



# Dutch Hill Veterinary Clinic

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## Canine Infectious Tracheobronchitis –Kennel Cough

**Infectious tracheobronchitis (ITB)**, also known as the kennel cough, is a respiratory syndrome of dogs and usually appears to be contagious among dogs housed in groups.

**Etiologic agent (cause)** of ITB is multiple and sometimes complex-viruses and bacteria can be involved .

Infectious agents include viruses (e.g. canine adenovirus-2 and canine parainfluenza) and bacteria (e.g. Bordetella, Mycoplasma). Other bacteria that might be considered secondary invaders include Pseudomonas, E. coli, Klebsiella, Pasteurella, and Streptococcus.

Viruses, such as canine parainfluenza (CPiV) and canine adenovirus-2 (CAV-2), have been generally thought to be the initial invaders, producing inflammation of the respiratory tract which makes invasion by bacteria, such as Bordetella and Mycoplasma, possible. However studies of Bordetella virulence have shown that Bordetella organisms can attach and invade without any viral coinfection.

Clinical signs usually start 4-10 days after exposure to the infecting agent(s). Clinical signs can be mild to severe and can include coughing, usually elicited on tracheal palpation, and sometimes nasal discharge, gagging, retching, anorexia, depression, and fever.

**The infection may be cleared in 7-14 days, but the cough may persist for months due to damaged respiratory epithelium and/or persistent airway colonization**

### How long are the dogs contagious ?

Of the kennel cough agents, viral and bacterial, the one most concerning for long term shedding is Bordetella - it can be shed for several weeks to 3-4 months.

The secondary agents of bacterial pneumonia are opportunistic.

The viral agents, with the exception of CHV (which is only of serious concern in pregnancy and neonatal period) are generally shed for only a couple of weeks.

**Two clinical forms of tracheobronchitis are recognized:**

- 1.mild or uncomplicated**
- 2.severe or complicated**

1□ The mild/uncomplicated form consists of a sudden onset of coughing. The cough may have a 'honking' sound if laryngitis is involved. Fever, lethargy, and inappetence are usually not present in the uncomplicated form. The coughing may last for several weeks to several months but the range is generally a few days to 2-3 weeks. Nasal discharge and conjunctivitis are sometimes evident in cats but not in dogs.

Treatment: Mild or uncomplicated cases are often self-limiting, and may require only isolation of the dog and supportive care (cough suppressants, rest, maintenance of normal hydration, etc).

2□. The severe/complicated form occurs in puppies, immunocompromised animals and animals simultaneously afflicted with other respiratory ailments. Chronic bronchopneumonia with coughing, respiratory distress, weight loss, anorexia, fever, elevated white cell count, and sometimes even death may occur.

Treatment: Systemic antibiotics are indicated for dogs with moderate to severe upper respiratory signs, or who are systemically ill (complicated cases). Bordetella bacterium appears to be susceptible to a wide range of antibiotics, but not all these antibiotics have good penetration into bronchial secretions where these infections often reside.

### **SUPPORTIVE for complicated and uncomplicated cases**

1) Maintain hydration. In severe cases this may require hospitalization and constant fluid support for 24-48 hours.

2) In mild cases, keep exercise and activity to a minimum to reduce coughing episodes. However in severe cases (those complicated by pneumonia and systemic signs) it is important to encourage mild to moderate activity to induce coughing and facilitate secretion clearance. Avoid collars and choking leashes.

3) Use of cough suppressants in mild and uncomplicated cases may help to reduce coughing; avoid cough suppressants in complicated cases or where pneumonia is suspected. Can use Children's cough syrups dose depending on size of dog or can use the old fashioned 2/3 honey and 1/3 lemon with hot water as a cough syrup. Honey is very soothing and is anti bacterial on contact in the throat.

### **Preventive Measures:**

#### **DISINFECTION**

Sodium hypochlorite 5.6% (household bleach) is the best agent for disinfecting contaminated utensils and the premises. Dilute one part of bleach to 32 parts water making a 0.175% sodium hypochlorite solution (this is approximately 1/2 cup of bleach in 1 gallon of water).

#### **VACCINATIONS**

Vaccination is not expected to completely eliminate the risk of infection nor the development of subclinical to mild infection following exposure. Clinical disease can occur in dogs that have had a good vaccination program. For Bordetella, the vaccine strain does not protect against all Bordetella isolates.

## **Return to classes/daycare/shows/anywhere there are dogs ? :**

There can be no hard and fast rule because the canine contagious cough complex is so complex. There are a number of organisms that cause the same signs that we call "kennel cough". Some we can vaccinate against, but some we cannot (e.g. canine respiratory coronavirus, canine influenza virus, Strep, Mycoplasma, etc.).

Kennel cough can be contagious for 2-3 weeks after the cough has resolved. Most dogs are contagious before they start to cough.

Some studies show persistence for several months, so it's really impossible to say how long it's contagious. Depends on which virus, bacteria, etc.

Wait at least 10-14 days after all clinical signs have resolved, that would be a reasonable recommendation.

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