

## Kennel Cough

### *Canine infectious tracheobronchitis*

#### **Affected Animals:**

Dogs.

#### **Overview:**

Many owners are familiar with the harsh, dry, "goose honking" sound associated with kennel cough. Infectious tracheobronchitis, or kennel cough, is a term that is used to describe a common, very contagious respiratory disease of dogs in which there is inflammation of the upper respiratory passages, and occasionally the lower airways such as the lungs. Viruses, bacteria, or a combination of the two can cause kennel cough.

Despite the loud, frequent coughing, kennel cough will often go away on its own if the dog's immune system is healthy and strong. However, in severely affected puppies and debilitated older animals, kennel cough can be life threatening if it goes untreated. Pneumonia can be a complication of the disease. Fortunately, vaccines are available that will help protect the animal from this disease.

#### **Clinical Signs:**

Clinical signs include a persistent, harsh, dry cough, with some gagging and retching that is made worse by exercise, excitement, or pressure on the neck by a collar. More severe infection can lead to a fever, anorexia, nasal discharge, depression, lethargy, dyspnea, and a moist, productive cough. Some dogs develop pneumonia and consolidation of the lung lobes.

#### **Symptoms:**

Dogs with kennel cough are generally healthy, but they will have a persistent cough that is made worse by exercise, excitement, or pressure on the neck by a collar. Common symptoms include a harsh, dry cough with some gagging and retching. More severe infection can lead to a fever, loss of appetite, a runny nose, depression, listlessness, difficulty breathing, and a phlegm-producing cough. Some dogs with severe cases will develop pneumonia. These animals are very sick and need medical attention or they can die very quickly.

#### **Description:**

Caused by both viruses such as canine parainfluenza or canine adenovirus 2, and bacteria such as *Bordetella bronchiseptica* or *Mycoplasma*, kennel cough is a very contagious respiratory disease that results in inflammation of the larynx,

trachea or windpipe, bronchi, and, in severe cases, the lower airways such as the lungs.

Despite the loud, hard, persistent coughing, the inflammation is often mild. When a healthy dog gets kennel cough, its immune system is usually strong enough to kill off the disease without much medical intervention. However, among puppies and debilitated older animals, kennel cough can lead to severe problems, such as secondary bacterial infections and pneumonia.

In rare cases, there is a chance that a child or an adult with a weak immune system could acquire *Bordetella bronchiseptica* from an infected dog that is secreting the bacteria. This condition has been referred to as human bordetellosis.

#### **Diagnosis:**

Diagnosis is based on clinical signs, the dog's vaccination status, and an assessment of whether the dog has had contact with other potentially infected animals through areas where groups of dogs are housed, such as boarding facilities, obedience training classes, and dog shows. Pressing or gently palpating the windpipe of a dog with kennel cough will usually produce a harsh, dry, "goose honking" cough. Dogs who have a more severe infection may need to have their blood drawn for a complete blood count, or CBC, so that the veterinarian can look for any changes in the red blood cells, white blood cells, or platelets. Many times, the white blood cell numbers will be higher than normal if there is an infection. If pneumonia is suspected chest x-rays will be able to show any signs of lung disease.

#### **Prognosis:**

The prognosis for mild kennel cough is excellent; symptoms will usually disappear within two weeks. If the dog develops severe kennel cough and pneumonia results, the prospect of a full recovery is less certain; in these cases, symptoms can continue for up to seven weeks and severe illness or possibly even death may result.

#### **Transmission or Cause:**

Kennel cough, a highly contagious disease, is passed on when a dog with the illness coughs, sneezes, or expels any saliva or other respiratory secretions into the air. Dogs that are housed together in kennels or groups typically perpetuate the spread of the disease. Affected animals that are coughing should be kept in isolation.

#### **Treatment:**

The examining veterinarian will determine the best treatment for the dog, since many medications are available. Most often, however, kennel cough can be treated by antibiotics, which destroy any bacteria that are causing infections in the respiratory system. An antibiotic will not kill a virus, but it will kill the bacterial infections that may occur alone or secondary to the virus. Although not

recommended for dogs that have a productive cough, cough suppressants are often very beneficial to dogs that have a persistent, dry, hacking cough and are not trying to cough up mucus and fluid. In addition, vaporizers can promote healing by keeping the dog's respiratory tissues moist. Dogs with kennel cough should drink plenty of water to help prevent dehydration. Restriction of exercise will help decrease the irritation of the airways.

**Prevention:**

A vaccine is available that helps the dog's body develop immunity to the different viruses and bacteria that commonly cause kennel cough. There is an intranasal vaccine that provides excellent local protection against the disease in the nose, mouth, and throat. This vaccine needs to be given at least three days before a dog is housed in an animal group facility, and should be repeated in dogs at risk every six to 10 months. In addition, another vaccine, given as an injection under the dog's skin, can be used as a yearly booster. Proper nutrition and routine deworming also will help keep the animal healthy so its immune system is strong enough to fight off disease. To decrease the spread of the disease, kennel personnel should ensure that dogs with a persistent cough are kept in isolation.