

Canine Distemper

Canine distemper is a contagious, incurable, often fatal, multi-systemic viral disease that affects the respiratory, gastrointestinal, and central nervous systems. Distemper is caused by the canine distemper virus (CDV).

Canine distemper occurs worldwide, and once was the leading cause of death in unvaccinated puppies. Widespread vaccination programs have dramatically reduced its incidence. CDV occurs among domestic dogs and many other carnivores, including raccoons, skunks, and foxes. CDV is fairly common in wildlife. The development of a vaccine in the early 1960s led to a dramatic reduction in the number of infected domestic dogs. It tends to occur now only as sporadic outbreaks. Young puppies between 3 and 6 months old are most susceptible to infection and disease and are more likely to die than infected adults. Non-immunized older dogs are also highly susceptible to infection and disease. Non-immunized dogs that have contact with other non-immunized dogs or with wild carnivores have a greater risk of developing canine distemper.

Infected dogs shed the virus through bodily secretions and excretions, especially respiratory secretions. The primary mode of transmission is airborne viral particles that dogs breathe in. Dogs in recovery may continue to shed the virus for several weeks after symptoms disappear, but they no longer shed the virus once they are fully recovered.

Early symptoms include fever, loss of appetite, and mild eye inflammation that may only last a day or two. Symptoms become more serious and noticeable as the disease progresses. The initial symptom is fever (103¼F to 106¼F), which usually peaks 3 to 6 days after infection. The fever often goes unnoticed and may peak again a few days later. Dogs may experience eye and nose discharge, depression, and anorexia. After the fever, symptoms vary considerably, depending on the strain of the virus and the dog's immunity. Many dogs

experience gastrointestinal and respiratory symptoms, such as:

- * Conjunctivitis (discharge from the eye)
- * Diarrhea
- * Fever (usually present but unnoticed)
- * Pneumonia (cough, labored breathing)
- * Rhinitis (runny nose)
- * Vomiting

These symptoms are often exacerbated by secondary bacterial infections. Dogs almost always develop encephalomyelitis (an inflammation of the brain and spinal cord), the symptoms of which are variable and progressive. Most dogs that die from distemper, die from neurological complications such as the following:

- * Ataxia (muscle incoordination)
- * Depression
- * Hyperesthesia (increased sensitivity to sensory stimuli, such as pain or touch)
- * Myoclonus (muscle twitching or spasm), which can become disabling
- * Paralysis
- * Paresis (partial or incomplete paralysis)
- * Progressive deterioration of mental abilities
- * Progressive deterioration of motor skills
- * Seizures that can affect any part of the body (One type of seizure that affects the head, and is unique to distemper is sometimes referred to as a chewing gum fit because the dog appears to be chewing gum.)

Many dogs experience symptoms of the eye:

- * Inflammation of the eye (either keratoconjunctivitis, inflammation of the cornea and conjunctiva, or chorioretinitis, inflammation of the choroid and retina)
- * Lesions on the retina (the innermost layer of the eye)
- * Optic neuritis (inflammation of the optic nerve which leads to blindness)

Two relatively minor conditions that often become chronic, even in

dogs that recover are:

- * Enamel hypo-plasia (un-enamelled teeth that erode quickly in puppies whose permanent teeth haven't erupted yet - the virus kills all the cells that make teeth enamel)
- * Hyperkeratosis (hardening of the foot pads and nose)

In utero infection of fetuses is rare, but can happen. This can lead to spontaneous abortion, persistent infection in newborn puppies, or the birth of normal looking puppies that rapidly develop symptoms and die within 4 to 6 weeks.

Diagnosis can be difficult and is based on the dog's vaccination history, clinical symptoms, and laboratory tests.

Since there's no cure for distemper, treatment is supportive.

The best prevention against canine distemper is vaccination. Vaccination works well even in animals that have already been exposed to the virus if it is administered within 4 days of exposure. Exposure to CDV induces long lasting, but not permanent, immunity. Dogs should receive annual vaccinations to ensure protection.

Prognosis depends on the strain of canine distemper virus and the dog's immune response. After the initial fever subsides, the disease can progress in a number of ways. More than half of all dogs die between 2 weeks and 3 months after infection, usually from central nervous system complications. Most veterinarians recommend euthanasia for dogs that suffer progressive, severe neurological complications. Dogs that appear to recover may develop chronic or fatal central nervous system problems. Dogs with mild symptoms may recover, though the symptoms can persist for several months or longer. Dogs with a strong immune response may never show any signs of infection. Once a dog has fully recovered, it no longer sheds the virus and is not contagious.