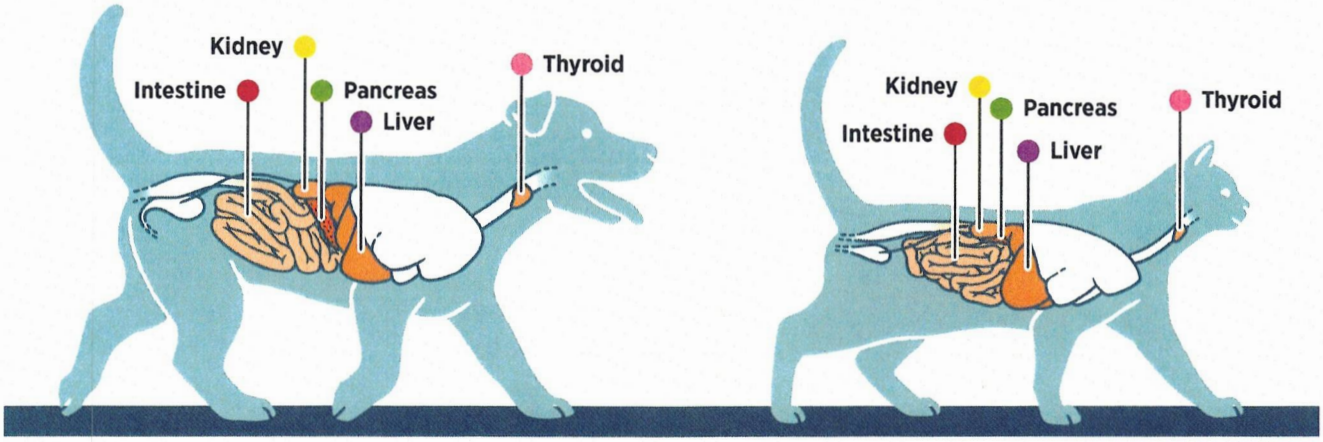
Understanding your pet's blood test results

A simple blood sample can tell your veterinarian much about your pet's health status and is often recommended for diagnostic health screening, before surgery or in case your pet is sick.

If you have questions about baseline blood work for your pet, don't hesitate to ask!



CHEMISTRY TESTS

Alanine Aminotransferase (ALT)
An enzyme released by the liver when the liver is damaged. Elevations may be a sign of liver damage or disease or many other things such as diabetes mellitus, Cushing's disease, pancreatitis and more. ●

Albumin (ALB)
A protein made by the liver that circulates in the blood. Low levels can indicate liver, kidney, or intestinal disease. ●●●

Alkaline Phosphatase (ALP)
Elevations can indicate liver swelling, or decreased bile flow caused by liver disease or endocrine disorders such as thyroid disease, diabetes, Cushing's Disease, or Addison's Disease, and may also be an indicator of certain bone diseases. It can also be elevated secondary to Phenobarbital use. ●●

Amylase (AMY)
An enzyme produced to help digest food. Elevated levels can indicate disease of the pancreas, intestines, or kidneys. ●●●

Aspartate Aminotransferase (AST)
An enzyme found in the liver, heart, skeletal muscle, kidneys, brain, and red blood cells. AST is an important enzyme in amino acid metabolism and increases can be related to liver or muscle damage. ●

Bile Acids (BA)
Vital for identifying and monitoring liver disease, bile acids are one of the best measures of liver function. ●

Blood Urea Nitrogen (BUN)
Made by the liver and removed from the body by the kidneys, BUN levels show hydration status and help to evaluate the kidneys and liver. ●●

Calcium (Ca)
Elevations can be an early sign of certain cancers. Imbalanced calcium and phosphorus levels are indicative of certain metabolic disease, such as those of the parathyroid gland and kidney disease. ●●

Chloride (CL)
Chloride is a major electrolyte, along with Sodium and Potassium. Electrolytes are important to maintain the fluid balance within the body. Vomiting and diarrhea can lead to loss of chloride, whilst increased chloride could indicate dehydration.

Cholesterol (CHOL)
Changes may be an indication of a variety of disorders, including liver and thyroid disease. Low values may be a sign that the liver is not working well. ●●●

Creatinine (CRE)
An important value to monitor kidney function. ●

Creatine Kinase (CK)
Creatine Kinase is an enzyme found in the muscles, heart and brain. It can be increased by muscle damage, heavy exercise or by eating a high protein meal. Bites from certain snakes can cause increased CK.

Gamma Glutamyl Transferase (GGT)
A liver enzyme that helps to differentiate among different types of liver disease but can also be elevated secondary to Phenobarbital use. ●

Globulin (GLOB)
A body protein that, if elevated, may indicate inflammation or infection. It can also be increased due to dehydration and cancer.

Glucose (GLU)
Elevated levels can indicate stress (cats) or problems, such as diabetes. Low levels can be associated with liver disease, cancer or severe infection. ●●

Phosphorus (PHOS)
Important to monitor for kidney disease, as well as its balance with calcium to monitor many conditions. ●

Potassium (K+)
Potassium levels are important for normal muscle function and heart rate and for monitoring pets with chronic kidney disease.

Sodium (Na+)
Just like Chloride, Sodium is required to maintain body fluid balance. Increased Sodium can indicate dehydration, whilst decreases could be due to vomiting, diarrhea, Addison's disease or kidney disease. ●●

Thyroxine (T4)
An excellent screening test for thyroid gland function in dogs and cats. The thyroid glands play a major role in metabolism. ●

Total Bilirubin (TBIL)
An important value to evaluate the liver and when there is a low red blood cell count (anemia). ●

Total Protein (TP)
An estimate of the total protein in the body. Changes can help identify many conditions such as anemia, dehydration and diseases of the liver, kidneys, and gastrointestinal tract. ●●●

Total Carbon Dioxide (tCO2)
tCO2 is a measure of the carbon dioxide in the blood and is used, along with electrolytes, to determine the acid-base balance of the body (whether the body is in acidosis or alkalosis). This is important when choosing an intravenous fluid therapy.

HEMATOLOGY TESTS

Red Blood Cells (RBC)
The total number of red blood cells, which carry oxygen to the tissues of the body and transport carbon dioxide to be exhaled by the lungs. If red blood cells are low this is called anemia.

Hemoglobin (HGB)
Hemoglobin is an iron-containing protein that allows red blood cells to transport oxygen around the body.

Hematocrit (HCT)
Similar to Packed Cell Volume (PCV). This calculates the percentage of the blood that is made up of red blood cells compared to fluid and is useful to assess hydration and diagnose anemia.

Mean Cell Volume (MCV)
The average volume of individual red blood cells.

Mean Corpuscular Hemoglobin (MCH)
The average amount of hemoglobin in each red blood cell.

Mean Corpuscular Hemoglobin Concentration (MCHC)
The hemoglobin concentration compared to the volume of the red blood cell.

Red Cell Distribution Width (RDW)
RDW Measures of the degree of variation in red blood cell size. Low RDW means the cells are uniform in size, high RDW means the cells vary greatly in size.

White blood cells (WBC)
Total number of white blood cells (leukocytes), which play a major role in the function of your pet's immune system. Increases could indicate infection or inflammation. There are 5 types of white blood cells:

- Lymphocytes (LYM)
- Monocytes (MON)
- Neutrophils (NEU)
- Eosinophils (EOS)
- Basophils (BAS)

Platelets (PLT) – also called Thrombocytes
PLT are needed to prevent or stop bleeding. Therefore, it is very important to check the platelet levels if a pet is undergoing a surgical procedure.

Mean Platelet Volume (MPV)
Average volume of individual platelets.

Platelet Distribution Width (PDW)
This measures the uniformity of the platelet size.

Platelet Hematocrit (PCT)
This measures what percentage of the blood is made up of platelets compared to fluid.

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