



## **Pre-Anesthetic Screening**

Prior to having your pet spayed or neutered (or prior to most surgeries) we require blood tests to help us assure that your companion is as safe as possible during the anesthetic procedure.

These blood tests will show us if there are any illnesses or abnormalities that we cannot see in a general physical exam.

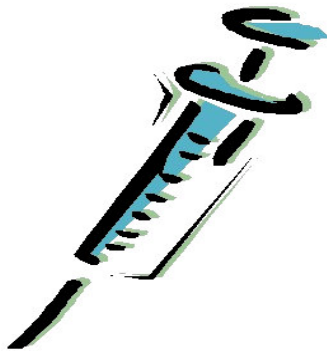
If your pet has a normal pre-anesthetic screening, we can proceed with the anesthesia with confidence.

If we find any abnormalities we may still proceed but we can make adjustments to the anesthetic protocol and be prepared to offer specialized medical support during the procedure.

If severe abnormalities exist we may have to postpone the procedure until we can properly treat your pet.

Here are some of the diagnostics we may recommend prior to surgery depending on the health status of your pet:

- Blood chemistry ("Baseline" or "Senior")
- Electrolytes
- Hematology (HCT and CBC)
- Urinalysis and ERD screening
- Other tests such as EKG or serum thyroid levels



# **Pre-Anesthetic Testing Definitions**

## **Blood Chemistry**

### **Albumin (ALB)**

A protein which is produced by the liver. Reduced levels of this protein can point to chronic liver or kidney disease, intestinal disease, or intestinal parasites such as hookworm infection.

### **Alanine Aminotransferase (ALT)**

An enzyme that becomes elevated with liver disease or injury.

### **Alkaline Phosphatase (ALKP)**

An enzyme produced by the cells lining the gall bladder and its associated ducts. Elevated levels can indicate liver disease or Cushing's syndrome.

### **Amylase (AMYL)**

An enzyme produced by the pancreas. The pancreas secretes amylase to aid in digestion. Elevated blood levels can indicate pancreatic and/or kidney disease.

### **Blood Urea Nitrogen (BUN)**

BUN is produced by the liver and excreted by the kidneys. Abnormal levels can indicate dehydration, and liver and kidney abnormalities.

### **Calcium (Ca<sup>2+</sup>)**

Increased levels can be seen with diseases of the parathyroid gland and kidneys or as an indicator of certain types of tumors.

### **Cholesterol (CHOL)**

Elevated levels of cholesterol are seen in a variety of disorders including genetic disease, liver and kidney disease, and hypothyroidism.

### **Creatinine (CREA)**

Creatinine is a by-product of muscle metabolism and is excreted by the kidneys. Elevated levels can indicate kidney disease, dehydration, or urinary tract obstruction.

### **Blood Glucose (GLU)**

High levels can indicate diabetes. In cats, high levels can indicate stress, which can merely be a result of the trip to the veterinary hospital. Low levels can indicate liver disease, infection, or certain tumors.

### **Phosphorus (PHOS)**

Elevated phosphorus can be an indicator of kidney disease.

### **Total Bilirubin (TBIL)**

Bilirubin is a breakdown product of hemoglobin and is a component of bile. Bilirubin is secreted by the liver into the intestinal tract. Blood bilirubin levels are useful in diagnosing anemia and problems in the bile ducts.

### **Total Protein (TP)**

The level of TP can detect a variety of conditions including dehydration and diseases of the liver, kidney, or gastrointestinal tract.

### **Electrolytes**

Sodium, Potassium, Chloride (Na<sup>+</sup>, K<sup>+</sup>, Cl<sup>-</sup>)

The balance of these electrolytes is vital to your pet's health. Abnormal levels can be life threatening. Electrolyte tests are important in evaluating vomiting, diarrhea, dehydration, and cardiac (heart) symptoms.

## **Hematology**

### **Hematocrit (HCT)**

Provides information on the amount of red blood cells (RBCs) present in the blood. A low hematocrit indicates anemia.

### **Complete Blood Count (CBC)**

A more complete panel of tests. A CBC provides detailed information on RBC's, white blood cells (WBCs) and platelets. The total WBC and differential (individual cell counts) can indicate infection, leukemia, stress, inflammation, or an inability to fight infection. Low platelets can indicate a bleeding problem. We might advise that surgery be delayed if anemia, infection, or especially a low platelet count is present because these conditions could cause serious surgical complications.

## **Urine Analysis**

### **Urinalysis**

Provides information on kidney function including its ability to concentrate and dilute urine, prevent protein and glucose loss, and maintain an appropriate pH balance. An abnormal pH can lead to kidney and bladder stone formation while the presence of glucose may indicate diabetes. High numbers of red or white blood cells and/or the presence of bacteria may indicate an infection.

### **ERD Screening**

This "early renal (i.e. kidney) disease" test looks for microalbuminuria. In other words, tiny amounts of albumin that is present in the urine indicates improper kidney function.

