

CANINE PARVOVIRUS TYPE 2 (CPV-2) IS A HIGHLY CONTAGIOUS VIRUS

that attacks white blood cells and the gastrointestinal tract of puppies, dogs, and wild canids (e.g. foxes, wolves, coyotes). It also can damage the heart muscle in very young and unborn puppies. It was first identified in 1978 and is seen worldwide.

There are several variants of CPV-2 (CPV-2a, CPV-2b, CPV-2c) based on analysis of the genetics of the virus, but they produce similar signs in animals. CPV-2b is the most common variant in the US. CPV-2c was first confirmed in the U.S. in 2006, and is the second most common variant.

HOW IS PARVOVIRUS SPREAD?

Canine parvovirus is highly contagious and is spread by direct dog-to-dog contact and contact with contaminated feces (stool), environments or people. The virus can also contaminate kennel surfaces, food and water bowls, collars and leashes, and the hands and clothing of people who handle infected dogs. It is resistant to heat, cold, humidity, and drying, and can survive in the environment for long periods of time. Even trace amounts of feces from an infected dog may harbor the virus and infect other dogs that come into the infected environment. The virus is readily transmitted from place to place on the hair or feet of dogs or via contaminated cages, shoes, or other objects.

WHAT DOGS ARE AT RISK?

All dogs are at risk, but puppies less than four months old and dogs that have not been adequately vaccinated against canine parvovirus are at increased risk of becoming infected and ill.

WHAT ARE THE SIGNS OF PARVOVIRUS INFECTION?

Dogs infected with the CPV-2 virus that are ill are often said to have "parvo." Signs of CPV-2 infection include:

- Lethargy
- Loss of appetite
- Abdominal pain and bloating
- Fever or low body temperature (hypothermia)
- Vomiting
- Severe, often bloody, diarrhea

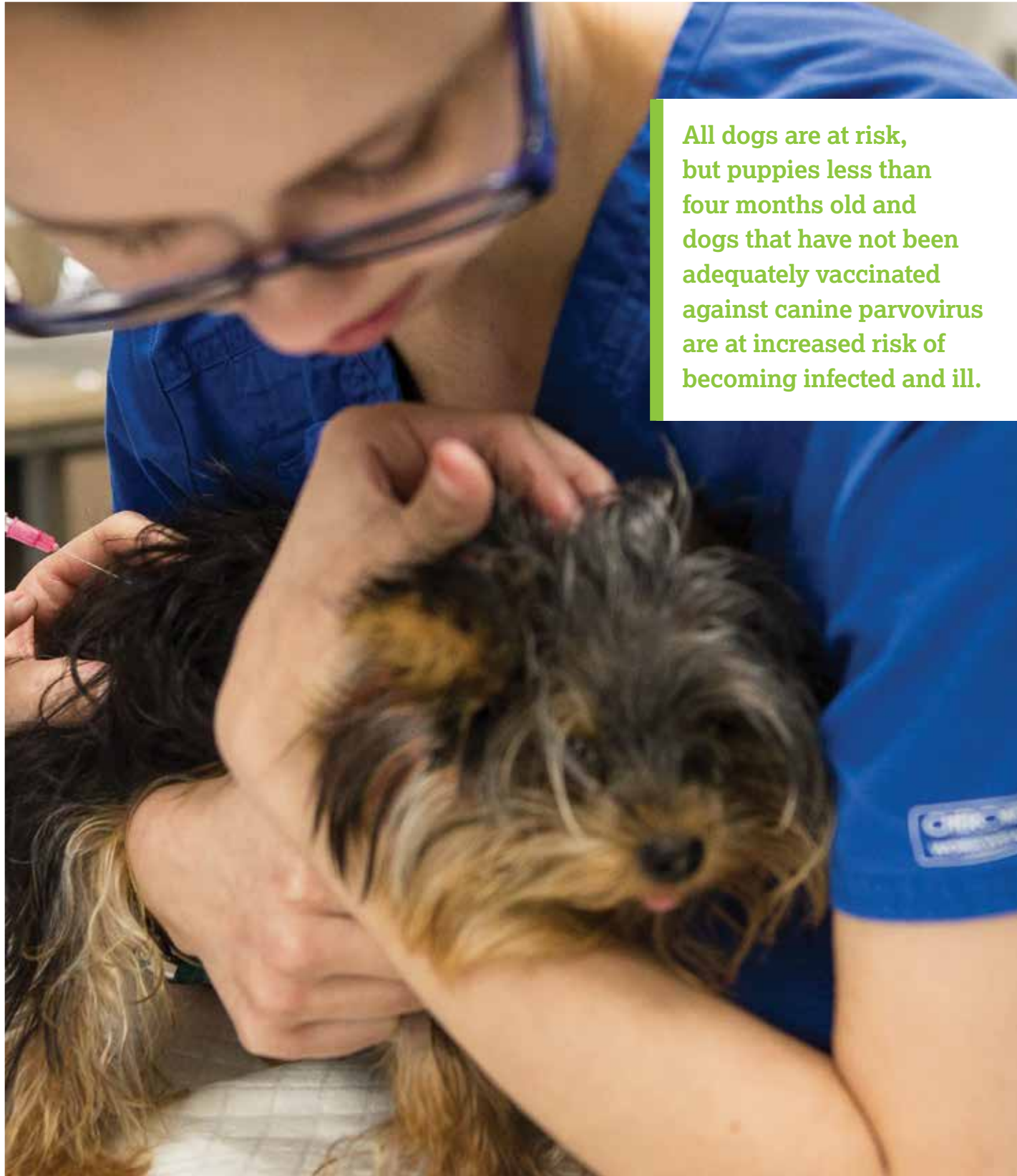
Persistent vomiting and diarrhea can cause rapid dehydration, and damage to the intestines and immune system can cause septic shock. Most deaths from parvovirus occur within 48 to 72 hours following the onset of clinical signs. If your puppy or dog shows any of these signs, you should contact your veterinarian immediately.

HOW IS CANINE PARVOVIRUS DIAGNOSED AND TREATED?

CPV-2 infection is often suspected based on the dog's history, physical examination, and laboratory tests. Fecal testing can confirm the diagnosis.

No specific drug is available that will kill the virus in infected dogs, and treatment is intended to support the dog's body systems until the dog's immune system can fight off the viral infection. Treatment should be started immediately and consists primarily of intensive care efforts to combat dehydration by replacing electrolyte, protein and fluid losses, controlling vomiting and diarrhea, and preventing secondary infections. Sick dogs should be kept warm and receive good nursing care. When a dog develops parvo, treatment can be very expensive, and the dog may die despite aggressive treatment. Early recognition and aggressive treatment are very important in successful outcomes. With proper treatment, survival rates can approach 90%.

Since CPV-2 is highly contagious, isolation of infected dogs is necessary to minimize spread of infection. Proper cleaning and disinfection of contaminated kennels and other areas where infected dogs are (or have been) housed is essential to control the spread of parvovirus. The virus is not easily killed, so consult your veterinarian for specific guidance on cleaning and disinfecting agents.



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HOW IS CANINE PARVOVIRUS PREVENTED?

Vaccination and good hygiene are critical components of prevention.

Young puppies are very susceptible to infection, particularly because the natural immunity provided in their mothers' milk may wear off before the puppies' own immune systems are mature enough to fight off infection. If a puppy is exposed to canine parvovirus during this gap in protection, it may become ill. An additional concern is that immunity provided by a mother's milk may interfere with an effective response to vaccination. This means even vaccinated puppies may occasionally be infected by parvovirus and develop disease. To reduce gaps in protection and provide the best protection against parvovirus during the first few months of life, a series of puppy vaccinations are administered. Puppies should receive a dose of canine parvovirus vaccine between 14 and 16 weeks of age, regardless of how many doses they received earlier, to develop adequate protection.

To protect their adult dogs, pet owners should be sure that their dog's parvovirus vaccination is up-to-date. There are titers available that measure the dog's level of antibodies against the canine parvovirus, but the antibody level may not directly translate to protection if the dog is exposed to the virus. Ask your veterinarian about a recommended prevention program for your dog.

Until a puppy has received its complete series of vaccinations, pet owners should use caution when bringing their pet to places where young puppies congregate (e.g. pet shops, parks, puppy classes, obedience classes, doggy daycare, kennels, and grooming establishments). Reputable establishments and training programs reduce exposure risk by requiring vaccinations,

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health examinations, good hygiene, and isolation of ill puppies and dogs. Contact with known infected dogs and their premises should always be avoided.

In spite of proper vaccination, a small percentage of dogs do not develop protective immunity and remain susceptible to infection.

Finally, do not let your puppy or adult dog to come into contact with the fecal waste of other dogs while walking or playing outdoors. Prompt and proper disposal of waste material is always advisable as a way to limit spread of canine parvovirus infection as well as other diseases that can infect humans and animals.

Dogs with vomiting or diarrhea or other dogs which have been exposed to ill dogs should not be taken to kennels, show grounds, dog parks, or other areas where they will come into contact with other dogs. Similarly, unvaccinated dogs should not be exposed to ill dogs or those with unknown vaccination histories. People who are in contact with sick or exposed dogs should avoid handling of other dogs or at least wash their hands and change their clothes before doing so.



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