



Vaccines A Shot in the Dark?

Have you ever wondered why people get vaccinated once as children for most diseases while animals need to be revaccinated every year? Perhaps when you questioned your veterinarian you were told that an animal's immune system is different or simply, "That's the way it is." Well for all you vaccine skeptics, I have great news.

The previously accepted approach to vaccinating pets is on its way out. For years, holistically-minded veterinarians have voiced their objections to the idea of yearly vaccines. These pioneers have practiced what they preached, often going against the vaccine label recommendations and giving the shots less frequently. Although many in the veterinary profession are clinging to the outdated system, a combination of common sense and research are causing the tide to turn. To get a handle on the current controversy, let's look at the history and science behind vaccines for pets.

The practice of vaccinating pets began in the 1950's when rabies and distemper viruses were common canine invaders. At that time, tests showed that the immunity imparted by the vaccines lasted about one year. Vaccine technology has come a long way since the 1950's and today there are many vaccines available for dogs and cats. Some vaccines protect against seven or eight viruses in a single shot.

To understand the effect that all these vaccines can have on our companion animals we need to look at how the immune system works. The immune system is a complex network of organs, cells and chemicals that affect and are incorporated in every organ and system of the body. Cells of the immune system learn to recognize certain proteins, called antigens, on the surface of invading organisms. Some immune cells produce antibodies – proteins that attach to the antigen – that enter the blood stream and aid the body in its fight against the germs. Other immune cells are created to remember the antigens so the immune system can respond more quickly to future infections.

Vaccines deliver antigens into the pet's body, thereby artificially stimulating the immune system to battle specific diseases. There are three basic types of vaccines – modified-live, killed, and recombinant.

Modified-live vaccines contain live, disease-causing organisms that have been rendered unable to infect the pet. These vaccines do a great job of stimulating the immune system but carry the risk that some of the modified germs may revert back to an infectious form and therefore make the pet sick.

Killed vaccines contain organisms that have been killed. Because they are dead there is no chance that they will infect the pet. However, the immune system recognizes that the lifeless germs are not a threat and does not mount much of a response. To overcome this effect, adjuvants are added to the vaccines. Adjuvants are chemicals that cause inflammation and stimulate the immune system to respond more vigorously. Unfortunately, adjuvants have been linked to vaccine side effects such as a specific form of malignant cancer in cats as well as dangerous systemic effects in both dogs and cats.

The most recent development in vaccine technology is the recombinant vaccines. Through genetic engineering, antigen from disease-causing agents can be encoded into

harmless microbes. Because the organisms are alive they stimulate the immune system without adjuvants. At the same time, since the germs are unable to cause disease, these vaccines are safer than modified-live vaccines.

No matter what type of vaccine is used I have a number of concerns about vaccinating in general. First of all, vaccines are the only medication I am aware of that one size fits all. That's right; a half-pound Yorkie puppy gets the same dose as a one hundred fifty-pound Great Dane. Something does not seem right about that. I also heard from an industry insider that the dose of antigen in a vaccine is determined for the average size dog and then that quantity is multiplied by ten for the vaccine dose, just to be sure all the bases are covered. Now that dose for the puppy looks especially dangerous.

A major concern I have is that so many different disease antigens are injected at the same time. Our mentality of "supersizing" vaccines creates the highly artificial situation where the immune system has to respond to multiple diseases at the same time. When you add to this the common practice of vaccinating a pet whose immune system is currently fighting some sort of problem, such as an ear infection or skin allergy, it is easy to see that we could be over-stressing the immune system.

The final blow to the immune system comes when we inject these overdosed, "supersized" vaccines into our pets year after year when there is ample evidence that the "yearly" vaccines instill immunity for at least four years. How much trauma do we expect our pets' immune systems to take before they breakdown?

Speaking of broken down immune systems, have you noticed the epidemic of immune system problems our pets seem to encounter these days? Perhaps if I explain further you will see what I mean. Let's start by looking at allergies. An allergy is simply a misguided immune system in action. For example, if your dog is allergic to beef, it isn't the beef that's the problem; it's your dog's immune system reacting to an antigen that it should ignore. If you solve the problem by changing his food, your dog will soon begin reacting to the new food. By the way, inflammatory bowel disease and many chronic ear infections are related to allergies as well.

Have you noticed the devastating increase in cancer in our pets? The truth is that our pets produce at least one cancer cell every day. The reason all animals do not die of cancer is that the immune system detects and destroys these abnormal cells before they can take hold. Unfortunately, an unhealthy immune system may let a few of these cancer cells slip through. Although many other factors also affect the development of cancer, there is no doubt that a malfunctioning immune system plays a roll.

Finally, let's look at the broad category of auto-immune diseases. An auto-immune disease occurs when a pet's immune system becomes sensitized to and attacks cells of its own body. There is a long list of problems that have been linked to autoimmune disease including lupus, pemphigus, immune mediated hemolytic anemia (IHA), immune mediated thrombocytopenia (ITP), anterior cruciate ligament rupture, hypothyroidism, diabetes and certain forms of arthritis.

Could the practice of over-vaccinating be contributing to the epidemic of chronic diseases our pets face? It is an undeniable fact that IHA and ITP in dogs and vaccine sarcoma (cancer) in cats have been directly linked to vaccines.

Fortunately, science is bearing out the reality that annual vaccination for what the experts consider the "core" vaccines is not necessary. Core vaccines are those

recommended for every pet and include the rabies vaccine. For dogs this also includes canine distemper virus, parvovirus, and adenovirus-2. The core vaccines for cats are feline panleukopenia virus, herpesvirus-1, and calicivirus. Non-core vaccines such as Lyme disease, leptospirosis, kennel cough and feline leukemia virus, are only recommended if a particular pet is determined to have a significant risk of exposure to these diseases.

In 1998, the American Association of Feline Practitioners Advisory Panel on Feline Vaccines recommended three year boosters for the core feline vaccines. In 2001, after two years of study, the American Veterinary Medical Association Council on Biologic and Therapeutic Agents found that as far as the core vaccines go, “the one-year revaccination frequency recommendation is based on historical precedent and USDA regulation, not on scientific data.”

Then, in February of 2003, the American Animal Hospital Association Canine Vaccine Task Force released its recommendations for three-year booster intervals. More recently, a study published in the January, 2004 Journal of the American Veterinary Medical Association concluded, “In most cats, vaccination induced a response that lasted up to and beyond 48 months for all 3 antigens.” A second study in that same issue stated, “In most dogs, vaccination induced a response that lasted up to and beyond 48 months for all five antigens.” Currently, many North American veterinary schools have adopted a three-year revaccination schedule for core vaccines in dogs and cats.

Experts agree that after the initial series of vaccines in puppies and kittens, pets need a one-year booster and then the core vaccines can be given every three years. In my practice, I work the scheduling of vaccines so that the rabies vaccine and distemper combination vaccine alternate. That way, after the one year booster, pets are never given all the vaccines in the same year. The pets get the distemper combination one year, the rabies the next year and just the yearly exam the third year, and so on.

It is time for veterinarians, boarding kennels, groomers and training organizations to follow the guidelines set by vaccine authorities. As pet caretakers, we have the right and responsibility to refuse vaccines when appropriate. Over-vaccinating a pet can be just as dangerous as under-vaccinating him. I urge all pet owners to be proactive and insist that the scientific vaccine recommendations be followed, for the health of our pets.