

Common questions about blood work and your pet

Pets can't say how they're feeling—it's usually how they look or act that tells you something is wrong. Blood testing, also called blood work, goes a step further—showing the earliest signs of illness, often before your pet seems sick.

How does blood work help my pet?

Blood testing can frequently detect illness in your pet before we see any outward signs of disease. Testing gives us immediate insights that we might not otherwise discover. And, treating your pet early can lead to a better outcome and possibly lower treatment costs.

What tests might my veterinarian run?

There are tests that are routinely performed when blood work is recommended. They include:

- **A complete blood count (CBC)** tells you if your pet has an infection, if inflammation is present, or if your pet is anaemic.
- **A complete blood chemistry panel including electrolytes** provides information about your pet's liver, kidneys, and pancreas, as well as other functions of the body, such as blood sugar and hydration.
- **A urinalysis** identifies an infection or inflammation in the urinary tract.
- **A thyroid function test** detects whether or not your pet's thyroid gland is functioning properly. Thyroid disease is very common in older cats and dogs.

Your veterinarian may recommend additional tests.



Blood counts!

Blood testing frequently detects illness in your dog or cat before they show any signs of disease. These results let your veterinarian treat your pet as soon as possible.



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Blood Work and Your Pet



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When can I expect results?

Many of the tests routinely recommended can be performed in-clinic, providing results quickly and allowing for immediate treatment of your pet. In-clinic blood testing also lets you be more involved in your pet's care, since you can discuss test results with your veterinarian while you're still at the clinic. Normal results can rule out certain diseases immediately, so you can worry less. If results are abnormal, your veterinarian can make fast decisions about next steps, including treatment and additional tests. This saves you time, trips back and forth to your veterinarian, and gives you answers that will help your pet right away.

When is blood work necessary?

- **Sick and emergency situations.** Blood work provides you with a valuable picture of your pet's health and is often the first step when pets are brought in to a clinic because they are sick or in an emergency situation. It helps the veterinary staff make immediate decisions, so they can quickly help your pet.
- **Preanaesthetic testing.** Blood work is routinely done prior to your pet's surgery, dentistry or other procedures that require anaesthesia. It lets the veterinary staff know if anaesthesia is safe for your pet and allows them to make adjustments if they see anything abnormal. This blood work is often performed the same day as anaesthetic is scheduled, making it easy for you and your pet because it eliminates the need to have your pet fast more than once and reduces the number of trips you need to make to the hospital.
- **Preventive care screening.** Because the signs that your pet is sick are not always obvious, preventive care testing is often recommended as part of your pet's annual exam. Preventive care screening not only uncovers disease before it's too late, but can also help you avoid significant medical expenses and risks to your pet's health.
- **Medication monitoring.** Many medications come with manufacturers' recommendations and guidelines that often involve simple blood tests to ensure your pet's vital organs are working properly.

Understanding your pet's test results



Urine

Urinalysis: Urinalysis includes physical, chemical, and microscopic evaluation of urine. This evaluation provides additional information about the kidney and liver, as well as the general well-being of your pet.

Chemistry

Kidneys: Kidneys are responsible for filtering metabolic waste products, excess sodium, and water from the blood stream, which is then transferred to the bladder for excretion.

Primary laboratory tests for the kidneys

- **BUN, CREA**—metabolic waste products that the kidneys remove from the blood stream
- **Urinalysis**—physical, chemical, and microscopic evaluation of urine

Secondary laboratory tests for the kidneys

- **Na, K, Cl, tCO₂, Anion Gap**—potential electrolyte imbalances
- **PHOS, Ca**—potentially impacted by decreased renal function
- **ALB**—protein potentially decreased with loss through malfunctioning kidneys

Liver: The liver is a large organ with many different functions. It processes the blood by removing both bacteria and toxins as well as further breaking down many of the complex nutrients absorbed during the digestion of food into much smaller components for use by the rest of the body.

Primary laboratory tests for the liver

- **ALT**—liver cell enzyme indicating liver cell injury
- **ALKP, GGT**—liver enzymes that may support bile obstruction
- **ALB**—protein produced in liver potentially decreased with impaired liver function

Secondary laboratory tests for the liver

- **BUN, GLU, GLOB**—potential indicators of decreased function
- **TBIL, CHOL**—potential support for bile obstruction
- **TRIG**—potential indicator of lipid metabolism dysfunction

Pancreas: The pancreas is a small organ located near the small intestines and is responsible for producing several digestive enzymes and hormones that help regulate metabolism.

Primary laboratory tests for the pancreas

- **AMYL, LIPA**—pancreatic enzymes potentially supporting cell injury/inflammation
- **BUN, CREA**—if increased, may interfere with AMYL interpretation

Secondary laboratory tests for the pancreas

- **GLU**—potential indication of diabetes related to pancreatic disease
- **Ca, ALB**—potential decrease associated with pancreatic inflammation
- **ALT, ALKP, GGT, TBIL, CHOL, TRIG**—potential secondary liver disease

Glucose: Glucose is the basic nutrient for the body. It is highly regulated in the blood stream, but does fluctuate for a few hours after eating. Glucose changes may be seen with a variety of metabolic diseases and various organ system abnormalities.

Electrolytes: Electrolytes (Na, K, Cl, tCO₂, Anion Gap) are critical to body function and must be maintained in very narrow limits. Dehydration is a common cause of electrolyte imbalances, despite how effective the body is at regulating the concentration levels.

Thyroid: Thyroxine (T₄), produced by the thyroid gland, is a hormone essential for growth and metabolism.

Haematology

Red Blood Cells: Red blood cells (RBCs) are the most numerous and longest-living of the different types of blood cells; they typically make up almost half of the blood's volume. RBCs contain a special protein called haemoglobin (HGB) that binds to the oxygen in the lungs and enables the RBCs to transport oxygen as it travels through the rest of the body. Reticulocytes are immature red blood cells and are produced by the bone marrow.

- **RBC, HCT, HBG**—measures of red blood cell mass
- **MCV, MCH, MCHC, RDW**—measurements describing the RBCs
- **RETIC**—immature RBCs increased during times of increased RBC production

White blood cells: White blood cells are primarily responsible for fighting infections. There are five different types of white blood cells and each one performs specific functions to keep the body healthy.

- **NEU**—Neutrophils are most common and help fight bacterial infections
- **LYM**—Lymphocytes are a component of the immune system and produce antibodies
- **MONO**—Monocytes ingest large particles and help clear areas with tissue injury
- **EOS**—Eosinophils are involved in allergic responses and parasitic diseases
- **BASO**—Basophils are uncommon and are involved in allergic and parasitic disease

Platelets: Platelets play a critical role in preventing bleeding.