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Canine Vaccines: Infectious Agents

The following paragraphs describe the many infectious agents for which vaccines are currently available. Some are considered essential for all dogs by leading researchers and immunologists, and some are recommended only if there is a risk of exposure.

Recommended for all dogs:

Distemper: Canine Distemper Virus (CDV) can cause lethargy, fever, and many symptoms related to the respiratory, gastrointestinal, and nervous systems; any body tissue may be affected. CDV can be fatal. Infection occurs by exposure of the air passages to airborne CDV particles.

Hepatitis: Canine Adenovirus usually infects the liver, causing symptoms related to that organ; it can be fatal in severe cases. Infection occurs by exposure to infected urine, feces, and body secretions.

Parvovirus: Canine Parvovirus (CPV) can cause inappetance, diarrhea, vomiting and weight loss; dehydration is a serious concern. CPV can be rapidly fatal. Infection occurs by oral exposure to infected feces, and CPV can live in the environment for extended periods.

Rabies: Rabies virus causes fatal disease in many mammals, both wild and domestic, including dogs and humans. The virus enters through a bite wound from a rabid animal, or via exposure of mucous membranes (eyes, nose, mouth) to infected blood or body secretions. The virus then spreads to the nervous system (causing symptoms like anxiety, aggression, disorientation, incoordination, paralysis, seizures, hypersalivation, difficulty swallowing) and the salivary glands (enabling transmission to bite victims). Due to the seriousness of this disease, vaccination is mandatory by law. In Oregon, bats are the primary carriers of rabies virus; there are rare reports of humans contracting rabies from airborne exposure in bat caves.

Recommended based on risk of exposure:

Bordetella: Bordetella bronchiseptica is a bacterium that colonizes the lining of the respiratory tract, often in conjuction with **Parainfluenza virus**. Symptoms may include coughing, sneezing, and nasal/eye discharge. Several types of airborne bacteria and viruses can cause these **"kennel cough"** symptoms, so your dog can still get "kennel cough" despite receiving the Bordetella vaccine. Bordetella vaccine is usually reserved for those dogs at high risk for exposure in situations like puppy class, boarding kennels, shows, day-care, grooming, and hospitalization. Intranasal vaccine carries a small risk of transient coughing, sneezing or nasal/eye discharge.

Leptospirosis: This bacterium infects many mammals, both wild and domestic, including dogs and humans. The liver and kidneys are the primary organs affected, and symptoms may include fever, lethargy, vomiting, abdominal pain, coughing, and urinary problems. It is potentially fatal. The bacterium is shed through the urine of infected animals. Dogs can become infected as easily as sniffing the ground where the bacteria lives. Several strains of Leptospirosis exist, so vaccines must be chosen to match the particular strains prevalent in your area. More severe reactions and less protection are associated with this vaccine compared to the core vaccines. Also, Leptospirosis vaccine can lessen the severity of disease but does not prevent infection, bacterial shedding, or the carrier state.

Lyme Disease: This is caused by a tick-borne bacterium, Borrelia burgdorferi, and is a risk for both dogs and humans bitten by ticks. Lyme disease can affect multiple organs in a slow and insidious progression of illness which may begin simply as vague flu-like or arthritic symptoms. Use of the vaccine has been controversial due to side effects associated with it, and the fact that prevention can be achieved in large part by the use of anti-tick products such as Frontline Plus. Tick control is also necessary to prevent other tick-borne diseases for which no vaccines are available.

Canine Influenza: Vaccination is recommended for all dogs that have have lifestyle risk factors that warrant Bordetella vaccination, including dogs that have close contact with other dogs in closed environments, such as kennels, doggie daycares, grooming facilities, dog parks, and other multi-dog settings. It is important to understand that while the vaccine has been shown to mitigate the severity of clinical signs, the vaccine does not prevent infection. Close to 100% of dogs are naive to this new virus and have no natural immunity to it. Virtually all exposed dogs will be infected. Clinical signs may be severe, and the disease is potentially fatal. All pathogens involved in Canine Infectious Respiratory

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Diseases (CIRD) complex can cause a similar clinical presentation. Coughing, sneezing, nasal discharge, eye discharge and fever. The Nobivac Canine Influenza vaccine is confirmed safe after real-world use in more than a million dogs. It has been proven to reduce the severity and spread of disease. It protects against the formation and severity of lung lesions, and significantly reduces the days and degree of viral shedding.

Generally Not Recommended

Canine Corona Virus: This virus causes only mild gastrointestinal disease, and only in puppies under 6 weeks old. Vaccination against Canine Parvovirus also protects puppies against this virus.