

Canine Distemper Virus

ABOUT THE DIAGNOSIS

Distemper is a contagious virus that causes life-threatening disease, mostly affecting members of the canine family (e.g., dogs, wolves, coyotes, foxes), but other animals including raccoons and marine mammals can also become infected. Although distemper was once among the most common reasons for illness and death in dogs, widespread vaccination programs in pet dogs have greatly reduced the number of dogs that become ill from distemper. In developed countries, distemper is now mostly recognized in young dogs that have not completed a full series of vaccinations, and most often in pups that have come from animal shelters.

Infection causes a variety of clinical signs, depending in part on the dog's immune response (which is impacted by prior vaccination), the amount of virus causing infection, and the stage of infection. Respiratory signs such as nasal discharge and cough, and/or gastrointestinal signs such as vomiting and diarrhea, are the most common early signs of disease. Later signs are often neurologic, and include seizures, muscle twitching, and heat tilt. An additional consequence of infection can be blister-like lesions on the feet, resulting the name "hard pad disease". Infected dogs can show some or all of these signs or can shed the virus to infect other dogs without becoming sick themselves. There is no targeted therapy against the virus, making prevention crucial.

DIAGNOSIS

The diagnosis will be suspected based on history (for instance: Is the dog current on vaccinations? Has the dog been around other dogs, perhaps in a shelter?) as well as clinical signs and physical examination findings. Sometimes, classic findings make suspicion very straightforward. Other times, the disease must be distinguished from other disorders that cause similar signs. It is likely that a combination of blood tests, x-rays, and other tests will be used both to help rule out alternative or complicating infections, and to confirm the diagnosis. Confirmation is often based on either a molecular technique called polymerase chain reaction (PCR), or on identification of antibodies produced in response to infection.

TREATMENT

As mentioned, there is no targeted antiviral therapy for distemper. Treatment is aimed at controlling clinical signs (symptoms) and addressing secondary infections. Because infected dogs can spread the infection, they are best treated at home if possible, or in isolation in the hospital if they are too sick for home care. One of the significant concerns early in the course of disease is concurrent bacterial pneumonia that results from a weakened immunity. Later on, the neurologic signs are most concerning.

Dogs might need to be hospitalized during treatment. Dogs with pneumonia will require antibiotics and often oxygen supplementation.

Dogs with vomiting and diarrhea will need intravenous fluids. And dogs experiencing seizures require anticonvulsant drugs. Even with these treatments, many dogs die from distemper. In fact, about half of dogs that develop neurologic signs will die of the disease. Others that survive might be left with permanent damage.

Prevention

Luckily, there are very effective vaccines to help prevent distemper. All puppies should be vaccinated against distemper beginning at 6 to 8 weeks of age, repeating the vaccine every 2-3 weeks until the pup is at least 16 weeks of age. The vaccine should be boosted 1 year later and then again either every year, or every third year, for life. If a dog is acquired as an adult with an unknown vaccination history, at least 2 vaccines given 3 weeks apart should be administered as soon as possible. Usually, distemper vaccines are given in the same shot as vaccines for other important diseases such as parvovirus. It is important to realize that puppies can still become infected with distemper if they are exposed to the virus before they have developed peak immunity, something that happens only after the entire puppy series of vaccinations has been completed. It is best to avoid exposing young pups to unvaccinated dogs or areas frequented by wildlife until after they have completed the entire series of vaccines.

If your dog has been diagnosed with distemper, you should make every effort to keep him or her isolated from other dogs for at least several weeks after recovery. If you have other dogs, make sure that they are up-to-date on distemper vaccinations. In your home, clean and disinfect bedding or other surfaces your dog has come in contact with prior to or during the illness.

Dogs

- Always have new pets, especially puppies, examined by a veterinarian to establish a preventative care vaccination plan that fits your lifestyle.
- Consult with your veterinarian prior to traveling with your pet or significantly changing the outdoor environment for your pet, especially if there is concern for increased contact with wildlife.

DON'Ts

- Assume that a recently acquired pet has had the appropriate vaccines.
- Take unvaccinated puppies into public spaces like pet stores, training facilities, dog parks, or other areas that might expose your pet to distemper virus. This includes puppies that are not fully vaccinated.

WHEN TO CALL YOUR VETERINARIAN

- When first acquiring a new pet
- If your pet displays any of the clinical signs noted below.

SIGNS TO WATCH FOR

If your pet has large amounts of clear, yellow or green nasal discharge accompanied by eye discharge, decrease in appetite or activity level accompanied by vomiting or diarrhea, please consult with your veterinarian. Any time your patient has a seizure or neurologic event, evaluation by a veterinarian is recommended.

Other information that may be useful: Related Client Education Sheet:

- [Canine Infectious Respiratory Disease Complex \(Kennel Cough\)](#)



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