

# Blood Analysis and Testing

Client: \_\_\_\_\_

Pet Name: \_\_\_\_\_



Blood



Kidney



Heart & Lungs



Liver



Thyroid



Pancreas & Intestine


## Complete Blood Count (CBC)

|  |  |  |
|--|--|--|
|  | <p><b>WBC (Total white blood cells)</b><br/> <b>Neutrophils</b><br/> <b>Bands</b><br/> <b>Lymphocytes</b><br/> <b>Monocytes</b><br/> <b>Eosinophils</b><br/> <b>Basophils</b></p> <p><b>Inflammation &amp; Infection</b></p> | <p>These numbers tell how many of each type of white blood cell are present and whether or not the count is normal. It is important to know whether the count is low, normal or high. White blood cells help fight infection. White blood cell numbers can decrease with severe infection or with bone marrow disorders. White blood cell numbers can increase in response to inflammation and infection. Eosinophils (a type of white blood cell) may be increased in pets with allergies or parasite infections.</p> |
|  | <p><b>PLATELETS</b></p> <p><b>Blood Clotting Time</b></p>  | <p>Platelets help with blood clotting. The platelet count may be decreased due to autoimmune disease, some types of cancer, infections spread by ticks, or bone marrow disorders.</p>  |
|  | <p><b>RBC (Red blood cells)</b><br/> <b>Packed Cell Volume (PCV)</b><br/> <b>Hemoglobin</b><br/> <b>MCV MCH MCHC</b><br/> <b>RBC Morphology (shape)</b></p>  | <p>Tests to evaluate red blood cells (size, shape, number).<br/>         Tests for anemia (low red blood cell levels).<br/>         Anemia may be due to bleeding (internal or external), hemolysis, internal destruction of red cells due to autoimmune disease, genetic disorders, red cell infections, or certain toxins such as zinc and onions.</p>   |



## Chemistry Profile

|                          |  |   |  |
|--------------------------|--|---|--|
| <input type="checkbox"/> |  | <p><b>ALT</b><br/> <b>AST</b></p> <p><b>ALP</b><br/> <b>GGT</b></p> | <p>Increased liver enzyme activity occurs in pets with liver disease, pancreatic disease, and enteritis (inflammation of the intestine). Cortisone treatment will cause liver enzymes to increase.</p>   |
| <input type="checkbox"/> |  | <p><b>TOTAL BILIRUBIN</b></p>                                       | <p>Bilirubin is made by the liver, stored in the gall bladder, and excreted into the bile. Bilirubin may increase when there is blockage of the bile duct (e.g. pancreatitis or pancreatic cancer) or autoimmune destruction of red cells (hemolytic anemia). Marked bilirubin elevation will cause the skin to turn yellow, which is called jaundice.</p>                 |
| <input type="checkbox"/> |  | <p><b>TOTAL PROTEIN, ALBUMIN, GLOBULIN</b></p>                      | <p>Blood protein is comprised of albumin (synthesized by the liver) and globulin (from the liver and immune system). Albumin may be decreased due to the disease of the intestine, kidneys, liver, or decreased nutrient intake. The globulin level may also decrease due to intestinal disease and may increase in response to inflammation and some types of cancer.</p> |
| <input type="checkbox"/> |  | <p><b>CREATININE, BUN, PHOSPHORUS</b></p>                           | <p>Creatinine, blood urea nitrogen (BUN), and phosphorous are products of body metabolism and are excreted by kidneys into the urine. Levels increase in pets with kidney failure. (Urinalysis and blood test should be done concurrently to enable the best assessment of kidney function)</p>  |
| <input type="checkbox"/> |  | <p><b>CALCIUM</b></p>   | <p>Elevated calcium levels can be a sign of a wide variety of diseases. The most common cause is lymphosarcoma (a type of cancer). Decreased calcium levels (intestinal disease, pregnancy, lactation, hormone imbalance) can cause seizures.</p>  |
| <input type="checkbox"/> |  | <p><b>GLUCOSE</b></p>   | <p>Increased blood sugar levels may indicate diabetes both for dogs and cats. In cats, elevations may occur due to stress or fear. Low levels of blood sugar may occur with several disorders, including liver problems, severe infection, certain types of cancer, Addison's disease (a disorder of the adrenal glands), and malnutrition.</p>                            |
| <input type="checkbox"/> |  | <p><b>AMYLASE, LIPASE</b></p>                                       | <p>Amylase and lipase are digestive enzymes synthesized by the pancreas. They are often increased in pets with pancreatitis. Marked lipase elevations can occur in pets with pancreatic cancer.</p>  |

## Chemistry Profile (continued)

|                          |   |                                    |   |
|--------------------------|---|------------------------------------|---|
| <input type="checkbox"/> |   | <b>SODIUM, POTASSIUM, CHLORIDE</b> | Sodium, Potassium, and Chloride are electrolytes responsible for regulating body fluid balance and nervous system activity. They are often abnormal in pets with vomiting and/or diarrhea, kidney failure, and Addison's disease.   |
| <input type="checkbox"/> |   | <b>CPK</b>                         | Creatine phosphokinase (CPK) is a muscle enzyme and increased levels typically occur with muscle injury (e.g., trauma, over-use) or inflammation. Illness leading to weight loss can also cause CPK to increase.  |
| <input type="checkbox"/> |  | <b>T4</b>                          | Thyroxine (T4) is the major thyroid hormone that regulates body metabolism. In cats we look for levels above normal (hyperthyroidism - hyperactivity, weight loss) and in dogs we look for subnormal levels (hypothyroidism - sluggishness, weight gain, hair loss). This is a screening test. If the result is abnormal, more detailed thyroid testing may be necessary to verify the diagnosis. |

## Other Vital Tests

|                          |   |  |  |
|--------------------------|---|--|--|
| <input type="checkbox"/> |    | <b>Complete Urinalysis: Color, Clarity, Concentration (Specific Gravity), pH, Protein, Glucose, Ketones, Blood, Bilirubin, White blood cells, Red blood cells, Crystals, Casts, Epithelial Cells, Bacteria.</b>  | Urinalysis is a very important test for evaluating kidney function, and should be done every time a chemistry profile is performed. Urinalysis is also a key test for determining if there is inflammation or infection in the urinary tract (bladder or kidneys). Urinalysis also helps to confirm, along with blood tests, whether or not an animal has diabetes (with diabetes, either sugar or both sugar and ketones are present in the urine).                                       |
| <input type="checkbox"/> |   | <b>Urine Cortisol: Creatinine Ratio</b>  | A screening test for Cushing's syndrome in dogs (excessive adrenal gland function)   |
| <input type="checkbox"/> |   | <b>Urine Culture and Antibiotic Sensitivity:</b><br><i>Amikacin                      Enrofloxacin</i><br><i>Clavamox                     Marbofloxacin</i><br><i>Ampicillin/                   Nitrofurantoin</i><br><i>Amoxicillin                   Tetracycline</i><br><i>Cefotaxime                   Ticarcillin</i><br><i>Cefpodoxime                Trimethoprim/</i><br><i>Cephalexin/                   Sulpha</i><br><i>Cefadroxil</i> | Urine culture testing determines whether or not there is a bacterial infection in the urinary tract. If the urine culture is positive, antibiotic sensitivity testing is included. Sensitivity testing determines which antibiotics will likely work best in clearing infection. By determining which bacteria are involved and which antibiotics are most likely to be effective we have a better chance of controlling the infection more quickly and completely.                        |
| <input type="checkbox"/> |  | <b>Fecal Testing (Centrifugal floatation and microscopy, Giardia ELISA)</b>  | Fecal tests are done to evaluate for presence of intestinal parasites (e.g., Giardia, roundworms, hookworms, whipworms, coccidia). It is important to check periodically for parasites (once to twice a year depending on the animal's environment), even if stools are consistently normal. Parasites can cause significant intestinal problems in both animals and humans (some parasites can be transmitted from animals to humans). Specific treatment is prescribed based on results. |
| <input type="checkbox"/> |   | <b>Clostridium perfringens enterotoxin test</b>  | This test is run when an animal has intermittent or persistent diarrhea. Specific treatment is available for this disorder.  |
| <input type="checkbox"/> |   | <b>Cryptosporidium assay</b>   | Cryptosporidium is a protozoal organism that can cause diarrhea. A special test is needed because the organism is extremely small and difficult to see under the microscope.   |
| <input type="checkbox"/> |   | <b>Fecal Occult Blood</b>  | Tests for blood in the stool. Small amounts of blood in the stool are usually not visible to the naked eye.  |

## early DETECTION™

- Detection of a liver problem at an early stage of the disease gives your pet a much better chance for a favorable response to appropriate treatment
- Kidney disease is one of the major causes of illness and death in dogs and cats, but symptoms do not usually appear until 2/3 of kidney function has been lost. If caught early, the animal can live with this condition for many years.
- Early detection is always the best policy, just as it is for our own health. Sometimes pets show no, or only subtle, symptoms of a problem. Consultation, physical examination, and testing will help discover health problems early in their course.

