



## **CANINE PARVOVIRUS INFECTION**

### ***What is Canine Parvo?***

Canine parvovirus (CPV) infection is a relatively new disease that struck the canine population in 1978. Because of the severity of the disease and its rapid spread through the canine population, CPV has aroused a great deal of public interest. The virus that causes it is very similar to feline distemper, and the two diseases are almost identical. Therefore, it has been speculated that the canine virus is a mutation of the feline virus. However, that has never been proven.

### ***How does a dog get it?***

The causative agent of CPV disease, as the name infers, is a virus. The main source of the virus is the feces of infected dogs. The stool of an infected dog can have a high concentration of viral particles. Susceptible animals become infected by ingesting the virus. Subsequently, the virus is carried to the intestine where it invades the intestinal wall and causes inflammation.

Unlike most other viruses, CPV is stable in the environment and is resistant to the effects of heat, detergents, and alcohol. CPV has been recovered from dog feces even after three months at room temperature. Due to its stability, the virus is easily transmitted via the hair or feet of infected dogs, contaminated shoes, clothes, and other objects. Direct contact between dogs is not required to spread the virus. Dogs that become infected with the virus and show clinical signs will usually become ill within 7-10 days of the initial infection.

### ***How does this disease affect the dog?***

The clinical manifestations of CPV disease are somewhat variable, but generally take the form of severe vomiting and diarrhea. The diarrhea may or may not contain blood. Additionally, affected dogs often exhibit a lack of appetite, depression, and fever. It is important to note that many dogs may not show every clinical sign, but vomiting and diarrhea are the most common signs; vomiting usually begins first. Parvo may affect dogs of all ages, but is most common in dogs less than one year of age. Young puppies less than five months of age are often the most severely affected and the most difficult to treat.

### ***How is it diagnosed?***

The clinical signs of CPV infection can mimic other diseases causing vomiting and diarrhea; consequently, the diagnosis of CPV is often a challenge for the veterinarian. The positive confirmation of CPV infection requires the demonstration of the virus in the stool or the detection of anti-CPV antibodies in the blood serum. Occasionally, a dog will have parvovirus but test negative for virus in the stool; fortunately, this is not a common occurrence.

A tentative diagnosis is often based on the presence of a reduced white blood cell count (leukopenia). If further confirmation is needed, stool or blood can be submitted to a veterinary laboratory for the other tests. The absence of a leukopenia does not always mean that the dog cannot have CPV infection. Some dogs that become clinically ill may not necessarily be leukopenic.

### ***Can it be treated successfully?***

There is no treatment to kill the virus once it infects the dog. However, the virus does not directly cause death; rather, it causes loss of the lining of the intestinal tract. This results in severe dehydration, electrolyte (sodium and potassium) imbalances, and infection in the bloodstream (septicemia). When the bacteria that normally live in the intestinal tract are able to get into the blood stream, it becomes more likely that the animal will die.

The first step in treatment is to correct dehydration and electrolyte imbalances. This requires the administration of intravenous fluids containing electrolytes. Antibiotics and anti-inflammatory drugs are given to prevent or control septicemia. Antispasmodic drugs are used to inhibit the diarrhea and vomiting that perpetuate the problems.

***What is the survival rate?***

Most dogs with CPV infection recover if aggressive treatment is used and if therapy is begun before severe septicemia and dehydration occur. For reasons not fully understood, some breeds, notably the Rottweiler, have a much higher fatality rate than other breeds.

***Can it be prevented?***

The best method of protecting your dog against CPV infection is proper vaccination. Puppies receive a parvo vaccination as part of their multiple-agent vaccine given at 8, 12, and 16 weeks of age. In some situations, veterinarians will give vaccine on two week intervals and an additional booster at 18 to 20 weeks of age. After the puppy series of vaccinations, all dogs should be boosted at least once a year. Dogs in high exposure situations (i.e., kennels, dog shows, field trials, etc.) may be better protected with a booster every six months. Pregnant bitches should be boosted within two weeks of whelping in order to transfer protective antibodies to the puppies. The final decision about a proper vaccination schedule should be made by your veterinarian.

***Is there a way to kill the virus in the environment?***

The stability of the CPV in the environment makes it important to properly disinfect contaminated areas. This is best accomplished by cleaning food bowls, water bowls, and other contaminated items with a solution of one-half cup of chlorine bleach in a gallon of water (33 ml in 1 liter of water). It is important that chlorine bleach be used because most "virucidal" disinfectants will not kill the canine parvovirus.

***Does parvovirus pose a health risk for me? How about for my cats?***

It is important to note that at the present time, there is no evidence to indicate that CPV is transmissible to cats or humans.