



The Woof-Meow Show

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The “Woof-Meow” show is on every Sunday at 8:30PM on WVOM, 103.9FM, the Voice of Maine. Hosted by Don Hanson of Green Acres Kennel Shop, the show focuses on educating dog and cat guardians about their dogs and cats.

AIR DATE: 5FEB06

GUEST: Dr. Mark Hanks, Kindred Spirits Veterinary Clinic

BLOOD WORK – WHY IT’S IMPORTANT AND WHAT IT ALL MEANS

Blood contains a variety of cell types; red blood cells, white blood cells and platelets, and these cells typically have relatively normal ratios. Any anomalies in the cell ratios may be an indicator of disease, and many abnormalities that occur within the body can often be detected via blood tests. Now, thanks to technological advances, the availability of in-house testing has allowed veterinarians to obtain a lot of information within minutes. Some of the more common diseases that are easy to detect with blood tests are renal disease, diabetes, Cushing’s disease and hypothyroidism.

TYPES OF BLOOD TESTS

There are several types of blood tests, which may be needed in the determination of identifying specific diseases. A morphologic inspection looks specifically at the shape of blood cells when viewed under a microscope, whereas a hematocrit (HCT) or packed cell volume (PCV) determines the amount of red blood cells that are present.

Complete Blood Count (CBC)

A CBC counts the number of red blood cells, white blood cells and platelets that are present in a given sample and can reveal the progression of a disease and aid in diagnosis. CBCs are often used as a starting place to gain information. The white blood cells act as an indicator of immune function. If numbers are too low, the animal will have difficulty fighting off infection and if they are too high, this may be a symptom of an infection already present in the body. The purpose of red blood cells is to carry oxygen throughout the body. When red blood count is low, an animal is said to be anemic. If it is too high, the condition is known as polycythemia and the blood transporting the oxygen cannot get to where it needs to go due to overcrowding. Treatment for polycythemia is removal of excess blood and historically was done using leeches. Platelets are looked at to determine an animals clotting ability.

General Health Panel (GHP)

A general health panel or GHP makes use of multiple tests to check liver and kidney function as well as assess for diabetes. Bun and creatinine are excreted only through the kidneys and if either of these levels are elevated, veterinarians will know that the kidneys are malfunctioning. An animal can lose 66% - 75% of kidney function before these numbers become high. When testing for liver function, veterinarians are looking for an increase in ALT levels. An increase in ALT indicates either an infection of the liver or liver trauma. A general health panel is often done in conjunction with a CBC. Additionally, GHPs are usually done before anesthesia to ensure that organs are functioning properly and thus reduce risks typically associated with anesthesia. Ninety-five to ninety-six percent of GHPs come back normal in a healthy animal prior to surgical procedures. The CBC and GHP can also be used to look at electrolyte levels and determine if they are in balance, as problems can arise when they are out of whack. For example, a decrease in potassium can cause weakness and shivering.

3DX Test

Another blood test that is often used today is the 3DX test. This is an in-house test that allows veterinarians to check for heartworm, Lyme disease and ehrlichia (both tick born illnesses). Four to five percent of dogs will test positive for Lyme disease, but the vast majority will not become ill. Cats are typically not prone to contracting Lyme disease.

Feline Leukemia and FIV

For cats, ELISA technology is utilized to discover the presence of feline leukemia virus and FIV, both of which are retroviruses. This is a biochemical type of test that looks for specific agents by making use of antibodies.

Titer Tests

Titer tests are used to detect and measure antibodies that may be present in an animal's system. They look specifically at a body's response level to an individual organism and are often used with vaccines to determine levels of immunity. Titers for the rabies vaccine are not considered acceptable due to public health concerns. Some of the major concern around titers is because they do not predict what will occur in the future, rather they assess immunity levels for that point in time. Additionally, each individual animal is different, with dissimilar risk factors and varying titer levels, thus it is difficult to determine necessary levels for sure immunity.

WHEN TO PERFORM BLOOD TESTS

As already mentioned, blood tests are typically performed prior to surgeries to determine if there are any problems with the liver or kidneys which may indicate an inability to process certain drugs used for anesthesia. Additionally, blood tests are often done when an animal is just not acting itself, and there are no visible indications as to what may be occurring. Problems such as out of balance hormone levels are difficult to diagnose without blood tests. Often it is recommended that geriatric pets have blood tests as many signs of old age are very similar to symptoms of disease. At times, individuals opt to do blood work when animals are healthy, in order to establish a base line for future tests.

As with any test there are other factors to consider. First, is that if a pet's normal blood values are not deemed to fall within the normal range for the rest of the population, this may lead to further testing. Also, since many values are looked at in each test, it is not uncommon that at least one may fall out of the normal range, yet this does not mean that the animal is experiencing

disease. Blood tests are tools, and need to be considered in combination with other findings. Often, specific diagnosis are not the result of a blood test, rather tests act to eliminate causes of disease and to pinpoint and organs that may not be functioning properly.

ITEMS TO CONSIDER

Often the best results for blood tests come from university based or commercially based veterinary laboratories so your veterinarian may suggest sending away for a test if values come back abnormal from in-house blood work. When performing a blood test, you should advise your veterinarian of the last time your pet had a meal and any drugs, herbs or supplements your pet is taking.

OTHER RESOURCES:

Whole Dog Journal – January 2004
Whole Dog Journal – November 2003
Whole Dog Journal – April 1999