

Canine Distemper In Your Pet



[An important message from Dr. Hines](#)

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What Is Canine Distemper?

Canine distemper is a multi-systemic viral disease of dogs found throughout the World. It is highly contagious. It is fatal in approximately half the cases.

How Might My Pet Catch Distemper?.

Canine distemper is usually transmitted through contact with respiratory secretions. But contact with fecal material and the urine of infected dogs or things they have contaminated can also cause infection.

Canine Distemper was far-and-away the most common fatal disease of dogs during the first half of the twentieth century. It was a daily or weekly occurrence well into the 1960s in the Mexican border town where I grew up. In the 1940s, crude vaccines first became available to attempt to control this disease. In the 1960s sophisticated, weakened live virus vaccines took their place. These vaccines have made canine distemper a very rare disease in household pets in the industrialized world. I see it now primarily in pets from poor neighborhoods.

About The Virus

The virus that produces canine distemper belongs to the paramyxovirus group. Human measles virus is also a member of this group. Distemper virus is easy to kill with disinfectants, sunlight or heat.

In the body, this virus attacks and grows within the white cells (lymphocytes and macrophages) of the blood and lymphatic system as well as the cells that line the intestinal tract. Canine distemper virus is very resistant to cold. Cold will preserve it. In many areas , more cases are seen in the fall and winter.

Canine distemper virus is passed rapidly through coughed or sneezed droplets of saliva. It then invades the lymphatic tissue. Within two to five days lymphatic tissue throughout the pet's body is infected. By the sixth to ninth day, the virus is present in the blood. It then spreads to the surfaces of the lungs, intestine and bladder and, on occasion, to the nervous system.

Who Can Catch Canine Distemper?

Young puppies, between 3 and 6 months of age, are most susceptible to the disease and are the most likely to die from it. However, non-immunized adult dogs are also highly susceptible to distemper. These older dogs often develop mild cases.

All species of dog-like animals are affected as well as weasel-like animals such as ferrets, mink skunk, badgers and raccoon and red pandas. Recently it was recognized that large cats such as lions can also develop the disease. Wild hogs called javelinas also develop distemper. It has been reported that humans can contract an asymptomatic (no signs) canine distemper infection.

Domestic cats are not susceptible to canine distemper. Distemper of cats refers to a different virus, the panleukopenia virus . In wild meat-eating animals, canine distemper can cause abnormal behavior and lack of fear that is suggestive of rabies. This is especially true in urban raccoons which commonly have canine distemper. When they do, they show signs very similar to raccoons that have rabies.

What Signs Might My Pet Show?

I see distemper most often in older puppies that are in the process of losing their mother's protective antibody and have not yet been vaccinated.

Once these pets are infected, the virus is shed in all their body secretions. Signs that the pet is sick begins 3-6 days after infection. About the seventh day of infection, most dogs develop a fever of 103-106F (39.5-41 C) and become depressed.

During the next two weeks, the pet either develop antibodies against the disease that protect it and kills the virus or it gradually goes downhill. There is a lot of variation in the duration and severity of the clinical disease between pets. That is because some of the pets are partially immune, some of them have genetic resistance and the strain of distemper they contracted could be strong or weak. Pets that go downhill develop a cough, secondary bacterial pneumonia and

inflammation of the intestines. Many of these dogs have infection and damage to their brains and spinal cords that result in tremor and convulsions. Labored breathing and an un-kept appearance are common. By the third week most dogs have either died from the infection or are on the way to recovery. You can tell this by their mental attitude. If they perk up and begin wagging their tails the angels have spared them. The exceptions are the cases in which damage to the brain is delayed for up to three months. For some reason, these tend to be dogs with long noses and faces like collies and german shepherd types. These delayed cases may show no respiratory or intestinal signs before delayed nerve damage occurs. Pathologists say that in a few cases, the virus persists in the eyes, footpads and nervous system - possibly forever.

Signs vary greatly from case to case. Mortality from the disease is about fifty percent with mild cases showing very few or no disease sign. Most dogs that die from distemper die from neurological complications. The fever that begins near day seven gradually drops only to peak again later at a time when nasal and ocular (eye) discharges become thick and tenacious. These pets have little or no appetite. Blood samples tested early in the disease are always low in certain white blood cells (lymphopenia) but the number may go up as the disease progresses. These dogs soon develop diarrhea with loss of fluid, dehydration and depression. In pets in which the brain is attacked, incoordination, stumbling, seizures and paralysis occur. Both the gray and the white matter of the brain are destroyed. Some dogs become blind during the course of the disease as the virus attacks the retina. Neurological disturbances that may be seen are aggressiveness, disorientation, convulsive movements of the head and paws, and aimless wandering. Others cases develop a clicking gait as the skin of the footpads thickens (hyperkeratosis). Many show a thickening of the skin of the bridge over the nose. If the disease occurs while teeth are still forming, defects in their enamel covering may occur.

Immune suppression:

Because the virus attacks the cells that produce immunity (T and B-lymphocytes) dogs are always immuno-suppressed early in the disease. As the disease progresses through days six to eight, dogs that are destined to recover produce a strong antibody responses that neutralize the virus. The virus-neutralizing antibody produced by the tenth to twentieth day protect the dog from reinfection for years and sometimes for life.

How Is Distemper Diagnosed in My Pet?

Typical disease signs accompanied by very low white blood cell counts (lymphopenia) are highly suggestive of canine distemper. Laboratory tests to positively confirm the disease include fluorescent antibody techniques, polymerase chain reaction, virus isolation and ELISA (Enzyme Linked Immunosorbent Assay) tests. The demonstration of heavily pigmented inclusion bodies in stained blood neutrophils or in smears from the eye also aid in diagnosis. In animals that die, pathologic changes in tissue samples diagnose the disease. These pathological lesions of canine distemper include congestion and

inflammation of the lungs (focal pneumonitis). Characteristic red stained (eosinophilic) oval structures are found in the epithelial cells of the salivary glands, central nervous system, adrenal glands, bile duct, urinary tract, lymph nodes spleen and skin.

What Are The Treatments If My Pet Is Infected?

No antiviral drugs exist that effect canine distemper virus. Because of this, we treat the disease symptomatically. We administer antibiotics because bacteria take advantage of the damaged lining of the intestines and lungs. Intestinal coatings, antispasmodic agents and emollients are given to minimize diarrhea. The dehydration, brought about by diarrhea, is corrected with intravenous electrolyte fluids. This one treatment is probably the most effective thing we can do. Debilitated dogs, unable to eat, benefit from injections of essential vitamins and nutrients. Once dogs develop nervous system signs we have no effective treatment.

How Can I Prevent This Disease In My Pet?

Excellent vaccines are now available to protect dogs from canine distemper virus. These vaccines are manufactured from living, weakened (attenuated) virus that induce long-lasting immunity. Immunity lasts many years. Vaccinations must not be given too early to puppies. The shots must be given to puppies at a time when the level of circulating antibody that they received from their mothers is in decline or the vaccine's effects are neutralized. Twenty percent of this maternal immunity crosses the walls of the womb into the puppy while eighty percent is absorbed from colostrum milk across the intestine. I vaccinate my clients puppies at 10 and 16 weeks of age. Many veterinarians give three injections. I use vaccines that only require boosters every three years. There are veterinarians that utilizes a vaccine against human measles for the first vaccination and give it at a younger age. Human measles is a similar virus, to canine distemper. Please do not over-vaccinate adult dogs. Read an [article](#) I have written on the subject.

Other Ways Distemper Can Be Controlled:

Dogs with this disease should be quarantined and scrupulously isolated from susceptible dogs. A good disinfectant containing phenol, or a 1:20 dilution of household bleach kills the virus instantly.

Several years ago there was speculation and supposed statistical evidence that canine distemper virus was in some way associated with multiple sclerosis of man. Several studies done over the last fifteen years have failed to show any such connection.

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