

## WhatDoesMyBloodTestMean.com

Name (and Abbreviations)	Normal Ranges <i>Ranges vary by lab so be sure to check the ranges on your report.</i>	What it is or does.	Low numbers may mean...	High numbers may mean...
<b>Comprehensive Metabolic Panel (CMP)</b>				
Alkaline Phosphatase (ALP)	44 - 147 IU/L	Enzyme found throughout your body that is particularly high in the liver and bones.	Deficiency in zinc, hypoparathyroidism, hypophosphatasia, malnutrition and pernicious anemia. Low reading can occur if collection tube had EDTA preservative in it.	Bone, liver or bile duct disease. Cancer of the liver or some cancers that spread to the bone. Drugs may cause high levels. Paget's disease.
Alanine Aminotransferase (ALT or SGPT)	Men 5 - 65 IU/L Women 5 - 35 IU/L	Enzyme found mostly in the liver and kidneys.	Possible pyridoxine (Vitamin B6) or magnesium deficiency.	Too much acetaminophen, alcohol or hepatitis.
Aspartate Aminotransferase (AST or SGOT)	10 - 40 IU/L	Enzyme primarily found in the liver.	Possible pyridoxine (Vitamin B6) deficiency or liver disease.	Too much acetaminophen, alcohol, bloodstream infections, drugs processed through the liver, intramuscular injections, liver disease, skeletal muscle diseases and muscle injury. Ruptured red cells from improper handling of the blood can also cause high numbers.
Bilirubin, Total	0.2 - 1.9 mg/dL	It's primarily a waste product from dying red blood cells. It's also found in the spleen, liver and bone marrow.	Typically not a concern.	Hepatitis, liver disease, bile duct disorder and red cell destruction. Can be falsely elevated when you have too much fat in the bloodstream.
Calcium	8.5 - 10.9 mg/dL	Mineral found primarily in the bones.	Low dietary calcium, magnesium or Vitamin D. Diarrhea, malnutrition, neurological disorders, pancreatitis, low levels of protein or albumin in the blood.	Alcoholism, some cancers, exercise, hyperparathyroidism, kidney disease, medications like thiazide-type diuretics, excess calcium supplements, too much Vitamin D, too much fat, protein or albumin in the blood.
Carbon Dioxide	20 - 33 mmol/L	Gaseous waste produced from metabolism.	Decreased ventilation, dehydration, diarrhea, increased acidity from uncontrolled diabetes, exercise, kidney disease, metabolic disorders or severe infection.	COPD or lung diseases. Can also be elevated by increased ventilation.
Chloride	96 - 110 mmol/L	An electrolyte controlled by the kidneys.	Chronic lung diseases, colitis, emphysema and vomiting.	Acidosis, Cushing's syndrome, dehydration, hyperventilation or kidney infection.
Glucose (Fasting)	65 - 99 mg/dL	Sugar in the blood and your body's chief source of energy.	Adrenal insufficiency, excess insulin, too much exercise, hypoglycemia, liver disease or pancreas problems.	Diabetes, prediabetes, hyperglycemia, hyperthyroidism, liver disease, pancreatitis or systemic steroids. Can be elevated if you eat before the test.
Potassium	3.5 - 5.3 mmol/L	A mineral and electrolyte controlled by the kidneys.	Alcoholism, blood pressure medications or excessive use of water pills, corticosteroid use, diarrhea, insulin treatments or kidney problems.	Addison's disease, cardiac arrhythmia, dehydration, kidney problems, potassium supplements and various forms of acidosis.
Protein, Total	6.2 - 8.3 g/dL	Chains of amino acids essential for cell growth and repairs.	Decreased production, intestinal malabsorption, kidney or liver disease and malnutrition.	Dehydration, kidney or liver disease, multiple myeloma and roundworms. False elevations can be caused by high concentrations of glucose, urea, sodium, chloride or lipids.
Sodium	135 - 146 mmol/L	A mineral and electrolyte regulated by the kidney and adrenal glands to keep your body in balance.	Adrenal insufficiency, too much water intake, diuretics or blood pressure medications, diarrhea, heart or kidney failure.	Cushing's syndrome, dehydration, diabetes insipidus, faulty water softener dumping salt, high salt consumption from foods, kidney dysfunction,
<b>Items Compared</b>				
Albumin	3.6 - 5.1 g/dL	Protein that protects tissues from free radicals, regulates water in tissues and binds to waste products. Transports vitamins, minerals and hormones.	Cancer, heart disease, kidney or liver disease, malnutrition, pancreatic atrophy and parasites.	Dehydration, diabetes insipidus or infection. High elevations can happen when red blood cells are damaged in the sample or from fat in the blood.
Globulin	2.1 - 3.7 g/dL	Antibody protein that helps fight disease produced by white blood cells.	Cancer, heart disease, kidney or liver disease, malnutrition, pancreatic atrophy and parasites.	Dehydration, diabetes insipidus or infection. High elevations can happen when red blood cells are damaged in the sample or from fat in the blood.
Albumin / Globulin Ratio	1.0 - 2.1 (calc)		Autoimmune diseases, cirrhosis or kidney disease.	Genetic deficiencies and some leukemias.

*Do not use this to diagnose yourself! This chart is for informational purposes ONLY. We have tried to include some of the more common reasons but this list is NOT meant to be comprehensive. Conditions not on this list may be the cause. See your doctor for a proper reading of any and all medical tests.*

Blood Urea Nitrogen (BUN)	6 - 22 mg/dL	Waste product from protein breakdown in the liver.	Anorexia, fasting, malnutrition from poor diets, liver damage or pregnancy.	Dehydration, heart failure, kidney or liver disease, leukemia, pancreatitis or too much exercise.
Creatinine	0.8 - 1.4 mg/dL	Waste product produced by muscle breakdown.	Anorexia or malnutrition, liver disease, kidney damage or pregnancy.	Dehydration, some drugs, hemorrhagic shock, too much exercise, kidney damage, obstruction or rupture or urine carrying parts and pancreatitis.
BUN / Creatinine Ratio	10:1 to 20:1		Kidney or liver disease, malnutrition and sickle cell anemia.	Blood in intestinal tract, dehydration, diabetes or high blood pressure and kidney obstruction.
Estimated Glomerular Filtration Rate (eGFR) <b>African American</b>	84-120 ml/min   <i>Results reported when below 60 ml/min</i>	Monitors kidney status or function.	Kidney damage.	Diabetes or high blood pressure may hinder kidneys from filtering microalbumin and they're leaking into urine.
Estimated Glomerular Filtration Rate (eGFR) <b>Non-African American</b>	72-120 ml/min   <i>Results reported when below 60 ml/min</i>	Monitors kidney status or function.	Kidney damage.	Diabetes or high blood pressure may hinder kidneys from filtering microalbumin and they're leaking into urine.
<i>eGFR is calculated differently for African Americans because of increased muscle mass. The eGFR test is not considered reliable is you're younger than 18, older than 70, pregnant, very overweight, very muscular or have another serious illness.</i>				
<b>Complete Blood Count (CBC)</b>				
White Blood Cell Count (WBC)	4,500 - 10,000 cells/mcL	Defends against infection by killing bacteria.	Autoimmune diseases, bone marrow failure, chemotherapy or viral infections.	Cancer, infection, inflammation, intense exercise, steroid use and stress.
Red Blood Cell Count (RBC)	Men 4.7 - 6.1 Mill/mcL Women 4.2 - 5.4 Mill/mcL	Transports oxygen throughout the body.	Anemia, bone marrow damage, cancers, fluid overload in pregnancy, folate deficiency and hemorrhages.	Dehydration, pulmonary or congenital heart disease, renal problems or as the result of being at a higher altitude.
Hemoglobin	Men 13.2 - 17.2 g/dL	Primary transporter of oxygen and carbon in the blood.	Bone marrow damage; folate, iron or vitamin B12 deficiency.	Dehydration, pulmonary or congenital heart disease, renal problems or as the result of being at a higher altitude.
Hematocrit	Women 12.1 - 15.1 g/dL Men 40.7% - 50.3% Women 36.1% - 44.3%	Percentage of the blood volume occupied by red blood cells. Women have slightly lower hematocrit percentages than men because women lose some blood each month during their menstrual cycle.	Bone marrow damage; folate, iron or vitamin B12 deficiency.	Dehydration, pulmonary or congenital heart disease, renal problems or as the result of being at a higher altitude.
Mean Corpuscular Volume (MCV)	80 - 100 fL	This measures the average size of red blood cells and their volume.	Anemia or rheumatoid arthritis.	Anemia, B12 or folate deficiency.
Mean Corpuscular Hemoglobin (MCH)	27 - 33 pg	This measures how much hemoglobin is in red blood cells.	Iron deficiency.	Folate or Vitamin B12 deficiency and recent blood loss.
Mean Corpuscular Hemoglobin Content (MCHC)	32 - 36 g/dL	This measures the volume and character of the hemoglobin.	Iron deficiency and reticulocytes.	In vitro or in vivo hemolysis and spherocytosis.
Red cell Distribution Width (RDW)	11 - 15 %	This measures the sizes and shapes of the red cells.	Macrocytic anemia and microcytic anemia.	Anemia, folic acid or B12 deficiency and liver disease.
Platelet Count (PLT or Thrombocyte Count)	140 - 400 Thous/mcL	These plug the holes in blood vessels (clotting).	Chemotherapy, drugs like heparin, leukemia, lupus, pernicious anemia and viral infections. In women platelet counts decrease just before menstruation.	Cancer, cigarette smoking, infections, leukemia and strenuous activity. Higher numbers may also be seen when the spleen is removed.