

<b>Disease Name:</b>	<b>Kennel Cough – Core Vaccine</b>	
<b>Agent:</b>	Many different agents responsible including Bordetella bronchiseptica, canine parainfluenza virus (CpiV, enveloped RNA paramyxovirus), canine adenovirus 2 (CAV-2, unenveloped DNA Virus), Strep. Zooepidemicus, etc.	
<b>Susceptible domestic species</b>	Dogs, Cats - Less common for cats to suffer clinical disease, but they may be carriers. In some cases Bordetella infection may contribute to URI or pneumonia in young kittens.	
<b>Zoonotic?</b>	Yes (albeit rare); most common in immune-compromised people or those with preexisting respiratory disease.	
<b>Clinical Signs and Symptoms</b>	<p><b>Animals</b> – Usually causes harsh cough with or without retching, without signs of systemic illness. Cases complicated by primary or secondary infection with other agents may present with cough, sneezing, nasal or ocular discharge, and systemic signs such as fever and anorexia. May progress to pneumonia in severe cases.</p> <p><b>Humans</b> – Respiratory infection is most common.</p>	
<b>Diagnostic tests:</b>	Culture or PCR of ocular, nasal or oropharyngeal swab for Bordetella. PCR for adenovirus, parainfluenza virus available from some labs. Necropsy samples are definitive.	
<b>Test sensitivity</b>	Good – improved by careful sample handling.	
<b>Test specificity</b>	Good – However, Bordetella may be isolated from healthy dogs. Specificity of culture is improved by culturing transtracheal or endotracheal wash fluid rather than oral or nasal swabs.	
<b>Test comments</b>	Diagnosis almost always made based on clinical signs, rule-out canine distemper in severe cases.	
<b>Vaccine available?</b>	Yes – for Bordetella, CpiV, and CAV-2 (3-way intranasal plus injectable modified live core vaccine [MLV] is highly recommended).	
<b>Vaccine efficacy</b>	Moderate: single intranasal dose protective within 3-5 days and lasts 12-13 months, does not completely prevent infection but reduces severity of signs. MLV IN vaccine may cause mild signs including green nasal discharge – this should not be confused with distemper.	
<b>Excreted in :</b>	Primarily ocular, nasal and oral secretions.	
<b>Mode of transmission:</b>	Highly contagious. Transmitted by aerosolized microdroplets, fomites over moderate time/distance, direct contact.	
<b>Disinfection</b>	THOROUGH cleaning followed by accelerated hydrogen peroxides (Prevail or Peroxigard Plus), or potassium peroxymonosulfate (Virkon or Trifectant) or bleach 1:32 This disinfection is needed especially for CAV-2. No way to fully decontaminate <b>unbleachable</b> materials/organic matter such as grass or dirt yards to fully inactivate.	CAV-2 probably a minor player in most cases of kennel cough.
<b>Incubation</b>	3 -10 days	
<b>Post-recovery shedding</b>	Bordetella may be shed up to 3 months. Viral agents shed < 2 weeks.	Infectious risk is greatly reduced when dogs no longer have discharge or coughing.

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<b>Carrier state?</b>	Yes, for Bordetella. Cats may have subclinical infections and transmit disease to dogs.
<b>PPE Required</b>	Gloves, gown, impermeable shoe covers
<b>Control</b>	<p>Crowding and stress = greatest risk factor, e.g. small kennels, large numbers with high contact rate, poor air quality, aerosolized cleaning agents, loud noise, lack of regular schedule, etc. Try to decrease length of stay.</p> <p style="text-align: center;">Vaccinate all dogs on intake.</p> <p style="text-align: center;">Vaccinate all dogs that have not been vaccinated in the past 14 days.</p>