heck, PhD
**CLIA #:** 1D2251528

**MRN:**
**Comments:**

*Detailed Results Summary by Panel*

During an inflammatory process, a specific abnormal protein named C-reactive protein (CRP) appears in the blood in response to inflammatory cytokines such as interleukin 6 (IL-6). This protein is virtually absent from the blood serum of healthy persons. CRP is one of the most sensitive acute-phase reactants. Levels of CRP can increase dramatically (100-fold or more) after severe trauma, bacterial infection, inflammation, surgery, or neoplastic proliferation. Measurement of CRP has been used historically to assess the activity of inflammatory disease, to detect infections after surgery, to detect transplant rejection, and to monitor these inflammatory processes. hs-CRP those that may be of value in measuring the risk for a cardiac event. The traditional test for CRP has added significance over the elevated erythrocyte sedimentation rate (ESR), which may be influenced by altered physiologic states. CRP tends to increase before rises in antibody titers and ESR levels occur. CRP levels also tend to decrease sooner than ESR levels. The traditional test for CRP is elevated in rheumatic fever, RA, MI, malignancy, bacterial and viral infections, and postoperatively (declines after the fourth postoperative day). A single test for hs-CRP may not reflect an individual patient's basal hs-CRP level; therefore, follow-up tests or serial measurements may be required in patients presenting with increased hs-CRP levels. CRP levels may predict future cardiovascular events and can be used as a screening tool. CRP Levels < 0.1 mg/ dL or < 1 mg/ L: low risk 0.1– 0.3 mg/ dL or 1– 3 mg/ L: average risk > 0.3 mg/ dL or > 3 mg/ L: high risk > 1.0 mg/ dL or > 10 mg/ L: noncardiovascular cause should be considered. A positive test indicates active inflammation but not its cause. CRP is an excellent tool for monitoring disease activity. hs-CRP is a tool for assessing cardiovascular risk.

| | | | | |
|---|---|---|---|---|
| Immunoglobulin A(IGA) | 100 | mg/dL | | 70-400 |
| Immunoglobulin G(IGG) | 690 | mg/dL | Low | 700-1600 |

IgG decreases occur in the following conditions: Agammaglobulinemia, Lymphoid aplasia, Selective IgG, IgA deficiency, IgA myeloma, Bence Jones proteinemia, Chronic lymphoblastic leukemia.

~ Lower levels of IgG can be seen when one is protein deficient or has malabsorptive tendencies. Digestive enzymes and branch chained amino acids should be considered. Chronic infections should be ruled out.

| | | | | |
|---|---|---|---|---|
| Immunoglobulin M(IGM) | 76 | mg/dL | | 40-230 |
| Magnesium(MG) | 2.0 | mg/dL | | 1.7-2.2 |
| Ultrasensitive Insulin (Insulin) | 16.0 | uIU/mL | High | 5-15 |
| Vitamin B12 (VitB12) | 140.0 | pg/mL | Low | 160-950 |

Low levels of B12 are associated with pernicious anemia (megaloblastic anemia), malabsorption syndromes, inflammatory bowel disease, fish tapeworm infestation, primary hypothyroidism, loss of gastric mucosa (as in gastrectomy and resection), Zollinger-Ellison syndrome, blind loop syndromes (bacterial overgrowth), vegetarian diets (dietary insufficiency), and folic acid deficiency. Iron deficiency may be present in some patients (e.g., gastrectomy).

~ Lower levels of B12 can occur when there is gastric distress, such as with decreased enzyme production or SIBO which will utilize B12 before it is absorbed. Lower levels are also associated with fatigue, certain anemias, decreased focus, and depression.

PRECISION POINT DIAGNOSTICS

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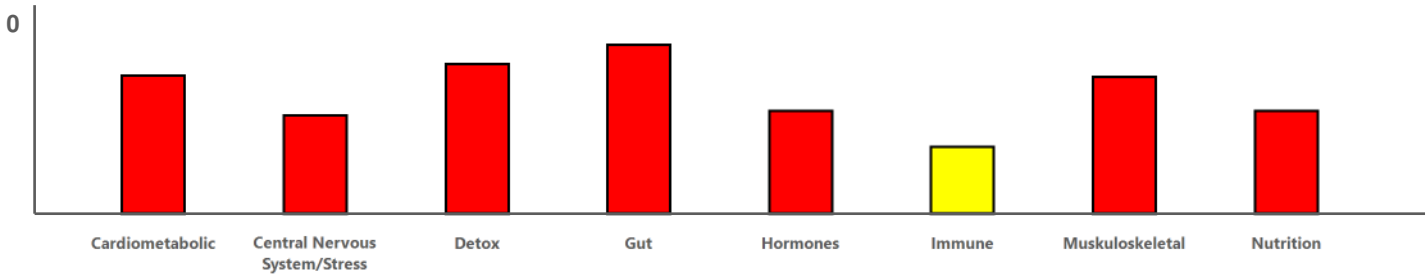
*Detailed Results Summary by Panel*




**END OF REPORT**