

# VACCINATION ISSUES OF CONCERN TO DOG OWNERS

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The rapid proliferation of vaccines and concerns for vaccine safety has resulted in critical scrutiny of vaccination guidelines by representatives from veterinary practice, veterinary organizations, vaccine manufacturers, and veterinary schools. At issue are concerns regarding which vaccines to administer and the frequency of administration required for optimum safety and protection. While these issues are debated, dog owners are left confused as to the best vaccination program for their dogs.

There is diversity of opinion not only within the veterinary profession but also among dog owners as to which vaccines should or should not be administered. This can best be resolved by considering these questions. How widespread is the infection, what age and demographic groups of dogs are at risk, and how important is the infection as a cause of illness and death? An obvious answer is that not all dogs require the administration of every licensed canine vaccine. Ideally, a vaccine protocol would be tailored to the risk of infection in the individual dog.

In an attempt to individualize immunization programs, the current trend in vaccination protocols is to divide vaccines into CORE and NON-CORE groups. CORE vaccines are those that are recommended for administration to all dogs. Recommendations for designating a particular vaccine as CORE is determined by the severity of disease, ease of transmission to other dogs, and the potential for transmission of the disease to humans. Examples include vaccines against canine distemper virus, canine parvovirus, and rabies. NON-CORE vaccines, on the other hand, are recommended for only those dogs for which a known or likely risk is anticipated or in those whose lifestyle represents a reasonable risk of exposure to the infectious agent.

The most important concern and the basis for proposed vaccination protocol changes is that of vaccine safety. For approved vaccines it can be assumed that the benefits of vaccination, when performed in accordance with published standards, far outweigh any risk of vaccine-induced illness or disease. However, reports of injection-site tumors in cats, vaccine associated autoimmune disease in dogs, and other post-vaccinal reactions have resulted in concerns over the frequency of booster vaccine administration. At issue is not only whether or not certain vaccines should be administered to all dogs but also do the CORE vaccines require annual booster administration to maintain protective immunity in adult dogs.

Since the 1960s, the annual revaccination of dogs has been established as the standard of practice by veterinary organizations. As recently as 1996, a survey of immunization practices conducted in veterinary schools throughout North America indicated that annual booster vaccination of adult dogs was routinely performed. However, more recent publications suggest that current vaccination recommendations fail to realistically address the duration of vaccine-induced immunity. The focus of these publications is that depending on the infectious agent, a protective immune response may persist for years following vaccination making routine administration of annual booster vaccines unnecessary. Despite the absence of published

duration of immunity studies, some individuals and organized groups have concluded that designated CORE vaccines need only be given to adult dogs at two to three-year intervals. While certain viral vaccines may, in fact, provide long-lived immunity, supportive information is limited. There is no data to substantiate a uniform standard for the duration of vaccine-induced immunity against any infectious canine disease except rabies.

In a commentary published in the Journal of the American Veterinary Medical Association (AVMA), April 1, 1999, the AVMA Council on Biologic and Therapeutic Agents wrote, "Definitive information that annual revaccination should be defined as over-vaccination or annual revaccination is harmful to our patients is sketchy at best. On the other hand, if revaccination at intervals longer than one year results in adequate clinical protection from disease, then annual revaccination is not optimal, and less frequent revaccination would be an appropriate goal. There is a true need for additional information on these subject." The American Kennel Club Canine Heal Foundation (AKC CHF) is currently funding research to evaluate post vaccinal canine distemper virus, canine adenovirus type 2, and canine parvovirus antibody titers as an indicator of immunity to determine when booster vaccines may be required. This study is scheduled for completion in 2002.

There is general agreement that the CORE vaccines for puppies six to eight weeks old should include distemper, adenovirus, and parvovirus vaccines. These vaccines should be administered every 3 to 4 weeks until a puppy is at least 12 weeks old. The final vaccine in the puppy series is usually administered at 14 to 16 weeks of age. An American Veterinary Medical Association published brochure currently recommends a revaccination interval of 12 months for all vaccines except rabies. The age at which the initial and subsequent rabies vaccines are administered is mandated by local public health laws.

Administration of vaccines that are considered to be NON-CORE should differ based on the risk assessment of the individual dog. Risk assessment should take into consideration information about the dog, it's environment, and the infectious agent. Canine *Bordetella*, parainfluenza, *Leptospira*, coronavirus, *Giardia*, and *Borrelia* (Lyme) vaccines are listed here as examples of NON-CORE vaccines, but some of these may afford essential protection for dogs that are at risk. In as much as the vaccines in this group may not provide protective immunity for 12 months, risk assessment may dictate that selected vaccines be administered at intervals more often than once a year. Vaccines against infections for which a dog is not "at risk" should be excluded from the vaccination protocol. The dog owner should rely on their local veterinarian as the principal resource to develop a vaccination protocol that is best for their dog.