

Dog Bloodwork: Understanding your Dog's Health

Bloodwork is a crucial tool in evaluating your dog's health. At Franktown Animal Clinic, we use blood tests to assess organ function, detect infections, and monitor overall well-being. The two most common types of bloodwork we perform are the **Complete Blood Count (CBC)** and the **Chemistry Panel**.

Complete Blood Count (CBC): Evaluates the different types of blood cells in the blood:

- **Red Blood Cells (RBCs) (Normal: 5.5–8.5 million/ μ L):** Tests for anemia, dehydration, or blood loss.
 - **If high:** We assess for dehydration, heart disease, or bone marrow disorders.
 - **If low:** We investigate anemia causes such as kidney disease, chronic illness, or bone marrow suppression.
- **Hemoglobin (HGB) (Normal: 12–18 g/dL):** Measures the oxygen-carrying capacity of the blood.
 - **If high:** May indicate dehydration or polycythemia (an excess of red blood cells).
 - **If low:** Can indicate anemia or chronic disease.
- **Hematocrit (HCT/PCV) (Normal: 37–55%):** Evaluates the proportion of red blood cells in the blood.
 - **If high:** May suggest dehydration or polycythemia (an excess of red blood cells).
 - **If low:** Could indicate anemia or blood loss.
- **White Blood Cells (WBCs) (Normal: 5,000–16,000/ μ L):** Tests for infection, inflammation, or immune response.
 - **If high:** Suggests infection, inflammation, or stress.
 - **If low:** May indicate bone marrow suppression or viral infections.
- **Platelets (PLT) (Normal: 175,000–500,000/ μ L):** Essential for blood clotting.
 - **If high:** May indicate inflammation, infection, or certain cancers.
 - **If low:** Could suggest clotting disorders, immune-mediated disease, or blood loss.

Chemistry Panel: Evaluates organ function and metabolic health

Liver Function Tests: The liver helps process nutrients, detoxify the blood, and produce essential proteins.

- **ALT (Alanine Aminotransferase) (Normal: 10–118 U/L):** Assesses liver cell health.
 - **If high:** Indicates liver disease, toxin exposure, or infection.
- **ALKP (Alkaline Phosphatase) (Normal: 5–131 U/L):** Evaluates liver function and bone health.
 - **If high:** May be linked to liver disease, Cushing's disease, or bone disorders.
- **Bilirubin (TBIL) (Normal: 0.1–0.5 mg/dL):** Measures bile function and liver health.
 - **If high:** Could indicate liver disease, bile duct obstruction, or hemolysis (destruction of red blood cells).

Kidney Function Tests: The kidneys filter waste from the blood, regulate hydration, and maintain electrolyte balance.

- **Blood Urea Nitrogen (BUN) (Normal: 7–27 mg/dL):** Evaluates kidney function and hydration status.
 - **If high:** Could suggest kidney disease, dehydration, or heart disease.
 - **If low:** May indicate liver disease or overhydration.
- **Creatinine (CREA) (Normal: 0.5–1.6 mg/dL)**
Assesses kidney filtration function.
 - **If high:** Often indicates kidney disease or dehydration.

Turn over for more information

Electrolytes: Electrolytes are essential minerals that help regulate nerve function, hydration, and muscle contractions.

- **Sodium (Na) (Normal: 139–154 mmol/L):** Important for hydration and nerve function.
 - **If abnormal:** Can indicate dehydration, kidney disease, or hormonal imbalances.
- **Potassium (K) (Normal: 3.5–5.8 mmol/L):** Essential for muscle and heart function.
 - **If high:** May suggest kidney disease, Addison’s disease, or tissue injury.
 - **If low:** Can result from vomiting, diarrhea, or Cushing’s disease.
- **Chloride (Cl) (Normal: 102–120 mmol/L):** Helps maintain acid-base balance.
 - **If abnormal:** Often accompanies sodium imbalances.

Pancreatic Function: The pancreas helps regulate blood sugar and produces enzymes needed for digestion.

- **Glucose (GLU) (Normal: 70–143 mg/dL)**
Measures blood sugar levels.
 - **If high:** May indicate diabetes, stress, or pancreatitis.
 - **If low:** Could be caused by insulinoma, liver disease, or Addison's disease.
- **Amylase (AMY) (Normal: 290–1125 U/L)**
- **Lipase (LIP) (Normal: 77–695 U/L)**
Both aid in assessing pancreas health.
 - **If high:** May indicate pancreatitis or gastrointestinal disorders.

Protein Levels: Proteins are vital for immune function, blood clotting, and maintaining fluid balance in the body.

- **Total Protein (TP) (Normal: 5.4–7.8 g/dL):** Measures hydration and immune function.
 - **If high:** Suggests dehydration or chronic inflammation.
 - **If low:** May indicate liver disease, kidney disease, or malnutrition.
- **Albumin (ALB) (Normal: 2.7–4.4 g/dL):** A crucial protein for liver and kidney health.
 - **If high:** Often linked to dehydration.
 - **If low:** Can indicate liver disease, kidney disease, or GI disorders.
- **Globulin (GLOB) (Normal: 2.5–4.5 g/dL):** Part of the immune system.
 - **If high:** May indicate chronic inflammation or infection.
 - **If low:** Can be due to immune suppression or liver disease.

Why Bloodwork Matters

Routine bloodwork allows us to detect diseases early, establish a baseline for your pet’s health, and guide treatment plans. We recommend bloodwork before surgeries, during annual wellness exams (especially for senior pets), and when evaluating unexplained symptoms.

If you have any questions about your dog’s bloodwork, feel free to ask us!

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