

Canine Distemper

Information for Dog Owners



Key Facts

- Distemper is a very contagious viral infection.
- It causes severe disease in young puppies.
- Signs of illness in dogs involve the eyes, nose, lungs (pneumonia), stomach/intestines (vomiting), and brain (seizures and tremors).
- Distemper is highly preventable by following an effective vaccination schedule.

What is it?

Canine distemper virus (CDV) is a very contagious virus that can cause severe disease in young dogs. Most commonly illness is seen in the respiratory tract (nose, wind-pipe/trachea, lungs/pneumonia), the stomach and intestines (vomit, nausea and diarrhea), and the brain (seizures, tremors). The virus weakens the immune system and makes it difficult for infected dogs to fight off other types of infection (e.g. parvovirus, *Salmonella*). Distemper is found world-wide and is of greatest concern in areas where there are many unvaccinated dogs and/or where this virus is also present in wildlife (e.g. raccoons).



Who gets it?

Young dogs (2-6 months of age), and unvaccinated puppies older than 6 weeks of age are most commonly infected and develop disease. Dogs of all ages can be infected and become sick if they are exposed to the virus and are not properly protected by vaccination. Wild dogs and many other wild animals (e.g. fox, coyote, wolf, ferret, raccoon, skunk, otter, various zoo animals) can also become infected with the canine distemper virus.

Can people get sick with it?

No, CDV does not infect people. However people can spread it to other dogs if they have the virus on their hands or clothing and then touch other dogs or their environment (e.g. kennel, toys, grooming tools).

How is it spread? (Transmission & Infection Risk)

Infected dogs shed and pass the virus to other dogs through coughs, sneezes, tears, saliva, urine, and feces. Infection risk is highest from dogs that are sick (sneezing, coughing, fever, not eating, have diarrhea), and from dogs that have recently (past 1-2 weeks) recovered from distemper.

Dogs get infected with CDV through direct (close) contact with an infected dog's coughs, sneezes, saliva, urine, feces or through contact with surfaces/objects that have been contaminated with the virus (e.g., grooming tools, shared water bowls).



Dogs are most likely to get infected and sick from CDV when they are in dog groups or around many other dogs (kennels, shelters, large group events) and the level of dog-dog close contact, risk of infection, and stress is highest.

What should I look for? (Signs of Disease)

Signs of illness typically develop 5 to 7 days after infection, and these signs can affect many of the dog's organ systems (most commonly the lungs, intestines, brain). The severity of illness (how sick a dog becomes) depends on many factors including, the level of exposure (ie. exposed to many infected dogs or close contact with an infected dog), the dog's age and strength of its immune system.

The most common signs of illness are:

- **Eyes and Nose:** Swollen and painful eyes with white or clear mucous discharge (conjunctivitis), and similar looking discharge from the nose (rhinitis) and sneezing. Some dogs may have loss of eyesight or go blind.
- **Fever** (103° to 105°F; 39.5° to 41°C), listless or lethargy, loss of appetite and interest in drinking.
- **Cough:** Dry cough is usually noted first, and then a moist 'wet' cough and breathing difficulties can be caused by pneumonia due to other infections.
- Vomiting, diarrhea, nausea.
- **Seizures and Tremors:** Inflammation of the brain (encephalitis) and the membrane around the brain (meningitis) can occur with infection. The signs of this can sometimes be delayed, and not seen in the dog until weeks after the initial infection with CDV. Signs of illness include seizures, incoordination and muscle tremors.
- **Immune System:** CDV attacks and weakens the immune system, which lowers the dog's resistance or ability to fight off other infections.
- **Teeth:** Puppies infected with distemper can have abnormal teeth, such as teeth that are permanently pitted and discolored when they become adult dogs.
- **Abortion, still birth, unthrifty pups** can occur if infection occurs during pregnancy.

How is it diagnosed?

Canine distemper diagnosis is made by recognizing signs of illness (e.g. fever, nasal and eye discharge, cough, and pneumonia) in a young dog that is not vaccinated or incompletely vaccinated, and likely has had contact with an infected dog.

There are tests to help confirm distemper infection in your dog. It's important to know that a negative test result for distemper doesn't always mean that your dog doesn't have it. Your veterinarian may use distemper antibody titres to help determine the following:

- Whether a dog is infected with distemper
- If there is a need for a booster distemper vaccination

Early on distemper can often look similar to 'kennel cough' or canine influenza (dog flu), so it is important to observe your dog closely for new or worsening signs and communicate these to your veterinarian.



What is the treatment? Will my dog recover?

There is no specific treatment or medication for canine distemper.

Treatment will be general nursing care, and measures to control other bacterial and viral infections that might occur because of the dog's weakened immune system. Treatment can be very helpful to improve outcome; however, if brain signs are present the prognosis (chance of full recovery) is worse and the dog is more likely to die.

How can I stop this from happening to my dog and other dogs?

Vaccination is very effective in preventing canine distemper infection; CDV is a recommended core vaccine for all dogs. Vaccination begins with a puppy vaccine series. The first booster vaccine is given 1 year later, and additional booster vaccines are then given every 3 years in order to maintain protective immunity and prevent infection.

Information to help you and your veterinarian make decisions on vaccine schedule, whether your dog is adequately protected from distemper, titre testing, and booster needs can be found in the Resources below.

Risk Prevention

Distemper is a known risk in kennel, shelter and large dog group settings due to increased risk of exposure, high levels of dog-to-dog contact, and uncertain protective vaccine status of other dogs or puppies. Socialization of puppies with other puppies (or adult dogs who have not been properly vaccinated) is not advised - unless vaccination status of all involved dogs is assured or it is part of a well-organized program with careful attention to other preventive measures, such as appropriate environmental cleaning and disinfection and immediate removal of dogs with any signs of illness.

Infection Control

The virus can only survive for a short time (no more than a few days) outside of the dog. The virus is readily destroyed in the environment by cleaning following by application of a household disinfectant. See the Resources below for a list of disinfectants effective against CDV – note it is an “enveloped virus.”

Outbreak management

Dogs suspected or known to have distemper should immediately be isolated to prevent risk of infection to other dogs. It is recommended to immediately contact someone with experience in veterinary infectious disease risk assessment and outbreak management when distemper is suspected, so that CDV spread can be contained, particularly with larger dog group events and facilities that house groups of dogs together (kennels, etc).

Additional Resources:

[Infectious Disease in Dogs in Group Settings \(includes information on vaccines and disinfectants\)](#)

[Worms and Germs Blog](#)

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