

Summary

Vaccination plays a leading role in protecting cats from several of the most serious feline infectious diseases. These include viral and bacterial diseases which are incurable or limited treatment options. All vaccines authorised for use in the UK have met quality, safety and efficacy standards as assessed by the independent veterinary regulator. Vaccines and vaccination guidelines continue to evolve with research, development and scientific understanding. Vets, working with pet owners, can tailor vaccination plans to suit the needs of individual pets.

Introduction

Cats are susceptible to infectious diseases that can have a serious effect on their health and welfare. Many of these are viral infections, which can be life limiting or contribute to a lifetime of chronic illness. These include the viruses and bacteria responsible for cat flu and respiratory disease, feline infectious enteritis and the feline leukaemia virus. These important diseases cause a range of clinical signs in cats and kittens including eye and mouth ulceration, inflammation of the respiratory system and gut, cancer and immunosuppression, which helps opportunistic bacteria cause further bacterial infections. Unsurprisingly, these complex diseases are difficult to manage and greatly impact the welfare of cats and kittens. Vaccinating to protect cats therefore makes good sense and the benefits are clearly evident weighted against the increased risks of serious disease outbreaks where vaccines are not widely used

Vaccine development, approval and monitoring

Years of significant investment in research and development has resulted in the vaccines available to use in the UK today. Behind the scenes, veterinary scientists work hard to develop safe, effective and quality vaccines. Only the most suitable candidate vaccines make it through and are approved by independent regulators, which are the Veterinary Medicines Directorate (VMD) in UK and the European Medicines Agency (EMA) in the EU. This means considerable investment, expertise and regulatory

approval underpin all our veterinary medicines including vaccines. Animal medicine companies continue to support and invest in the safety and efficacy of their vaccines on the market through pharmacovigilance – an ongoing mechanism to continually assess products as they are used by vets. [Pharmacovigilance](#) means vets and owners can report adverse reactions, which must then be reviewed by animal medicine companies and the relevant regulatory agencies (1). Serious adverse reactions are very rare. Nevertheless, refining vaccination protocols for individual cats and kittens helps to reduce these rare events even further. Considerable resource is deployed for the ongoing monitoring of the safety and efficacy of all veterinary medicines, including vaccines, available to animals. These responsibilities are taken seriously by animal medicines companies and the continued review and input from the veterinary medicines regulatory agencies ensure that vaccines remain safe and effective into the future.

Feline Vaccines and Vaccination

Vaccines against viruses and bacteria that cause important feline diseases are available and include:

- Feline Panleucopenia/Infectious Enteritis (Feline Parvovirus, FPV)
- Feline Rhinotracheitis (Feline Herpesvirus, FHV)
- Feline Calicivirus (FCV)
- Feline Leukaemia Virus (FeLV)
- *Chlamydia felis*
- *Bordetella bronchiseptica*
- Rabies

With vaccines and vaccination schedules, it is important to remember to that 'no one size fits all'. Best practice considers cats as individuals that should be assessed to determine an appropriate vaccine schedule. Important considerations include contact with other cats. Indeed cats frequently live or come from multi-cat environments e.g. coming from shelters/breeders and staying in catteries for periods

of time. Indoor cats can be at risk from diseases that are spread through direct contact with other cats that have access to the outdoors. Age, travel plans and regional incidence of important infectious disease are also factored into vaccination decisions.

As mentioned above, an appropriate vaccination schedule should be tailored to your individual pet and their needs. However, in general, it is advised that your pet receives the kitten vaccinations and yearly booster vaccinations. Not only does the yearly booster vaccination help protect your animal against infectious diseases, the appointment also enables an owner to discuss any concerns with their veterinary surgeon and allows the vet to perform a full health examination and diagnose any issues that need to be addressed, nipping potential problems in the bud.

Vaccines can broadly be classified as 'core' or 'non-core' (2). Regardless of their circumstance, all cats need 'core' vaccines (i.e. FCV, FHV and FPV) to protect them from severe or life-threatening diseases. The 'non-core' vaccines are recommended for those cats at risk of specific infections. These risks are based on geographical location, the local environment or their lifestyle. In those situations where vaccines are required for a specific situation they are sometimes defined as "circumstantial". E.g. rabies vaccination for cats travelling in and out of the UK - often referred to as the PETS travel scheme (3). There is an opportunity for pet owners, working alongside their vet, to receive bespoke vaccination solutions, tailored to their cats' particular needs. As the characteristics of vaccines differ, the frequency of booster vaccinations to ensure continued protection will typically depend on the minimum duration of immunity that has been demonstrated for individual products. This information can be found on associated product literature (the Summary of Product Characteristics or SPC), which will inform veterinary advice.

The benefits of vaccination can extend beyond the protection of individual cats and kittens. The prevalence of disease in regional communities can also be reduced by decreasing the overall numbers of susceptible cats that are not immune. When a high proportion of cats in the community are vaccinated the protection offered is called 'herd immunity' and this limits the ability for disease outbreaks to spread. Herd immunity also helps to protect the animals which have weakened immune systems and may not be able to react to vaccinations appropriately, such as kittens, geriatric, pregnant and sick or immune-compromised cats (especially cats with chronic health conditions).

We have a legal and moral responsibility to protect the animals in our care from pain, suffering and disease (4). Responsible pet ownership includes regular veterinary health visits and ensuring preventative steps are taken to avoid the negative welfare consequences of ill health. Working with vets, owners can expect to receive tailored vaccination advice.

Titre testing

Vaccination is an individual recommendation by the vet, based on a cat's particular lifestyle and circumstances. In recent years, veterinary surgeons sometimes offer a different way of approaching vaccinations, namely serological titre testing. Titre testing tests the number of antibodies circulating in your animals' blood after being vaccinated. When your pet's immune system is still able to protect the body against some of the diseases vaccines cover, a minimal level of antibodies is detectable on a blood test. Titre testing is based on the principle that in some animals the immunity after vaccination lasts longer than expected allowing a tailored decision on whether to revaccinate.

However, titre testing also has some significant shortcomings, and importantly, titre testing only provides a snapshot picture of antibodies at the time of the test and is only available and appropriate for a limited number of diseases that animals are vaccinated against. In most cases regular vaccination will be recommended by your veterinary surgeon to maintain optimum protection against some diseases that cannot be accurately assessed in this way, such as cat flu and sometimes feline leukaemia. For cats, immunity can be predicted reliably from a blood test for feline panleucopaenia and rabies only, however for the other diseases a blood test is unlikely to prove helpful in informing the decision as to whether to vaccinate or not.

The pros and cons of titre testing should be discussed with a veterinary surgeon and together a decision can be made if it is appropriate for a particular cat.

Conclusions

- Many serious viral and bacterial diseases of cats can be controlled through vaccination.
- All vaccines on the UK market meet rigorous safety, efficacy and quality standards through independent regulatory approval.
- Serious adverse reactions to vaccines are rare and the benefits of vaccination continue to outweigh this small risk.
- Consult with your veterinary surgeon to plan the most appropriate vaccination schedule tailored for your cat.
- Vaccination appointments allow for a full general health examination to take place.

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What is NOAH? The National Office of Animal Health Ltd represents the UK animal health industry. It promotes the benefits of safe, effective, quality products and services for the health and welfare of all animals. For further information, including more briefing documents on animal medicines topics see www.noah.co.uk and follow @UKNOAH on Twitter.

(For more information on veterinary vaccines and regulation and safety of veterinary medicines see

NOAH briefing documents on Vaccination for Animal Health: An Overview, Dog Vaccination, Rabbit Vaccination, Equine Vaccination, Farm Animal Vaccination, Pharmacovigilance and Controls on Veterinary Medicines).

References:

1. VMD adverse event reporting:
www.gov.uk/report-veterinary-medicine-problem
2. European Advisory Board of Cat Diseases (ABCD) matrix vaccination guidelines 2015:
www.abcdcatsvets.org/matrix-2/
3. UK government pet travel requirements for rabies vaccination guide:
4. <https://www.gov.uk/bring-your-pet-to-uk> Animal welfare guidance and legislation:
www.legislation.gov.uk/ukpga/2006/45/contents
www.gov.uk/guidance/animal-welfare