

EARLY DETECTION PROGRAM

We know pets can't talk and often show no signs when something is wrong. So how do you know? Early Detection; and today is a good time to start!

Early Detection is not one test, a series of tests or just one visit. It's a new way of caring for your pet, just like human medicine allows us to care for ourselves. Medical advancements enable your doctor to diagnose potential diseases before they become a serious issue including heartworm, thyroid disease and intestinal parasites. With today's medical testing and technology, you can protect your pets like never before.

By following our simple program, many diseases can be caught early depending on the age of your pet. Catching a disease early can make all the difference, adding years to your pet's life.



Did you know?

- ▶ If detected early, 75% of common diseases in dogs and 63% of common diseases in cats can be prevented by dietary modifications alone over a one-year period.
- ▶ Kidney disease is one of the major causes of illness and death in dogs and cats, but symptoms do not usually appear until 2/3 of kidney function has been lost. If caught early, the animal can live with this condition for many years.
- ▶ If a liver problem is detected at an early stage of the disease and is administered proper treatment, the chance of your pet's recovery is in your favor.
- ▶ Early detection of diabetes is extremely important because an early therapy regimen can be more effective and easier on the animal. Detecting and monitoring diabetes early can also prevent damage to other organs.



Ask your client's if they've noticed any of the following in their pet?

- Bad breath or drooling
- Change in activity level
- Change in appetite or weight
- Change in attitude or responsiveness
- Change in sleep patterns
- Change in urination (amount or frequency)
- Change in water consumption
- Confusion or disorientation
- Constipation, diarrhea or vomiting
- Coughing
- Heavy or rapid breathing at rest
- Incontinence
- Lethargy or depression
- Lumps or bumps on or under the skin
- Noticeable decrease in vision (e.g., bumping into furniture)
- Shaking head (on and off, continuously)
- Sneezing
- Stiffness (e.g., trouble jumping, climbing stairs or walking)

DID YOU KNOW?

Dog Care

Dogs should be carefully monitored from day one, especially after the age of seven, which is like 44-56 in human years. From puppy through adulthood, you should be monitoring for common diseases like heartworm, thyroid disease, intestinal parasites and, most importantly, renal disease. As dogs age, just like you, arthritis can become a crippling problem. Early detection can really help extend your dog's life.



Cat Care

Just like dogs, cats need to be monitored from kitten to adult. Young cats are especially prone to urinary tract problems and intestinal parasites and most cats are seniors at the age of seven, which is 40-45 in human years. As a senior, careful monitoring becomes even more important as disorders, such as thyroid and renal disease, become very common. Early Detection and treatment can make a difference in your cat's life.



DOG AGE (in years)	HUMAN AGE (in years, based on weight)			
	<20 lb	21-50 lb	51-90 lb	>90 lb
1	7	7	8	9
2	13	14	16	18
3	20	21	24	26
4	26	27	31	34
5	33	34	38	41
6	40	42	45	49
7	44	47	50	56
8	48	51	55	64
9	52	56	61	71
10	56	60	66	78
11	60	65	72	86
12	64	69	77	93
13	68	74	82	101
14	72	78	88	108
15	76	83	93	115
16	80	87	99	123
17	84	92	104	131
18	88	96	109	139
19	92	101	115	
20	96	105	120	

CAT AGE (in years)	HUMAN AGE (in years)
1	7
2	13
3	20
4	26
5	33
6	40
7	44
8	48
9	52
10	56
11	60
12	64
13	68
14	72
15	76
16	80
17	84
18	88
19	92
20	96
21	100

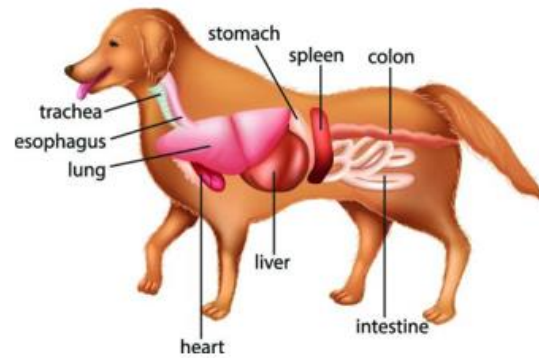
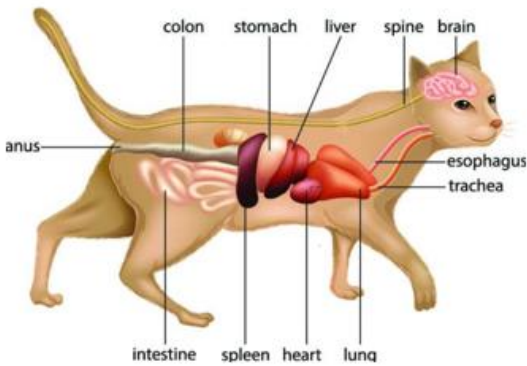
What Routine Testing Uncovers

DOGS & CATS - 1 TO 6 YEARS OLD	DOGS & CATS - 7 YEARS OLD OLDER
<ul style="list-style-type: none"> ▶ Heartworm, Intestinal Parasites and Intestinal issues/Malnutrition, Diabetes, Kidney and Liver Disease, Infection or Inflammation, Anemia or Leukemia ▶ Addison's Disease (disorder of the adrenal glands that can affect a dog as young as 6 months) 	<ul style="list-style-type: none"> ▶ Kidney Disease, Decreased Kidney, Function or Urinary Bladder Disorder, Intestinal Parasites and Intestinal Disorders, Liver Disease and Pancreatic Inflammation, Jaundice, Parathyroid Disorder, Adrenal Disease, Muscle Injury, Diabetes ▶ Hypothyroidism in Dogs and Hyperthyroidism in Cats ▶ Infection and Inflammation, Anemia or Leukemia



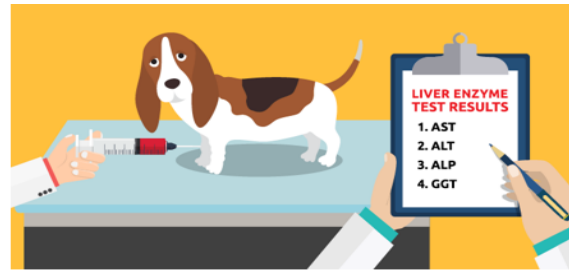
From Nose To Tail
the External Exam is Vital Part of Every Pet's Visit
But...to Get the Full Picture of Their Health We Also Need An

Internal Exam



What does all this information tell us?

What's going on Inside...



- Liver Values: ALT, AST, ALP, GGT
- Kidney Values: Creatinine, Blood Urea Nitrogen (BUN), Phosphorus
- Electrolytes: Sodium, Potassium, Chloride
- Pancreas: Amylase, Lipase
- CBC: Inflammation, Infection, Anemia, Blood Clotting Time
- UA: Bladder health, Kidney function, Diabetes



Bladder



Blood



Heart & Lungs



Intestinal Parasites



Kidney



Liver



Pancreas & Intestine




Teeth



Thyroid


COMPLETE BLOOD COUNT (CBC)

	<p>WBC (Total white blood cell count) Neutrophils Bands Lymphocytes Monocytes Eosinophils Basophils</p>	<p>INFLAMMATION & INFECTION These numbers tell how many of each type of white blood cell are present and whether or not the count is normal. It is important to know whether the count is low, normal or high. White blood cells help fight infection. White blood cell numbers can decrease with severe infection or with bone marrow disorders. White blood cell numbers can increase in response to inflammation and infection. Eosinophils (a type of white blood cell) may be increased in pets with allergies or parasite infections.</p>
	<p>PLATELETS</p>	<p>BLOOD CLOTTING TIME Platelets help with blood clotting. The platelet count may be decreased due to autoimmune disease, some types of cancer, infections spread by ticks, or bone marrow disorders.</p>
	<p>RBC (Red blood cells) Packed Cell Volume (PCV) Hemoglobin MCV MCH MCHC RBC Morphology (shape)</p>	<p>Tests to evaluate red blood cells (size, shape, number). Tests for anemia (low red blood cell levels). Anemia may be due to bleeding (internal or external), hemolysis internal destruction of red cells due to autoimmune disease, genetic disorders, red cell infections, or certain toxins such as zinc and onions.</p>



CHEMISTRY PROFILE

<input type="checkbox"/> 	<p>ALT ALP AST GGT</p>	<p>Increased liver enzyme activity occurs in pets with liver disease, pancreatic disease, and enteritis (inflammation of the intestine). Cortisone treatment will cause liver enzymes to increase.</p>
<input type="checkbox"/> 	<p>TOTAL BILIRUBIN</p>	<p>Bilirubin is made by the liver, stored in the gall bladder, and excreted into the bile. Bilirubin may increase when there is blockage of the bile duct (e.g. pancreatitis or pancreatic cancer) or autoimmune destruction of red cells (hemolytic anemia). Marked bilirubin elevation will cause the skin to turn yellow, which is called jaundice.</p>
<input type="checkbox"/> 	<p>TOTAL PROTEIN, ALBUMIN, GLOBULIN</p>	<p>Blood protein is comprised of albumin (synthesized by the liver) and globulin (from the liver and immune system). Albumin may be decreased due to the disease of the intestine, kidneys, liver, or decreased nutrient intake. The globulin level may also decrease due to intestinal disease and may increase in response to inflammation and some types of cancer.</p>
<input type="checkbox"/> 	<p>CREATININE, BUN, PHOSPHORUS</p>	<p>Creatinine, blood urea nitrogen (BUN), and phosphorous are products of body metabolism and are excreted by kidneys into the urine. Levels increase in pets with kidney failure. (Urinalysis and blood test should be done concurrently to enable the best assessment of kidney function)</p>
<input type="checkbox"/>	<p>CALCIUM</p>	<p>Elevated calcium levels can be a sign of a wide variety of diseases. The most common cause is lymphosarcoma (a type of cancer). Decreased calcium levels (intestinal disease, pregnancy, lactation, hormone imbalance) can cause seizures.</p>
<input type="checkbox"/>	<p>GLUCOSE</p>	<p>Increased blood sugar levels may indicate diabetes both for dogs and cats. In cats, elevations may occur due to stress or fear. Low levels of blood sugar may occur with several disorders, including liver problems, severe infection, certain types of cancer, Addison's disease (a disorder of the adrenal glands), and malnutrition.</p>
<input type="checkbox"/> 	<p>AMYLASE, LIPASE</p>	<p>Amylase and lipase are digestive enzymes synthesized by the pancreas. They are often increased in pets with pancreatitis. Marked lipase elevations can occur in pets with pancreatic cancer.</p>

CHEMISTRY PROFILE (CONTINUED)

<input type="checkbox"/>	SODIUM, POTASSIUM, CHLORIDE	Sodium, Potassium, and Chloride are electrolytes responsible for regulating body fluid balance and nervous system activity. They are often abnormal in pets with vomiting and/or diarrhea, kidney failure and Addison's disease.
<input type="checkbox"/>	CPK	Creatine phosphokinase (CPK) is a muscle enzyme and increased levels typically occur with muscle injury (e.g., trauma, over-use) or inflammation. Illness leading to weight to weight loss can also cause CPK to increase.
<input type="checkbox"/>	 T4	Thyroxine (T4) is the major thyroid hormone that regulates body metabolism. In cats we look for levels above normal (hyperthyroidism - hyperactivity, weight loss) and in dogs we look for subnormal levels (hypothyroidism - sluggishness, weight gain, hair loss). This is a screening test. If the result is abnormal, more detailed thyroid testing may be necessary to verify the diagnosis.

OTHER VITAL TESTS

<input type="checkbox"/>	 COMPLETE URINALYSIS: Color, Clarity, Crystals, Casts, Blood, Bilirubin, Concentration (Specific Gravity), pH, Protein, Glucose, Bacteria, Ketones, White blood cells, Red blood cells, Epithelial Cells.	Urinalysis is a very important test for evaluating kidney function, and should be done every time a chemistry profile is performed. Urinalysis is also a key test for determining if there is inflammation or infection in the urinary tract (bladder or kidneys). Urinalysis also helps to confirm, along with blood tests, whether or not an animal has diabetes (with diabetes, either sugar or both sugar and ketones are present in the urine).
<input type="checkbox"/>	URINE CORTISOL: Creatinine Ratio	A screening test for Cushing's syndrome in dogs (excessive adrenal gland function)
<input type="checkbox"/>	URINE CULTURE AND SENSITIVITY ANTIBIOTICS: <i>Amikacin</i> <i>Enrofloxacin</i> <i>Clavamox</i> <i>Marbofloxacin</i> <i>Ampicillin/</i> <i>Nitrofurantoin</i> <i>Amoxicillin</i> <i>Tetracycline</i> <i>Cefotaxime</i> <i>Ticarcillin</i> <i>Cefpodoxime</i> <i>Trimethoprim/</i> <i>Cephalexin/</i> <i>Sulpha</i> <i>Cefadroxil</i>	Urine culture testing determines whether or not there is a bacterial infection in the urinary tract. If the urine culture is positive, antibiotic sensitivity testing is included. Sensitivity testing determines which antibiotics will likely work best in clearing infection. By determining which bacteria are involved and which antibiotics are most likely to be effective we have a better chance of clearing the infection more quickly and completely.
<input type="checkbox"/>	 FECAL TESTING (Centrifugal floatation and microscopy, Giardia ELISA)	Fecal tests are done to evaluate for presence of intestinal parasites (e.g., Giardia, roundworms, hookworms, whipworms, coccidia). It is important to check periodically for parasites (once to twice a year depending on the animal's environment), even if stools are consistently normal. Parasites can cause significant intestinal problems in both animals and humans (some parasites can be transmitted from animals to humans). Specific treatment is prescribed based on results.
<input type="checkbox"/>	CLOSTRIDIUM PERFRINGENS ENTEROTOXIN TEST	This test is run when an animal has intermittent or persistent diarrhea. Specific treatment is available for this disorder.
<input type="checkbox"/>	CRYPTOSPORIDIUM ASSAY	Cryptosporidium is a protozoal organism that can cause diarrhea. A special test is needed because the organism is extremely small and difficult to see under the microscope.
<input type="checkbox"/>	FECAL OCCULT BLOOD	Tests for blood in the stool. Small amounts of blood in the stool are usually not visible to the naked eye.

Early Detection

- ▶ Detection of a liver problem at an early stage of the disease gives your pet a much better chance for a favorable response to appropriate treatment
- ▶ Kidney disease is one of the major causes of illness and death in dogs and cats, but symptoms do not usually appear until 2/3 of kidney function has been lost. If caught early, the animal can live with this condition for many years.
- ▶ Early detection is always the best policy, just as it is for our own health. Sometimes pets show no, or only subtle, symptoms of a problem. Consultation, physical examination, and testing will help discover health problems early in their course.



Our practice strives to offer the best possible standard of care for our patients and this is why we recommend preventative diagnostic testing as a part of your pet's annual visit today. Our doctors recommend that patients of ALL ages have an internal organ evaluation every year. Diseases of the liver, kidneys, diabetes, anemia, inflammation, infection, and other life threatening conditions can be missed without preventative testing.

Benefits of Preventative Diagnostics



GET A COMPLETE PICTURE OF YOUR PET'S HEALTH

We want to make sure your pet's internal organs are functioning as they should be, as well as confirm the health of their overall cells.



CUSTOMIZE BASELINE VALUES FOR YOUR PET

Establishing a customized baseline for your pet allows your vet to monitor even subtle changes as your pet ages to better detect and treat illnesses early on and as they age.



EARLY DETECTION OF DISEASE

Detecting disease before physical symptoms are present often leads to treatment success, as well as much less expensive treatment options for your pet.