



LABORATORY TESTING AND YOUR PET

Depending on the reason for blood and urine testing in your pet various combinations of the following tests may be performed.

Blood tests

Haematology

Complete blood count (CBC)

This is the most common blood test performed on pets. A CBC gives information on hydration status, anemia, infection, the blood's clotting ability, and the ability of the immune system to respond. This test is essential for pets with fevers, vomiting, diarrhoea, weakness, pale gums, or loss of appetite. If your pet needs surgery, a CBC can detect bleeding disorders or other unseen abnormalities.



- o **HCT** (haematocrit) measures the percentage of red blood cells to detect anaemia and dehydration.

- o **Hb and MCHC** (haemoglobin and mean corpuscular haemoglobin concentration) are the oxygen-carrying pigments of red blood cells.

- o **WBC** (white blood cell count) measures the body's immune cells. Increases or decreases indicate certain diseases or infections.

- o **GRANS and L/M** (granulocytes and lymphocytes/monocytes) are specific types of white blood cells. Granulocytes include neutrophils, eosinophils, and monocytes. How they are individually counted will depend on the blood analyser used in the test.

- o **EOS** (eosinophils) are a specific type of white blood cells that may indicate allergic or parasitic conditions.

- o **PLT** (platelet count) measures cells that form blood clots.

- o **RETICS** (reticulocytes) are immature red blood cells. High levels indicate regenerative anaemia.

Blood chemistries

These common blood serum tests evaluate organ function, electrolyte status, and more. They are important in evaluating older pets, pets with vomiting and diarrhoea or toxin exposure, pets receiving long-term medications, and health before anesthesia.

- o **ALB** (albumin) is a serum protein that helps evaluate hydration, haemorrhage, and intestinal, liver, and kidney disease.

- o **ALKP** (alkaline phosphatase) elevations may indicate liver damage, Cushing's disease, and active bone growth in young pets. This test is especially significant in cats.

- o **ALT** (alanine aminotransferase) is a sensitive indicator of active liver damage but doesn't indicate the cause.

- o **AMYL** (amylase) elevations show pancreatitis or kidney disease.

- o **AST** (aspartate aminotransferase) increases may indicate liver, heart, or skeletal muscle damage.

- o **BIL** (total bilirubin) elevations may indicate liver or haemolytic disease. This test helps identify bile duct

problems and certain types of anaemia.

- o **BUN** (blood urea nitrogen) indicates kidney function. An increased blood level is called azotemia and can be caused by kidney, liver, and heart disease, urethral obstruction, shock, and dehydration.

- o **Ca** (calcium) deviations can indicate a variety of diseases. Tumors, hyperparathyroidism, kidney disease, and low albumin are just a few of the conditions that alter serum calcium.

- o **CHOL** (cholesterol) is used to supplement diagnosis of hypothyroidism, liver disease, Cushing's disease, and diabetes mellitus.

- o **CL (chloride)** is an electrolyte often lost with vomiting and Addison's disease. Elevations often indicate dehydration.

- o **CREA** (creatinine) reveals kidney function. This test helps distinguish between kidney and non-kidney causes of elevated BUN.

- o **GGT** (gamma glutamyl transferase) is an enzyme that indicates liver disease or corticosteroid excess.

- o **GLOB** (globulin) is a blood protein that often increases with chronic inflammation and certain disease states.

- o **GLU** (glucose) is a blood sugar. Elevated levels may indicate diabetes mellitus. Low levels cause collapse, seizures, or coma.

- o **K** (potassium) is an electrolyte lost with vomiting, diarrhea, or excessive urination. Increased levels may indicate kidney failure, Addison's disease, dehydration, and urethral obstruction. High levels can lead to cardiac arrest.

- o **LIP** (lipase) is an enzyme that may indicate pancreatitis.

- o **Na** (sodium) is an electrolyte lost with vomiting, diarrhea, and kidney and Addison's disease. This test helps indicate hydration status.

- o **PHOS** (phosphorus) elevations are often associated with kidney disease, hyperthyroidism, and bleeding disorders.

- o **TP** (total protein) indicates hydration status and provides additional information about the liver, kidneys, and infectious diseases.



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Hormones

- o **T4 (thyroxine)** is a thyroid hormone. Decreased levels often signal hypothyroidism in dogs, while high levels indicate hyperthyroidism in cats.

- o **Cortisol** is a hormone that is measured in tests for Cushing's disease (the low-dose dexamethasone suppression test) and Addison's disease (ACTH stimulation test).

Urine Tests

Urine contains by-products from many organs not just the kidneys themselves and analysis of these products can help interpret how these organs are functioning. Older animals may have poorly functioning kidneys, can suffer from diabetes, or can have inflammation or infection in any area of the urinary system.

Please note the above is only a brief summary and is not designed to be comprehensive.