Understanding the Blood Chemistry/CBC Report

CBC		
Name	**Base Range**	**Meaning**
Hemoglobin	13.0 – 18.0 G/DL	Actual substance in red blood cells carrying oxygen from the lungs to the tissues
Hematocrit	43.0 – 55.0%	AKA packed cell Volume (PCV). After being spun in a centrifuge, this is the percent of the cellular portion relative to the total blood amount. Decreases percentage reflects fewer RBC's in the body, which most likely indicate anemia. Increased percentage is a sign of dehydration and blood becoming more concentrated, may also be found if there is a decrease in oxygen reaching the tissues.
WBC (White Blood Cell)	2.5 – 8.0 x 10^3/UL	AKA Leukocytes – bodies defense mechanisms against bacteria, virus and fungi. Increased number represents body fighting an infection. Decreased number can be result of weakening from an extended, debilitating disease or infection.
RBC (Red Blood Cell)	6.5 – 11.0 x 10^6/UL	Produced in the bone marrow. Takes the oxygen brought in from the lungs and distribute to cells throughout the body. Decreased number represent anemia, when the bone marrow doesn't produce adequate numbers. Increased numbers is usually due to dehydration
MCV (Mean Corpuscular Volume)	46 – 65	Formed elements in the blood (erythrocytes & leukocytes)
MCH (Mean Corpuscular Hemoglobin)	15.5 – 19.0	
MCHC (Mean Corpuscular Hemoglobin Concentration)	29 - 36	

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CBC		
Name	**Base Range**	**Meaning**
Platelet Count	300 – 700 x 10^3/UL	Related to the ability to clot blood. Increased number representing clotting/thickening of the blood. Decreased number represents thinning of the blood and ferret at great risk of bleeding to death.
Neutrophils	Absolute # / % Make-up	Mature cells that destroy bacteria
Bands	Absolute # / % Make-up	Immature neutrophils – just released from the bone marrow.
Lymphocytes	Absolute # / % Make-up	Formed and released from the lymphoid tissue. Produces antibodies to destroy foreign organisms (B-cells) and help other cells destroy viruses (T-cells). Decreased numbers are seen at beginning stages of infection as well as with use of steroids like Prednisone. Increased numbers usually seen with prolonged illnesses and in leukemia.
Monocytes	Absolute # / % Make-up	Develop and stored in the spleen and bone marrow. Can destroy infectious organisms as well as help with imflamed and irritated tissue.
Eosinophils	Absolute # / % Make-up	Produced in the bone marrow. Ability to destroy foreign bodies. Increase number can indicate current infection or allergy and with other symptoms possibility of IBD. Decreased numbers can be seen when extreme or prolonged stress is occurring.
Basophils	Absolute # / % Make-up	Produced by the bone marrow. Least common type of WBC and its function is unknown.
Glucose	80 – 120 MG/DL	Is blood sugar. Decreased number is indication of insulinoma, when too low ferret can have seizures. Increased number is rarely seen.

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Understanding the Blood Chemistry/CBC Report

Chemistry Panel		
Name	**Base Range**	**Meaning**
Urea Nitrogen	10 – 33 MG/DL	AKA BUN. Waste product produced by the liver and eliminated by the kidneys. Decreased number can indicate liver disease/ Increased number can indicate kidney disease.
Creatinine	0.2 – 0.8 MG/DL	Waste product produced by the muscles and eliminated by the kidneys. Increased number can indicate kidney disease or dehydration.
Total Protein	5.5 – 7.6 G/DL	Includes albumin and globulins. Increased number can indicate stimulation to produce large amounts of antibodies or dehydration. Decreased number can indicated inability to produce antibodies.
Albumin	2.4 – 4.5 G/DL	Protein produced by the liver and acts as a sponge to hold water in blood vessels. When decreased, pressure is caused by the heart forcing blood through the vessels which causes leakage out of the blood vessels into the body cavities or tissues. Decreased number indicates liver damage, as cannot produce enough albumin or lost through damaged intestines, also in kidney disease. Increased number indicates dehydration.
Bilirubin	0.0 – 1.0 MG/DL	Produced by the liver from old red blood cells and eliminated through urine and stool. Increased number can indicate liver disease and will produce yellow appearance.
Alkaline Phosphate	15 – 45 U/L	Produced from many tissues in the body. Increase can indicate liver disease or bone disease. Corticosteriods such as Prednisone can increase the reading as well.
ALT (SGPT)	10 – 280 U/L	Alanine Aminotransferase. Indicator of liver damage
AST (SGOT)	50 – 280 U/L	Aspartate Aminotransferace. Increased number can indicate liver, heart or skeletal muscle damage.

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Understanding the Blood Chemistry/CBC Report

Chemistry Panel		
Name	**Base Range**	**Meaning**
Cholesterol	60 – 300 MG/DL	Increased number can indicate kidney disease, which will also cause protein to be lost in the urine.
Calcium	7.7 – 11.0 MG/DL	Originates from the bones. Increased number can indicate kidney failure, poisoning, bone disease and cancer. Decreased number can be found in nursing jills or certain poisons such as anti-freeze.
Phosphorous	4.2 – 8.5 MG/DL	Originates from the bones. Increased number can indicate chronic kidney disease.
Sodium	140 – 160 MEQ/L	Electrolyte that may increase from dehydration.
Potassium	4.3 – 5.8 MEQ/L	Electrolyte. Increased number can indicate acute kidney failure or dehydration.
Chloride	90 – 110 MEQ/L	Electrolyte. Increased number can indicate dehydration. Decreased number can be result of vomiting.
Globulin	2.9 – 4.9 G/DL	Blood protein which increases with chronic inflammation and certain diseases.
CPK (Creatine Phosphokinace)	U/L	An enzyme found mostly in the heart, brain and skeletal muscle. Elevated level usually indicates injury or stress to those areas.
Amylase	U/L	Elevations can indicate pancreatitis or kidney disease
A/G Ratio (Albumin/Globulin)	U/L	
Gamma Glutamyl Transferase (GGPT)	U/L	Enzyme that can indicate liver disease
Lipase	U/L	Enzyme that may indicate pancreatitis

G = Grams
DL = Deciliter
UL = Microliter
U/L = Units per liter
MG = Miligram
MEQ = Milliequivalent

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