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### **Parvovirus**

In 1980 there was an outbreak of vomiting and diarrhea in dogs of epidemic proportions. Many dogs and puppies died. It proved to be the beginning of a relatively new disease in dogs - Parvo.

Parvo is a virus that attacks the cells lining the stomach and small intestine. It causes those cells to die and fall off. This leads to severe, bloody diarrhea and nausea. The typical parvo case is seen during hot weather in puppies less than one year of age. There is a sudden change from a normal, bouncy puppy to one that is just lying around. The pup becomes disinterested in food and within a few hours may be vomiting. If the pup does try to drink, the water is usually brought right back up. Within 12 - 24 hours the pup starts to run a fever, usually of 103.5 degrees or more. The vomiting may last from 2- 4 days, and the diarrhea may start at any time during this period. Even if the diarrhea isn't seen, it may be present in the intestines, even if the diarrhea isn't seen, it may be present in the intestines, and because of the virus, the intestines have quit moving their contents along to the outside. A large amount of fluid can be retained in the intestines that isn't available to the pup's body, greatly contributing to the dehydration. Parvo puppies quickly become dehydrated due to the combination of inability to drink and hold fluids down, vomiting even on an empty stomach, a high fever, and diarrhea.

In addition to dehydration, the virus also suppresses the immune system by causing a low white blood cell count. White blood cells are partly responsible for fighting infection. Because of all the dying cells, the lining of the intestine is left wide open to attack by the normal intestinal bacteria. These bacteria now have a direct route to the blood stream. With a low white blood cell count, the pup is left unable to fight this secondary infection.

The veterinarian may diagnose the disease by the clinical signs of vomiting, bloody diarrhea and fever, or she may recommend some laboratory tests. In a puppy, a low white blood count in the presence of other signs suggests parvo as a cause, especially in a puppy that has had no vaccinations. There is also a test that can be done on the stool, but while a positive test indicates that there is an infection, a negative test does not completely rule out parvo as a possibility.

Since there are currently no drugs to kill viruses, therapy is largely supportive. Intravenous fluids are often necessary to correct dehydration, and replace the fluid being lost by the diarrhea and vomiting. The puppy doesn't have to take anything orally, which helps reduce the vomiting. Drugs to control vomiting are used if the pup continues to vomit on an empty stomach. Broad spectrum antibiotics are used to treat the secondary bacterial infection that can result from the impaired intestinal lining. Glucose or sugar is added to the intravenous fluids to help provide the pup with nutrition until he or she is eating without vomiting. With this kind of intensive care, most puppies are able to fight the disease and recover. Some breeds such as Rottweilers, Dobermans, Pitbulls, Labradors and mixes of these breeds seem to be more likely to get parvo and are more likely to die even with the best of therapy. Some pups just die suddenly with almost no clinical signs.

### **How do dogs get parvo?**

The virus survives well in hot, humid weather. It is passed in large numbers in the stool of the recovered dog for at least two weeks. Stool with virus in it can be tracked into the yard by birds, cats, and stray dogs that are just passing through.

Fortunately, there is an effective vaccine available against parvo. Female dogs should be vaccinated before they are bred so they can pass immunity to the pups in the milk. Puppies should get their first vaccination at six to eight weeks of age. By six weeks of age, the mother's immunity is fading. However, the pup's immune system is not mature at this age so more than one vaccination is necessary to stimulate a protective immune response at the earliest possible time. For this reason, most veterinarians recommend booster vaccinations every three to four weeks until the pup is four to five months old.