Fact sheet

Vaccination protocols and safety

For a long time all new puppies and kittens were given a standard vaccination that protected them from a number of infectious diseases. Recently a number of new vaccines have been developed and pet owners and vets have begun to question the value of routine annual vaccination for adult pets particularly in the light of recent scares about adverse reactions to MMR vaccination in children. At the same time concerns were raised about potential 'over vaccination' of pets and this has led to development of the concept of tailored vaccination protocols.

If your pet is not likely to be exposed to a disease there is little point in vaccinating them against it. Your vet will be able to advise you on the most appropriate choice of vaccine for your pet weighing up the benefits of protection against any risk associated with the vaccine.

Vaccination protocols

An optimal vaccination programme:

- Maximises the number of animals within the population that receive vaccination
- Ensures that only animals that have a realistic risk of contracting disease are vaccinated
- Minimises the total number of vaccinations each animal receives in a lifetime

There is minimal benefit to be derived from vaccinating an individual with an antigen for which likelihood of exposure is low and where clinical disease is, in any case, mild.

The two major infectious diseases in cats are feline enteritis (parvovirus) and cat flu (a syndrome caused by multiple agents including herpes and calici viruses). Multivalent vaccines providing protection against parvo, herpes and calici viruses are commonly used. Kittens require an initial dose of multivalent vaccine around 8 weeks of age and a second dose approximately 3-5 weeks later. At present annual revaccination is recommended to maintain protection against both of these diseases. Both herpes virus and calicivirus can induce a carrier status in infected animals resulting in chronic signs of disease.

Vaccination of carrier animals may help to alleviate some of the clinical signs but will not eliminate the carrier status. There may therefore be an argument for vaccinating cats already infected with the disease but it must be borne in mind that, despite vaccination, these individuals continue to pose a risk to other uninfected cats with which they have contact.

What are non-core vaccines?

"Core" vaccines are those that should be given routinely to most cats because of the highly infectious, widespread distribution and potential severity of the disease. "Non-core" vaccines are those for diseases against which, not every animal needs to be protected. The decision to use a "non-core" vaccine should be based on assessment of individual lifestyle and risk.

There are many more non-core vaccinations available for cats than dogs and the risk benefit analysis for the use of these in any individual should be carefully assessed.

Feline leukaemia virus is a severe and invariably fatal disease. However, the vaccines available do not demonstrate 100% protection of individuals and concerns have been raised about potential connections between feline leukaemia vaccination and injection site sarcomas in America. Before vaccinating an individual it is essential to assess the potential risk to this individual from the disease. Feline leukaemia is commonly spread by close contact with an infected cat (often during social interaction, eg grooming). An isolated indoor cat, or one living with uninfected companions, is not at risk of contracting disease and therefore vaccination is unnecessary. There is no evidence that vaccination of infected individuals protects against severity of clinical signs and therefore vaccination of already infected animals is also a waste of time. In all cases discussion with the owner and appropriate testing should be carried out before vaccination is undertaken.

Feline bordetellosis causes upper respiratory tract disease and is more prevalent in boarding catteries than the general cat population. Like kennel cough vaccination in dogs, it is recommended that cats be vaccinated to protect against *Bordetella bronchiseptica* prior to entering boarding facilities.

Vaccinations against diseases such as chlamydia, and ringworm may also be considered in cats. The risk

of development of severe forms of these diseases is low in most cats. However special considerations may need to be taken in cats suffering from concurrent immunosuppression, eg FIV. These diseases are of primary concern in catteries and breeding colonies where large numbers of cats are in close contact. Specially tailored vaccination protocols must be designed for the owners of cats living in colonies. These protocols must take into account the nature of the colony, ie open (admitting new cats) or closed; presence of other disease within the colony (FeLV/FIV); and likely risk of contact with disease against which vaccination is being considered.

An FIV vaccine is in use in the US and may soon be available in the UK.

In the UK vaccination against rabies in both dogs and cats is only carried out under the Pet Travel Scheme (PETs).

Are vaccines safe?

Vaccination is an essential part of a healthcare programme for domestic pets. The ideal strategy maximizes the beneficial effects of vaccination whilst minimising risks to the patient. This means ensuring that not only does each individual receive only the most appropriate vaccinations, but that these vaccines are effective. The effectiveness of vaccines can be reduced by poor storage and inappropriate administration techniques but is also determined by the health of the animal being vaccinated. For this reason your vet will perform a full clinical examination before vaccinating your pet so that signs of disease are detected and appropriate action can be taken.

Vaccination of an individual already incubating infectious disease is unlikely to be effective. If your pet is suffering from another condition vaccination may be even more important. Animals with chronic, controlled diseases such as diabetes mellitus should receive regular vaccination. The ability of an animal to mount an adequate response to vaccination can also be affected by poor nutrition, concurrent drug therapy, eg immunosuppressive drugs, and 'stress'.

Remember that in any population; even with the strictest attention to correct administration, a small number of individuals may fail to respond to any vaccine.

What is an adverse event?

An adverse event is defined as "any undesirable occurrence after the use of a vaccine - whether or not the product causes the event". Reactions to vaccines can be divided into 3 groups:

- **Acute** - occurring within 24-72 hours of vaccination, eg swelling of the face
- **Medium-term** - delayed immune response occurring 1-6 weeks after vaccination. These reactions may include suppression or stimulation of the immune response, eg development of joint stiffness or other diseases of the immune system
- **Chronic** - often years after initial vaccination, eg injection site tumours in cats

Can vaccination harm immunity?

There is increasing concern that the more diseases protected against by a vaccine the greater the risk of adverse reaction. Suppression of the immune system as aresult of vaccination is greater when vaccines with a number of components (multivalent) are used. Immune-mediated disease is becoming increasingly common in the domestic animal population. Whilst cause and effect is difficult to prove there is anecdotal evidence to support claims that some of these diseases may be associated with vaccination.

Can vaccination cause tumours?

Studies from America now provide evidence of an association between the use of particular vaccines and the development of certain tumours at injection sites in cats. It has been reported that the risk of injection site sarcomas increases with the number of vaccinations. It is believed that these tumours develop secondary to inflammation at injection sites and this inflammation may be worse with certain vaccines.

Why should I vaccinate my pet?

There is no doubt that vaccines have been the key factor in the control of serious infectious diseases and have played an important part in the improvement of canine and feline health. The control of infectious disease in man is a 'population issue' - the Government sets target for vaccinations in children (over 90%),

in order to achieve population immunity. The situation in veterinary medicine is different. Levels of vaccination are much lower - in many areas the percentage of pets that receive vaccination is around 50%.

Pet owners pay to have their pet protected by vaccination - not to protect the general dog or cat population. This means that vaccination policy for pets are based on the worst responders so that all vaccinated pets are continually protected. Vaccination of pets is therefore more akin to the vaccinations we have before travelling abroad to protect our families and ourselves.

Does my pet need a booster?

Protection afforded by vaccination is not necessarily life-long. The duration of immunity varies depending on the circumstances of the individual animal and the vaccine used. Long-term protection afforded by vaccinations varies according to the manufacturer and the antigens contained. The level of infection in the environment of many of the diseases against which we vaccinate is low. This means that it is unlikely that a vaccinated animal will come into contact with the wild strain virus sufficiently frequently to receive natural boosts to its immunity. Repeated vaccination is necessary to maintain adequate antibody titres in these cases.

If you want any other information on health issues concerning your cat please contact Dalehead Veterinary Group on (01729) 823538 and we will be happy to advise you.