Vaccinations in Veterinary Medicine: Dogs and Cats

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http://www.healthyhappydogs.com/VaccinationDanger

A practice that was started many years ago and that lacks scientific or verification is annual re-vaccinations. Almost without exception there is no immunologic requirement for annual revaccinations. Immunity to viruses persists for years or for the life of the animal. Successful vaccination to most bacterial pathogens produces an immunologic memory that remains for years, allowing an animal to develop a protective anamnestic (secondary) response when exposed to virulent organisms. Only the immune response to toxins requires boosters (e.g. tetanus toxin booster, in humans, is recommended once every 7-10 years). And no toxin vaccines are currently used for dogs and cats. Furthermore, revaccination with most viral vaccines fails to stimulate an anamnestic (secondary) response as a result of interference by existing antibody (similar to maternal antibody interference). The practice of annual vaccination in our opinion should be considered of questionable efficacy unless it is used as a mechanism to provide an annual physical examination or is required by law (i.e., certain states require annual revaccination for rabies).

Summary: Yearly "boosters" are unnecessary, provide no benefit if given (will not increase immunity). Thus boosters are either a legal issue (Rabies) or a manipulation issue (inducing clients to come in for examination rather than directly suggesting an examination).
The issue of initial vaccination is less clear than that of boosters. Many clinicians feel that without vaccination they would see outbreaks of disease, particularly canine parvovirus disease. This can be a difficult issue to resolve. A fundamental dilemma is that vaccination in effect leads to weakening of the gene pool, and thus the overall health of a given population. One way this occurs is by allowing individuals to live that would otherwise succumb to disease, such disease being a natural means to "cleanse" and thus strengthen that population. This naturally presents an ethical quandary these days (our understanding of native or aboriginal thinking suggests that letting weak individuals die was implicitly understood to be not only acceptable but proper).

Western society values the individual's right to be, therefore we make efforts to save all individuals. Any answer to this question naturally lies with the individual(s) involved. The second, and more compelling theory of the mechanism of interaction between a vaccine and the body suggests that vaccines "protect" against the acute disease not by preventing the disease but by changing the form of the disease to a chronic disease. 2 For example, the panleukopenia virus of cats induces an intense, rapidly progressive malfunction in the digestive tract, leading to vomiting and/or diarrhea. In adult vaccinated animals this translates into a chronic state of diarrhea and sometimes vomiting. This disease is known as inflammatory bowel disease (IBD), an autoimmune disease of the intestines. IBD has been occurring at near epidemic levels over the past several years; no other reasonable explanation has been proposed for the proliferation of cases of the disease.

Vaccinations are known to be a major trigger of other autoimmune processes in susceptible individuals, 3 so it is reasonable to suspect vaccines as a trigger for IBD. Another aspect of panleukopenia virus infection, implied by the name of the virus, is vastly lowered numbers of white blood cells and corresponding immune deficiency. Could the appearance of Feline Leukemia virus disease and later Feline Immunodeficiency virus disease be related to vaccination for panleukopenia during the previous two decades? The logicality of this theory does not allow easy dismissal of a relationship, most likely cause and effect. Both of the latter diseases produce low white blood cell counts and immunodeficiency as part of their symptom complexes.

Similar connections have been proposed between Canine Distemper virus disease and both kennel cough and Canine Parvovirus diseases as "distemper" includes a pneumonia component as well as severe diarrhea. Chronic coughing is characteristic of kennel cough; parvovirus disease affects the intestines, producing severe diarrhea and vomiting.

Additionally, the incidence of inflammatory bowel disease in dogs appears to be on the increase in the past year or two. Vaccination of dogs for Canine Parvovirus has been in effect for fifteen years, contrasted with the much longer history of parvovirus vaccination in cats (Feline Panleukopenia virus is a member of the parvovirus family). This portends a frightening future for dogs if the connection is indeed correct. Finally, connections are proposed between vaccination for Rabies and increasing numbers of fearful, aggressive animals. Behavioral problems of the extent seen today are a recent occurrence, being rare only two to three decades ago. 4 Their emergence is coincident with the practice of repeated adult vaccination, suggesting the need to examine that relationship. Aggressive behavior has been observed in dogs for several days following vaccination for rabies, even with non-infectious [killed] vaccines.5, 6

As practitioners sharing responsibility for the well being of patients, veterinarians are faced with a challenge when dealing with acute diseases. Vaccinations may prevent these acute diseases, but if the exchange is for a lifetime of chronic disease, is that a viable option? (Viable is from the French vie, meaning life, so the question is will the patient live and flourish or simply exist.)

First, remembering that booster vaccines are unnecessary, we can stop all vaccination after one year of age for virtually all diseases. (cf. below; Rabies is required by law so we need to work to change the laws so that they are in accordance with the fact rather than fear.) As repetition naturally increases the likelihood of problems, we can reduce side effects tremendously with no additional risk to the patient, simply by stopping adult boosters. Of course, there will still be some risk involved with even the initial vaccinations, but no risk of contracting the acute disease once the animal is immunized by these first vaccines. See below for duration of immunity to the various diseases for which vaccines are available. Secondly, all vaccines should be administered as single antigens. (An antigen is something that is capable of eliciting an immune response, in this case a viral or bacterial organism from which a vaccine is produced.) This means not using the polyvalent vaccines which have become so common these days. Natural exposure to diseases is usually one at a time, and the body is probably more successful at responding to only one antigen and producing immunity without adverse effects, rather than responding to a complex of antigens. Therefore, rather than giving a group of antigens together at three to four week intervals, individual components should be given using an alternating schedule with a minimum of repetition. (Cf. below)

Thirdly, only immunize for diseases which meet all of the following criteria:

- 1.The disease is serious, even life threatening.
- 2.The animal is or will be exposed to the disease.
- 3.The vaccine for the disease is known to be effective.
- 4.The vaccine for the disease is considered safe.

Let us take Feline Leukemia virus (FeLV) disease as an example. An indoor only cat will not be exposed as this requires direct, intimate, cat-to-cat contact. Many veterinarians recommend immunizing indoor cats against this disease. I feel this is unethical. This disease does not fit criteria number three or four anyway in my experience, so vaccination is

unwarranted in most if not all circumstances. Feline Infectious Peritonitis (FIP) virus disease is another disease which fits neither three or four. FIP vaccine has generally been found ineffective and has produced severe side effects. Among the side effects I have observed with both FIP and FeLV is induction of the clinical disease they were intended to prevent. In dogs, Canine Hepatitis (CH) virus is almost nonexistent (the vaccine virus to prevent CH is Adenovirus-2). Leptospirosis is extremely rare and often not the same serotype used in the vaccine 7 and the bacterin for "lepto" is very prone to side effects. Coronavirus disease was never a serious threat except to dog companions' bank accounts, the same being true for Lyme disease except possibly in very small regions. Kennel cough disease is generally not serious (criteria one), and one study showed immunization to be ineffective or even counterproductive. 8 Immunization should be limited to high risk circumstances, if at all. A similar situation exists with the feline upper respiratory diseases; most are not serious except in very young kittens who contract the disease before vaccines are typically administered. Rabies is another disease for which indoor cats and well confined dogs have no exposure, so the vaccine is clinically unnecessary although required by law.

Fourth, vaccines should NEVER be given to unhealthy animals. This is a practice that is gaining popularity among veterinarians for some strange reason, and it goes against the recommendations in all vaccine inserts as well as those of virtually all immunologists. This is malpractice in my opinion.

A bolder option is to refuse immunizations entirely, recognizing the inherent risk in administration of even one vaccine into the body, and being willing to accept the risk of not immunizing. While risk does exist if animals are unvaccinated, it can be moderated significantly by feeding better quality foods (home prepared, including fresh, raw meats) and by limiting exposure until the animals are six to eight months of age. An unvaccinated animal will be significantly less likely to suffer from allergies and many health problems. Skin allergic reactions have been associated with vaccine administration, 9 and tremendous numbers of dogs and cats have skin allergies today. Some other diseases for which links to vaccines are known or suspected include epilepsy, thyroid disorders 10 (hyper- and hypothyroidism), chronic hepatitis, renal failure, cystitis or lower urinary tract disease (particularly in cats), autoimmune hemolytic anemia, 11 neurologic diseases such as confusion and inability to be "present", asthma, and so on. In humans sudden infant death syndrome is strongly linked to DPT vaccination, 12 as are attention deficit disease/hyperactivity and autism, 13 among many others including severe brain damage. Why are vaccines worse than natural exposure? Probably the major factors are the artificial means by which exposure is created with vaccines and the repetition. With few exceptions (primarily rabies and occasionally Feline Leukemia virus or Feline Immunodeficiency virus), infectious organisms are transmitted via oral and nasal exposure, and this response begins at the oral/nasal level with recognition of a foreign material or organism, followed by initial non-specific destruction and elimination of the organism at the local site of exposure as well as within the blood stream whence an organism may not even reach the interior to cause deep illness, but may be successfully repelled at the periphery. In other cases the body would have a lag time of several hours or even days to begin mounting a response before the "invader" reaches interior organs. As a consequence, deeper pathology may be minimized or even averted. This interior organ pathology may be a direct result of the organism, or it may be an indirect result, manifested through antigen-antibody complexes or other immune system components. These components may inadvertently damage body tissues as "innocent bystanders", or may directly attack or invade tissues due to recognition problems (autoimmune diseases). The latter may happen because of similarity between organism structures and host tissues; often this involves the nucleoproteins (DNA or RNA), molecules that are important for controlling activity at a cellular level.

When a vaccine is administered, the organism is injected directly into body tissues, bypassing the local immune responses. When this happens, much of the immune system is rendered useless. The body then must compensate by increasing the activity of the balance of the system, and the defenses begin in a compromised state, with the organism already in the blood stream. Within the blood stream, the primary aspects of the immune system are antibodies, proteins which attach to the organism and assist in its destruction. Although normally only a part of the defenses, these antibodies become heavily responsible in a vaccine (injected) induced invasion, thereby initiating a hyperactive (increased) response. Additionally, the preparation of vaccines often breaks down the integral structure of the virus or bacteria, exposing internal strictures such as viral DNA or RNA (depending on the virus) to the immune system, leading to heavy antibody production against these nucleoproteins. Since nucleoproteins are relatively similar in all life forms, the host antibodies may lose the induced hyperactivity of antibody production. The result may be antibody mediated destruction of host tissue, and autoimmune disease. In a natural exposure, antibodies would be directed more at external structures, which are less similar to host tissues thus less likely to induce cross reactions. Incidentally, autoimmune diseases are occurring more frequently than ever; could this be a reason?

Aside from the above considerations, vaccines commonly contain materials other than the organism to which immunity is desired. These materials may be added as preservatives, adjuvants (materials to stimulate immune response, usually added to non-infectious [killed] vaccines), or antibiotics. Preservatives and adjuvants include such toxins and carcinogens as aluminum (alum), mercury (thimersol), and formaldehyde. Also, many foreign proteins are included if the organism was grown on foreign tissue such as chicken or duck embryos. Even more frightening, non-intended organisms are sometimes accidentally incorporated as contaminant "stowaways". In 1995 The Washington Post reported that MMR vaccine produced by Merck & Co. along with some influenza and yellow fever vaccines, contained an enzyme known as reverse transcriptase. This enzyme is associated with retroviruses such as FeLV, FIV, and HIV, and has the capability to alter genetic information, leading to serious diseases such as leukemia and other cancers. These diseases may take years to manifest, so correlation with vaccination may be impossible, masking a potentially causative relationship.

The recommended schedules (age to vaccinate) are from Dr. Schultz, with a few changes as follows: He supports the use of combination vaccines and I strongly do not. He thus recommends in cats to combine Panleukopenia (FPL), Calicivrus (FC), and Rhinotracheitis (FVR) in one schedule; I have recommended to use FVR-FC intranasal vaccine only if needed, and separately from FPL. In dogs he would combine Distemper (CD), Parvo (CPV), and Hepatitis, and possibly Corona and Parainfluenza. I would recommend CD and CPV only, and not combined.

I generally support the use of killed (non-infectious) vaccines, as I feel they have less likelihood for long term damage, but Dr. Schultz presents a strong case for the use of modified live vaccines (MLV) as repetition can be necessary with non-infectious vaccines. With MLV, one dose can have high efficacy. This primarily applies to DC and CPV as non-infectious [killed] Rabies and FP are as effective as MLV. Dr. Schultz' one dose-95% (one dose of vaccine at a given age will successfully immunize 95% of animals) suggestions are as follows.
Canine Distemper (MLV) 10-12 weeks
Canine Parvovirus (MLV) 12-14 weeks
Feline Panleukoenia (non-inf. [killed] OK) 10-12 weeks

Finally, a comment about vaccinations and choice. While the concept of 'owning' an animal is one with which I am uncomfortable, I do recognize that this is how the human-animal relationship is viewed from a legal perspective. Otherwise we certainly can be said to be guardians of our companion animals. Within this framework the choice about vaccination rests with the human who has accepted responsible guardianship. It does not rest with the veterinarian. Another trend of the past few years is coercion of guardians into procedures such as vaccination. This coercion may be blatant, such as refusal to provide services, even emergency care, unless the animal is 'current' on vaccines. Sometimes even critically ill animals are vaccinated upon admission for treatment. More subtle means include induction of fear and/or guilt by asserting (as an authority figure) that companion animals are at risk if not vaccinated yearly, and that failure to comply is evidence of lack of caring. Tactics such as this can create feelings of guilt in the guardian, leading to a fear based decision to vaccinate an animal that is not at risk. This is unethical if not outright malpractice and refusal is an acceptable response. As has been stated above, rabies vaccination is legally compulsive at one to three year intervals, so refusal is a legal risk. Fighting to change these laws, however, is appropriate.

_____Begin Footnotes _____

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