

## **Laboratory Tests at Vet HQ – What does it mean!**

At Vet HQ we often will recommend testing of blood, urine or skin biopsy if we are concerned about an underlying disease. We also recommend testing of blood prior to an anaesthetic. Testing often gives us insights into the health of the body that we may not otherwise discover from a physical examination. At Vet HQ we have the premiere in house blood analyser called the Idexx Catalyst. We have the state of the art haematology (Red Cell and White Cell) analyser call the Procyte. We also have a urinalysis machine, snapshot, light microscopy and centrifuge. For analysis of samples that we cannot perform in house or we wish for a specialist to review we courier samples to Idexx Laboratories, an animal specific laboratory, and Laverty Pathology a human laboratory. Both facilities have veterinary specialist pathologists and internal medicine specialists on staff. Turnaround time for these samples range from 24 hours to 72 hours depending on tests requested.

**Blood work** provides you with a picture of your pet's health and is the first step when pets are brought in to the hospital in an emergency or sick situation. It helps Veterinary staff make important decisions quickly.

**Pre anaesthetic** blood work is a blood panel done prior to a routine procedure. It lets veterinary Staff know that an anaesthetic is safe for your pet, and enables vets to adjust treatment plans accordingly. It also allows us to maintain laboratory histories for your pet for the future should disease occur.

**Preventative Care Screening** is a chance on annual or biannual basis to check your pets health to ensure there are no signs of subclinical disease. By routinely testing annually we may uncover disease early enough that it does not harm your pet's health. For pets on regular medication it is essential to check internal organs are functioning normally.

### **Understanding your pets test results:**

**Kidneys** are responsible for filtering metabolic waste products, excess sodium, and water from the blood stream. These waste products are transferred to the bladder for excretion. Tests we perform to evaluate kidney disease include:

Urinalysis: physical, chemical and microscopic examination provide information on kidney function and disease. We can collect a urine sample from your pet in the consult room although it is often an advantage if you can collect the first urine of the day at home. We understand the difficulty of this ... especially in cats.

Urea and creatinine (by blood test) are metabolic waste products that the kidney remove from the blood stream and increase when there is kidney disease

Phosphate (by blood test) may increase with poor kidney function

Albumin (by blood test) is a protein that will decrease with poor kidney function as it is washed out in the urine

Electrolyte balance (by blood test) will often change in most disease processes and when normal indicate body homeostasis.

**The Liver** is a large organ that removes bacteria and toxins from the blood stream and breaks down many complex nutrients into smaller components that can be utilised by the body. Tests we perform to evaluate liver disease include:

Urinalysis: physical, chemical and microscopic examination provide information on liver function and disease

ALT (a blood test) indicates liver cellular damage

ALP and GGT (a blood test) indicate liver congestion

Albumin (by blood test) is a protein that will decrease with poor liver function due to lack of production

Urea, Glucose, Globulins, Bilirubin, Cholesterol and Triglycerides (all blood test) are often out of balance in liver disease due to a variety of mechanisms

**The Pancreas** is a small organ that is responsible for producing digestive enzymes and hormones that help regulate metabolism.

Amylase and Lipase (a blood test) are pancreatic enzymes that will increase when there is inflammation (pancreatitis)

Spec CPL (canine specific pancreatic lipase) is a blood test that will increase in most cases of inflammation

Glucose may change in severe pancreatitis due to diabetes that may occur with severe pancreatitis

Calcium, Albumin, ALT, ALP, GGT, Bilirubin, Cholesterol and Triglycerides (all blood tests) may all change with pancreatitis and secondary liver disease.

**Glucose** is a basic nutrient of the body. It is very closely regulated in the blood stream with small changes associated with eating. Glucose changes can occur with a variety of metabolic diseases and various organ system abnormalities.

**Electrolytes** (sodium, Potassium, Chloride, Anionic Gap) are tested in blood and are maintained by the body in very narrow limits. These often have to be corrected very quickly if abnormal.

**Thyroid** hormone is a hormone essential for growth and metabolism.

**Bone marrow** produces red and white cells. We test both red and white cells by what is called haematology or a complete blood count. This test can evaluate inflammation, anaemia, oxygenation, and regeneration. Abnormalities can be produced by disease of almost any part of the body. An essential part of this test is checking platelet function. Platelets are the body's first defence mechanism to prevent bleeding (haemorrhage).

**Skin Sampling** can be performed without sedation most of the time by what we term a Fine Needle Aspirate biopsy (FNA). We take a small sample of cells using a small needle and we can often examine this at the time of the consult. At Vet HQ we can tell most of the time if a sample needs to be removed. Occasionally we send samples off to the laboratory for a second opinion by a specialist.

**Cytology** is a way of examining cells or body products under the microscope. We often look at discharge from ears, hair samples and skin scrapes, urine samples and discharges from any orifice under the microscope. This again is performed at the time of consultation and occasionally second opinions are sought from specialists.