

VInfo

VACCINATION

Vaccination is the cornerstone of the control of infectious diseases in our animal populations. Immunisation of the individual animal protects that animal from infection and good herd immunity will protect the whole population against disease outbreaks. Over the last decade there have been numerous reviews of vaccination protocols to establish the use of the best practices in protecting pets against infection.

Vaccination reviews have been published by the American Animal Hospital Association (AAHA), the American

Association of Feline Practitioners and most importantly by the World Small Animal Veterinary Association (WSAVA). The WSAVA guidelines were first published in 2007 and revised in 2010.

Core Vaccines

The WSAVA guidelines promote the use of core vaccines and provide a thorough and thoughtful approach to vaccination. Core vaccines are those that should be given to all animals. For dogs these are Canine Distemper (CDV), Infectious Canine Hepatitis (CAV-1) and Canine Parvovirus (CPV-2). For cats these are Feline Panleukopenia, Feline Herpesvirus and Feline Calicivirus.

Non-core vaccines should only be administered to animals facing a significant disease threat. These can include Parainfluenza virus and Bordetella vaccinations for animals facing a Kennel Cough

threat or Leptospira and Borrelia vaccines for those animals at significant risk of infection.

Not recommended vaccines include Canine Coronavirus as there is no proven benefit for immunisation. In cats the WSAVA considers the FIV and FIP vaccines in the “not recommended” category.

Duration of Immunity

Core vaccinations with modified live virus (MLV) vaccinations provide up to 9 years of protection and probably lifelong immunity. This is based on challenge and serological studies. Most commercial vaccines now indicate a minimum duration of action of 3-4 years. An interesting fact is that the use of these vaccines for annual revaccination is an extra-label use of the vaccine and should be performed only with the owner’s informed consent.

The duration of immunity for the non-core vaccines and especially the killed bacterin vaccines such as Bordetella bronchiseptica and Leptospira may be as short as a few months and animals at risk of these infections may need more frequent boosting.

Serological Screening to Monitor Immunity

Antibody tests are useful for monitoring immunity to CDV and CPV-2 in particular, especially after the puppy vaccinations and to assess the immune status of adult dogs with an unknown vaccination history. A positive titre indicates the presence of antibodies and therefore protection. The exact titre level is probably not important and any positive antibody titre indicates the animal has mounted a protective immune response.

The WSAVA recommends that puppies be checked post-vaccination to ensure they have mounted an effective immune response and are protected. A puppy with a good immune response to the vaccinations probably has life long protection.

Maternal Immunity

Maternal immunity transferred from the mother to the pup is considered the most common

reason for vaccination failure. Each puppy acquires a different level of maternal immunity and these antibodies will interfere with vaccinations at different times. Some pups receive very little protection and others may have interfering antibodies until 12 weeks of age. No vaccines are proven to be effective in the face of maternal immunity. Therefore the WSAVA recommends three puppy vaccinations to ensure that all bases are covered. The last dose is given between 14 and 16 weeks.

Non-responders

A certain population of animals will never mount a protective immune response to the vaccines. This group will remain susceptible to infection despite numerous vaccinations using different products and vaccination times. This accounts for some breeds such as Rottweilers being prone to severe Parvovirus infections despite apparently appropriate vaccination.

Early socialisation One problem with the late finish of 14-16 weeks is that puppies may be deprived of time spent socialising. One way of checking that the younger puppies are safe to encounter the wider environment is to check their antibody levels. Animals older

than 12 weeks with a positive antibody titre should be immune and protected.

More vaccination not less

Veterinarians should be encouraged to vaccinate more animals to improve the herd immunity of the local pet population. This is best achieved by making sure all puppies are thoroughly vaccinated with an effective protocol and their antibody levels checked post-vaccination to verify adequate seroconversion. The practice of annually vaccinating already immunised animals achieves very little and is actively discouraged.

Reference:

<http://www.wsava.org/PDF/Misc/VaccinationGuidelines2010.pdf>