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VACCINES AND VACCINOSIS IN PETS

by Karen Dale Dustman

Part 1 Vaccines :

Move over, politics, religion, and gun control. The latest "hot" topic of debate: can routine vaccinations harm your pet? Even raising the issue may seem a bit like questioning the virtues of motherhood and apple pie. Vaccinations are, after all, among the most prominent weapons in veterinary arsenals today against devastating diseases including rabies, distemper, parvovirus, and leukemia. But then, critics point out, medical science also once considered leeches de rigeur. And more and more holistic practitioners are reporting cases in which they believe over-vaccination may be linked to a wide assortment of veterinary ills. More conventionally-minded health professionals acknowledge that vaccines, like any form of medical intervention, can have side effects in rare instances. But, they say, the benefits of vaccination usually far outweigh the risks. Who's right? Conclusive data isn't in yet, but there seem to be valid points raised by both sides. Here's a look at this thorny but fascinating debate. Trouble in Paradise? For Don Hamilton, D.V.M., a holistic veterinarian in Ocate, New Mexico, the turning point was a Persian cat named Fluffy with a puzzling pattern of repeated urinary tract infections. "I read through her chart and found that for three years in a row, she would come in for her annual vaccination, and about a month later, would be back with a urinary tract infection," explained Dr. Hamilton. Suspecting that Fluffy's annual vaccinations may have played a part in her problem, Dr. Hamilton recommended that the cat not receive further vaccinations. Fluffy has remained infection-free ever since, he noted. Some might call it a coincidence. But for Hamilton, the idea that routine vaccinations may be linked to seemingly unrelated illnesses was a significant insight. "Once you see something like that and say, is it possible, and then look through your cases with the idea that it is possible, then you see a lot of things you didn't see before," Hamilton said. "The trouble is, we're so heavily taught that vaccines are helpful, and if not helpful, that they're at least not harmful. So when you see what I now think are vaccine-related damage, you tend to say it's not possible, and dismiss it." Reports of vaccine-related problems in animals come as no surprise to Dr. Richard Pitcairn, D.V.M., founder of the Academy of Veterinary Homeopathy in Eugene, Oregon, and one of the first to point to a possible correlation between vaccines and other illnesses. "We do see a number of health problems we associate with vaccines, [often] having to do with immune problems or allergies," confirmed Dr. Pitcairn. "It also seems that animals become more susceptible to other infections, so a cat that gets the feline leukemia vaccine might come down a month later with FIP (feline infectious peritonitis). There is some evidence reported in the veterinary literature that after a vaccine, the immune system weakens or the animal is more susceptible to diseases of other sorts." The link between vaccinations and the immune system is cited by other veterinarians as well, although some caution that immune problems may involve more factors than just vaccination. "We're seeing more immune problems in general," noted Jean Dodds, D.V.M., a veterinarian with a referral practice in hematology and immunology in Santa Monica, California. "And it's likely that vacinations are just one of the triggers in individuals that are susceptible." Many holistic veterinarians also report that their observations in practice seem to support a link between vaccinations and a wide variety of ailments."You take healthy animals and often very quickly after you vaccinate, you can see simple things like itching of the skin or excessive licking of the paws, sometimes even with no eruptions," said Dee Blanco, D.V.M., a holistic practitioner in Santa Fe, New Mexico. "We see a lot of epilepsy, often after a rabies vaccination. Or dogs or cats can become aggressive for several days. Frequently, you'll see urinary tract infections in cats, often within three months after their [annual] vaccination. If you step back, open your mind and heart, you'll start to see patterns of illness post-vaccination." Vaccinations may even contribute to premature death in animals whose immune systems were already compromised, some veterinarians believe. "I had two situations where we had spent a long time building up two older, severely immunocompromised dogs, and then their owners had them vaccinated for just about everything known to man," recalled Dr. Carvel Tiekert, executive director and founder of the American Holistic Veterinary Medical Association headquartered in Bel Air, Maryland. "Both of those dogs died within about a month of vaccination. Can we prove a cause and effect? No. Do I think there was a cause and effect? Yes."

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More Subtle Effects:

In addition to -- or perhaps underlying -- the more overt symptoms, some veterinarians believe that vaccination can produce a chronic illness known as "vaccinosis", which leaves the patient less able to fend off other medical problems. "Animals react adversely to vaccines in two main ways. The first is the more obvious immediate anaphylactic response, where the animal may develop swelling of the face or ears, as well as pain and inflammation at the site of injection," said Donna Starita Mehan, D.V.M., a veterinarian in Boring, Oregon. "But a larger number of animals develop an undercurrent, [a] subtle

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immune system shift that compounds every time they receive a vaccination. This may later manifest as any number of chronic degenerative illnesses such as arthritis, skin or ear problems, gum or throat inflammation, behavior problems, central nervous system disorders (i.e. epilepsy), or cancer." The link between vaccination and disease, however, is an indirect one, explain those who accept the vaccinosis theory. "It is not necessarily that the diseases are caused by the vaccine," emphasized Dr. Blanco. "There are weaknesses inherent in all of us, either from our environment or acquired or inherited tendencies. If you have a family line of diabetes or hip dysplasia or whatever your weak area is, the vaccine will essentially exacerbate the weakness and the animal becomes symptomatic. I think the immune system is finite, and overloading it [with too many vaccinations] is really hard on the system. The immune system says to itself, 'These rabies or other viruses in my body are a life-threatening illness -- I must deal with this,' but there isn't enough energy to also keep everything in balance. Therefore, the weaknesses are expressed." Rabies vaccine, in particular, is frequently linked by holistic veterinarians to adverse changes in dogs' behavior. "What I've seen happen is, after vaccination, dogs develop what we call the 'rabies miasm', where they become more aggressive, more likely to bite, more nervous and suspicious," noted Dr. Pitcairn. "They may also have a tendency to run away, to wander, and also sometimes to have excessive saliva, and to tear things up. It's not that they have rabies, but they seem to express some symptoms of the disease from exposure to the vaccine." Some veterinarians even suggest that illnesses like parvo may be the direct result of well-intentioned vaccination efforts. "Parvo wasn't around until about twenty years ago," Dr. Hamilton noted. "I think parvo resulted because of the distemper vaccination. I've seen cases where a dog tested positive [for parvo], and then within 24 hours it turned and became a full-blown [case of] distemper. Now, conventionally they will tell you the dog was simply harboring both viruses. I don't think so. I think it just shifted, from one to the other."

Looking for Links:

What exactly in a vaccine might promote such adverse reactions? "Vaccine products may contain artificial colors, antibiotics, aluminum, formaldehyde, BHA, and BHT, in addition to the viral antigen," noted Dr. Mehan. "Syncytial viruses inadvertently grown on the same media may also be included as contaminants," she said. Other experts note that most vaccinations introduce a substance directly into body tissues, rather than through the nose or mouth, the normal routes of infection. And there may also be a cumulative impact on the immune system with repeated vaccinations, they say. Even some experts outside the holistic community believe that Americans may be over-vaccinating their pets. "Almost without exception, there is no immunologic requirement for annual revaccination. Immunity to viruses persists for years or for the life of the animal," wrote Ronald D. Schultz, Ph.D., a professor and chair of the department of Pathobiological Sciences at the University of Wisconsin School of Veterinary Medicine, who has studied vaccines for nearly 30 years. In a widely-quoted article co-authored with T. Phillips, D.V.M. published in Kirk's Current Veterinary Therapy in 1992, Drs. Schultz and Phillips called the practice of annual boosters one of "questionable efficacy." Our own experience with human vaccinations tends to support that idea, notes Christina Chambreau, D.V.M., a veterinarian with an entirely homeopathic practice in Sparks, Maryland. "How many of us get DPT, polio, tetanus, diptheria -- all the childhood vaccines -- every year?" she asked. "If you don't, why do your animals need them?" Not so fast, caution more conventially-minded veterinarians. There are significant differences between humans and animals -- and between human and animal diseases -- that need to be factored in. "Remember that dogs age 7 times faster than we do," said Roger Schwartz, D.V.M., a clinical research veterinarian with manufacturer Hoechst Roussel Vet in Somerville, New Jersey. "One year for us is the equivalent of a month and a half for a dog. So a yearly booster for them is like a seven-year booster for us." And although annual revaccination may sound a bit like overkill, that's not necessarily the case, some experts emphasize. "Manufacturers' label recommendations for the frequency of revaccination are meant to provide guidance for the general population of animals," Beth Bielsker, D.V.M., manager of veterinary affairs for Solvay Animal Health in Mendota Heights, Minnesota. "Are there going to be some animals in which protection lasts longer than a year? Yes, just as there will be animals where protection may be less than a year. It is very difficult to make generalizations in an area where the response to vaccine is very individualized," she said. A number of factors can inhibit the development of a proper immune response, making repeated vaccinations important to ensure immunity, pointed out Joseph Curlee, D.V.M., a veterinarian with United Vaccines, Inc. in Madison, Wisconsin. "Although animals are 'vaccinated,' it does not infer that they have produced a protective immune response," Dr. Curlee said. "Several factors to consider at the time of vaccination of the animal are stress, pre-existing or incubating disease, poor nutrition, parasitism, immune suppressive diseases or treatments, and age (maternal antibody interference). Any one of these may result in an inadquate immune response to the vaccine which may require additional vaccinations in order to insure that the animal is protected." And while some may speculate that vaccine companies prefer to market a product that must be readministered every year, it is actually in vaccine companies' own interest to produce longer-lasting vaccines, Dr. Schwartz said. "If a company can sell a product that lasts two years between doses and the others on the market last one year, guess who's going to win the race. There's always a push to lengthen the interval, because that means you have a more potent product." However, even traditional veterinarians agree there may be a limit to the number of vaccinations an animal should receive. "The reality is, yes, a vaccine does cost the animal something -- it costs them a little bit of their metabolic energy to produce a response to that vaccine," observed Dr. Schwartz of Hoechst Roussel. "Animals and people are born with essentially a limitless potential to develop immunological responses to antigens, [but] that 'limitless' part refers to the variety of antigens that the animal

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can respond to. The animal's metabolic ability has limits. It's like your computer at home -- how many software programs can you put on it? Your hard drive has a certain capacity. If you have only 640 megabytes compared to several gigabytes, for example, you may have to be more selective about what you put on it. But remember, it is the software that makes a computer useful."

Tough Tie-Ins:

Establishing that an animal's health problems are vaccination-related can be difficult, holistic veterinarians concede. "Those of us in alternative therapy feel strongly that there are such problems, but that is based on in-the-field observation," noted Carolyn Blakey, D.V.M., an alternatives [sic] practitioner in Richmond, Indiana. "The drug manufacturers and most non-alternative veterinarians deny that, because the reactions are delayed -- quite delayed, frequently. So they say, 'Where's the proof that the vaccine did it?' And they have a valid point, of course. But once in a while, often enough that you can put your finger on it, within a few days or a month [after vaccination], you can correlate a deterioration in the animal's health."

Vaccinations are also only one in a constellation of factors that may affect an animal's health, holistic practitioners emphasize. "I don't want to imply that [vaccination] is the whole cause," cautioned Dr. Pitcairn. "More, it aggravates or makes [an existing condition] worse. Maybe there is an inherited tendency toward allergies, and then along comes the vaccine, or several together. And it's too much." Conventional veterinarians point out, however, that the very frequency of a typical vaccination program makes it easy to mistakenly blame a vaccine. "For pediatric disease, for instance, it's very common in veterinary practice to vaccine puppies on a three- to four- week interval, from the time they are six weeks of age until they are 16 weeks old," pointed out David Hustead, D.V.M., director of professional services for Ft. Dodge Animal Health in Overland Park, Kansas. "Now, if a puppy gets any illness from the time they are six weeks of age to 16 weeks, that illness is within three weeks of the date they got a vaccine. So it is very easy to say it had to be caused by a vaccine." Vaccines may also be inappropriately blamed for adverse reactions simply because underlying conditions went undiagnosed, noted Dr. Bielsker of Solvay Animal Health. "There are many reasons why an animal may occasionally become ill after vaccination, most of which are not directly related to the vaccine that was used," Bielsker said. "Often, the animal may have had an underlying condition, such as kidney disease or heart disease, at the time of vaccination, which causes it to become ill. However, the public may only hear bits and pieces of what happened, and the true cause of the problem is oftentimes never communicated. Am I saying that vaccines themselves are never to blame for complications that may occur? No. What I am saying is that, in my experience, it is very rare." As for the assertion that vaccination may lead to chronic illnesses, many outside the holistic community find the notion a tough concept to swallow without further proof. "These are very difficult questions. The problems these people report are so vague they almost defy typical scientific efforts to investigate," said Dr. David Hustead. "The data is not there at this time to back up the contention [that vaccines may cause low-grade, chronic illness]," agreed Philip Kass, D.V.M. Ph.D., a researcher with the Department of Population Health & Reproduction at the School of Veterinary Medicine at the University of California at Davis. "I'm not saying it's false, but I'm not saying it's true either. I just don't think the hard evidence is there yet." "The immune system puts computers to shame [in complexity]," cautioned Dr. Schwartz. "The simple answers are always the easy ones, but they're almost always the wrong ones." Many holistic veterinarians, however, remain convinced that the connection between vaccination and other animal health problems is real. "It's happened often enough to make us feel, sure enough, [it's true]!" said Dr. Blakey. "But not often enough to make the 'scientific' community accept our interpretation as completely valid. Because it is observation. And that's not a scientific study."

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Other Reaction Risks:

While there's no proof positive at present of a link between vaccination and chronic illness, it is accepted that vaccines do sometimes cause what are termed 'acute' reactions in a small number of cases. Within a few minutes or hours after the injection, an animal may develop swelling at the site, fever, vomiting, anaphylactic shock, or even seizures. Left untreated, the animal may die. The risk that an animal will have a severe reaction to a vaccine is extremely small, experts emphasize. "For vaccines to be licensed, they must meet USDA standards to show they are safe and protective at or above a given threshold level," explained Dr. Schwartz of Hoechst Roussel. "Generally, only fractions of one percent of animals will respond adversely." Just as a small percentage of humans experience life-threatening response to a beesting, an animal's response to a particular vaccine depends on the individual's own unique chemistry. "You and I can both receive the same vaccine, and you may not have a problem at all and I may start breaking out in hives," explained Dr. Beth Bielsker of Solvay Animal Health. "Does that mean the vaccine is bad? I don't think so. Your immune system processed it normally and mine sort of superprocessed it." There is also a small risk that vaccinated animals may not be adequately protected against the disease for which the vaccination was given, acknowledged Dr. Schwartz of Hoechst Roussel. "Vaccines don't have to be 100% protective, or we wouldn't have any vaccines because there's nothing foolproof," he noted. "Generally, the efficacy rate is well above 90%, but in some cases it may be in the 80% range. The degree of protection is a function of the nature of the vaccine, the nature of the disease it protects against, the length of time since the last exposure to the vaccine or disease agent, and the individual animal's ability to develop a protective response, once immunized. Recent research has also linked certain feline vaccines with injection site fibrosarcomas, a type of cancer. "Our research confirmed that there was a relationship between giving vaccines and developing tumors in cats," said Dr. Philip Kass. "Two vaccines seemed to be causing it the most: feline leukemia and rabies, [regardless of the brand being given]. We also found that cats that had received multiple injections in the same place had a higher risk

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than cats with only one vaccination there." But despite the link with vaccines established by his research, cat owners should not jump to conclusions, Dr. Kass cautioned. "Not all vaccines cause fibrosarcomas, and not all fibrosarcomas are caused by vaccines," he emphasized.

Breed-Specific Reactions:

You may have heard that purebred animals are at greater risk for developing an acute vaccine reaction. Is that true? "Absolutely," noted researcher Dr. Ronald Schultz. "But what's even more true is that certain families, certain lines of genetics within a breed are more susceptible than others. It's not a simple Mendelian thing, however -- it's multi-genic and highly complex. So one parent could have [a vaccine sensitivity], and the progeny could still be without it." Among dogs, breeds at highest risk of having an adverse vaccine reaction include Akitas, Weimaraners, and harlequin Great Danes, noted Dr. Jean Dodds. "[These breeds] have highly genetically predisposed blood lines," she explained. "That is, within the breed, there are very commonly bred lines that apparently have this susceptibility." In addition, some individual animals within a certain breed may produce a lesser immune response to a vaccine than others. "Clearly, all dogs within a particular breed -- rottweilers are prominent examples -- simply don't respond equally to vaccines; some dogs may not seroconvert (i.e., develop antibodies in response to vaccination) until two years of age or older," said Richard Ford, D.V.M., a professor of medicine at the College of Veterinary Medicine at North Carolina State University. "And of greater concern, we know that immunization failure is more likely to be the result of the individual's inability to respond to the vaccine than it is a failure of the vaccine's ability to immunize." Such breed-specific results are understandable, noted Dr. Schwartz of Hoechst-Roussel. "There is a thing called hybrid vigor; the hybrid mongrel animals in this world tend to have fewer quirks when it comes to [responses to vaccines] than purebreds," explained Dr. Schwartz. "That's because their family tree is a forest. When you breed in certain traits, there may a whole lot of other things thrown in, including insufficient immune responses. That's one of those trade-offs [in buying a purebred animal]."

Conclusion:

The wisdom of current vaccination protocols -- especially of annual revaccination for every animal -- is clearly being called into question. And in Part II of this story, we'll take a look at what some experts are recommending as alternatives. But even some of the most outspoken critics of the way we currently vaccinate our pets stress that their position should not be misconstrued. "There have been so many things said recently about vaccines in a negative context that I'm beginning to worry now that we have animal owners who are very confused, and some are very scared," emphasized Dr. Schultz. "Animals shouldn't necessarily be vaccinated every year - it's something I've stated since 1978. But some folks who are into holistic veterinary medicine have taken the view that you don't need any vaccines, and [in my opinion] that's absolutely not correct." "Everything sort of has its day, things come and go, wax and wane," points out Dr. Carvel Tiekert. "Are people overreacting? I don't know. In my own opinion, perhaps a little bit. But then, American society has never done real well staying in the middle." Clearly, the issues are difficult ones; there are no easy answers. But there are many good sources of information. Perhaps the best place to begin is by talking about the issue of vaccination with your own veterinarian. "Maybe it's worth discussing it with two veterinarians to try to get a point-counterpoint," suggested Dr. Schultz. "And I can assure you, if you discuss this issue with both an allopathic and a homeopathic veterinarian, they will have a view and counterview for you." "I would encourage everyone to be really persistent consumers," advised Dr. Blakey. "I want them to keep their brain cells plugged in, ask hard questions, and ask them from more than one source. There are some wonderful books out there -- pick them up and read them. It's a whole education thing."

...the adjuvants incorporated into some killed vaccines may themselves be responsible for adverse reactions in some animals

VACCINES: A Short Primer:

Edward Jenner probably had no idea he was spawning a medical revolution when he inoculated an eight year old boy with the relatively benign cowpox virus in 1796 and then confirmed the boy's immunity to smallpox. But the principle used by this observant British country doctor has led to the development of today's human vaccines for diptheria, polio, whooping cough, and measles, as well as animal vaccines against rabies, distemper, parvovirus, and other diseases.

Vaccines are produced by taking a virus or other disease-causing agent (known as a pathogen), and either killing it or rendering it less dangerous by culturing it under prescribed conditions in a lab. These killed or "modified-live" organisms (known as antigens) are then incorporated into a vaccine solution. "Killed" vaccines may also include chemicals known as "adjuvants", which help to enhance the immune-producing action of the vaccine."When injected with a vaccine, the animal's immune system is forced to create a response -- just as if they had been exposed to the disease," explained Dr. Hustead of Ft. Dodge Animal Health. "Through the process of creating this response, they learn how to deal with the more pathogenic versions of the same organism." There is significant controversy in the medical community about which type of vaccine is preferable -- a "killed" or a "modified-live". Typically, modified-live vaccines require a lower concentration of antigens and produce a longer-lasting immunity than a killed vaccine. However, because a modified-live vaccine contains live (if attenuated) organisms, there is a remote but real possibility that these organisms can mutate into a disease-causing form. Killed vaccines avoid this potential risk, but often must be administered several times to produce an adequate immune response. In addition, the adjuvants incorporated into some killed vaccines may themselves be responsible for adverse reactions in some animals. Scientists are also showing increasing interest in "recombinant" vaccines, which use only a genetic fraction of the disease-causing organism -- enough to stimulate an immune response, without the remainder which is responsible for causing the disease. Researchers hope that these new technologies will prove even safer than today's vaccines, while offering equal or

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better protective results.

Part 2 Vaccine Alternatives:

In Part I of this article, we examined the notion that common veterinary vaccines may be linked to a wide assortment of medical ills in our pets. As we saw, the controversy is multi-sided; there are no easy answers. But for those concerned that we may be over-vaccinating our pets, what are the alternatives? Here again, viewpoints run the gamut. Some animal enthusiasts are opting to refrain from vaccinating their pets entirely. Others are reexamining vaccination protocols, vaccinating against fewer illnesses and at greater intervals. Still others are incorporating homeopathic preparations known as nosodes into their animals' preventive health care as an adjunct to -- or even a replacement for -- traditional vaccination.

This Side of Never:

Celeste Yarnall first felt a twinge of suspicion as she watched four tiny Tonganese kittens struggle for life just hours after receiving their first vaccination. Over the next few years, as she saw other cats develop asthma, vaccination site sarcomas, and hair loss, Yarnall became increasingly convinced that vaccinations were the root of many of these animals' health problem "I had a cat whose paws blew up like boxing gloves; I know of kittens that have died immediately following their shots, or gotten the diseases they were supppos-edly trying to prevent," said Yarnall, a professional breeder and author of the book Cat Care Naturally. "They'll call my information anecdotal, but this is my fourth generation of breeding cats without vaccinations. I don't have fleas, fungus, parasites, feline infectious peritonitis, feline leukemia -- the worst we've had is a cold. In addition to eschewing vaccinations, Yarnall emphasizes the importance of a home-prepared diet of fresh, raw meat and vegetables, cooked organic grains, and her own line of supplements in keeping her animals healthy. "Today's pedigreed cat is the biggest victim of all because they are the concentrated line of the most highly vaccinated and drugged and poorly fed animals on this planet," she said. "And the biggest thing that we're doing [wrong] is feeding them a diet they can barely survive on, with nothing left over to help them heal." Yarnall may be more outspoken than many, but she is hardly alone in her refusal to vaccinate her animals, she emphasizes. "I know a lot of breeders who don't vaccinate any more and are afraid to tell you, and vets who may vaccinate their clients' animals but don't vaccinate their own, and are afraid to tell you," she said. "Many of my clients refuse to give vaccines to horses," confirmed Donna Starita Mehan, D.V.M., a holistic veterinarian in Boring, Oregon. "And they tell me they have never raised animals so healthy, with so few behavior or reproductive problems, lamenesses. In the field, my observation is [that] the more you limit vaccinations, the healthier the animals." Dee Blanco, D.V.M., a holistic practitioner in Santa Fe, New Mexico, also rarely recommends that her clients vaccinate their animals except in high-risk situations, and then with what she describes as "a very circumscribed use of specific vaccines," she said. "Animals have been surviving for thousands and thousands of years without [vaccination]," she emphasized. "The assumption here is that we know how to prevent disease, and it's really the body that knows -- and given half a chance, it will." For Yarnall and others who share her views, the choice is clear. "Do you think the god or goddesses who designed our immune system did it wrong?" asks Yarnall. "I'll take my chances against acute disease. I would not vaccinate any thing that I loved."

Some practitioners, for example, now recommend against the multi-valent (combination) vaccines, which they feel may increase the chances of an adverse reaction

Exploring the Middle Ground:

Not everyone, of course, is willing to go as far in rejecting traditional medicine. And there is a wide and fertile middle ground now being explored, as other practitioners develop their own variations on traditional vaccination protocols.The once virtually unquestioned practice of revaccinating animals annually has been receiving some of the heaviest recent scrutiny. Thanks in part to pioneering research by Ronald D. Schultz, Ph.D., professor and chair of the Department of Pathobiological Sciences at the School of Veterinary Medicine at the University of Wisconsin, more and more veterinarians are now questioning the advisability of this approach. "Basically, there's no information or evidence that would indicate we need to do routine vaccinations for dogs and cats on a yearly basis, and in fact all the information we have is just the opposite," explained Dave McCluggage, D.V.M., a holistic veterinarian in Longmont, Colorado. "The whole theory of vaccines would indicate when you given them, they're good for life. Other common vaccination practices are also undergoing scrutiny. Some practitioners, for example, now recommend against the multi-valent (combination) vaccines, which they feel may increase the chances of an adverse reaction, and advocate instead a series of single-antigen vaccines. Other experts suggest that each vaccination be administered in a different part of the animal's body -- both to help identify the culprit in case of a reaction, and to minimize the likelihood of injection site complications. "The American Association of Feline Practitioners has recommended that the FVRCP [feline viral rhinotracheitis, calici and pneumonitis combination] vaccine be given in the shoulder, leukemia vaccine in the left rear leg, and rabies vaccine in the right rear leg," notes Philip Kass, D.V.M.,, a researcher in the Department of Population, Health & Reproduction at the University of California at Davis School of Veterinary Medicine. "Based on our work [with injection-site sarcomas in cats], we're recommending that people not give multiple vaccines in the same location." The timing -- and spacing -- of vaccinations may also deserve reconsideration, experts emphasize "I'm recommending a changed vaccination schedule [to my clients]," said Richard Pitcairn, D.V.M., Ph.D., a noted holistic veterinarian and founder of the Academy of Veterinary Homeopathy. "There are two major problems, assuming you choose to vaccinate. The first is vaccinating the animal too young, before its immune system is really ready for it, which is a common practice. The other is giving all the vaccines together, which I think is just too much. It overwhelms the immune system, which didn't really evolve to handle that many [antigens] at once."

"I do not advise my clients to use any of the vaccines traditionally used in

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young animals -- that is, panleukopenia, upper respiratory disease, and parvovirus -- in animals over a year old," agreed Dr. Dee Blanco. "Where diseases like these pose the greatest risk is when the animal is young and its immune system is immature. Once the animals reach puberty, you've got a pretty good resistance to these things, and it's really superfluous to be vaccinating for them."

Picking & Choosing:

In addition to such familiar vaccines as rabies, parvovirus, and distemper, modern research has led to a stunning -- and growing -- array of vaccines for other diseases, as well. Your cat can be vaccinated for chlamydia; your dog can be immunized for leptospirosis, Lyme disease, and kennel cough, among others.

Despite the burgeoning array of new vaccines, more is not necessarily better, some experts caution. A growing number of veterinarians are suggesting that animals be vaccinated against only the most devastating diseases. "I do not recommend vaccination as a general rule," emphasized Don Hamilton, D.V.M., a veterinarian in Ocate, New Mexico. "[But] if my clients are concerned and they feel there is a strong risk, I only recommend vaccinating for distemper and parvovirus in dogs, and only one vaccination for each. And of course, the rabies vaccination also is required by law. Some veterinarians now recommend against vaccines they feel are not particularly effective. "We never give feline leukemia vaccine, ever, ever, ever," noted Dr. Mehan. "I don't even have it in my refrigerator. It has real potential to cause immune system depression, and it's not particularly effective." "Some bacteria-caused diseases -- things like kennel cough -- are mild diseases to start with," said Dr. McCluggage. "It's questionable whether you need to vaccinate for something like that. And on top of that, maybe 70 to 90 percent of kennel coughs are not due to the bordatella bacteria anyway but are actually due to viruses. You have to look at each vaccine individually, and decide from there what's necessary." With so many vaccines available, it may be increasingly important for pet owners to be selective. "There is always the risk that a cat will get out the window and get hit by a car, but we don't vaccinate against that. You can't prevent all risks; life is a risk," emphasizes Yarnall. "But putting something in the body that you can never take out -- that's a risk." And consumers' choices will likely only become more complicated in the future, experts predict. "In the next five years, we can anticipate a number of new vaccines will come onto the market," said Richard Ford, D.V.M., professor of medicine at the College of Veterinary Medicine at North Carolina State University. "There are a number of rather dramatic things under study. The industry is aggresively looking at vaccines for heartworm, fleas, ehrlichiosis, rocky mountain spotted fever, and even a contraceptive vaccine that could eliminate spaying and neutering yet allow you to breed the animal later on. And the pet owner will be faced with asking, 'Which of these are really necessary?' "

So we started giving the animals one injectible vaccination and a nosode, and our disease breaks went way down -- and stayed there

Nosodes:

As pet owners look for more natural alternatives, homeopathic preparations known as 'nosodes' are receiving increased attention as complements to -- or perhaps even substitutes for -- conventional vaccines. Like other homeopathic preparations, nosodes are based on the theory that "like cures like". That is, minute quantities of a disease-causing substance are used to treat -- and perhaps prevent - the disease itself. "Basically, nosodes are homeopathic medicines that are made from either diseased tissue or exudations," explained Jay Borneman, spokesman for the American Homeopathic Pharmaceutical Association. "There's quite a bit of manipulation of the material right after you obtain it, because it has to be inactivated or rendered sterile, processes which are spelled out in the Pharmacopoeia."

The processed material is then diluted and shaken. With nosodes, the dilution process is typically repeated 30 times or more, so that virtually no molecules of the original substance remain. According to homeopathic theory, the resulting medicine becomes more potent with each dilution. A number of holistic veterinarians report good results using nosodes to prevent diseases. "For dogs and cats, we have used nosodes for distemper, parvo, kennel cough, panleukopenia, rhinotracheitis, calici, and [we've used] a feline leukemia combination which includes both feline infectious peritonitis and feline AIDS, and have had excellent results both treating and preventing with those nosodes," reported Dr. Mehan. "We had two breaks in immunity with puppies who hadn't completed the nosode program and came down with parvo, but numerous puppies who hadn't completed the vaccination schedule have come down with parvo as well. Our clinical experience shows nosodes are very effective. In Dr. Pitcairn's practice, nosodes appear to have worked "as well as the vaccines or better," he observed. "We have been using [nosodes] for a number of years and have seen some dogs that have gotten parvo anyway, but just a few. This same thing happens with the vaccine. And it might be that the virus changes and a new nosode has to be prepared every so often. Dr. Carolyn Blakey, D.V.M., an alternatives practitioner in Richmond, Indiana, used nosodes in a local animal shelter with which she was associated for over a year. "Initially, we gave distemper and parvo nosodes to all dogs coming into the shelter, and distemper and upper respiratory nosodes to all cats," she said. "For the first several months, we saw very few disease outbreaks. Then, as we had the shelter for a longer period of time, we began to see more disease than we found acceptable. So we started giving the animals one injectible vaccination and a nosode, and our disease breaks went way down -- and stayed there." Breeders as well as individual pet owners are exploring the concept of nosodes, Dr. Blakey noted. "Some people are putting their entire kennels on the line, going nosode-only, and haven't vaccinated a puppy for two to three generations," she reported. "They're putting their money where their mouth is, and some are getting some spectacularly positive results. And I think there are some negative results out there, too, that we don't hear about as much." But despite such positive anecdotal evidence, a recent scientific study conducted by Dr. Ronald Schultz fails to support at least one nosode's promise as a prophylactic measure. "[We] found that the nosode for parvo virus provided no

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protection from parvovirus challenge," reported Dr. Schultz. "What the results showed is that before any nosode should be used as the only method of protecting an animal from infectious disease, or as an alternative to conventional vaccines, it would have to be tested similarly to the vaccine they are replacing." "At this point, many of us would have to say not all parvo nosodes work, and we don't have any data to document for sure that any of them work," cautioned Jean Dodds, D.V.M., a veterinarian with a referral practice in immunology and hematology in Santa Monica, California. "We don't want people having a false sense of security about nosodes. That is not meant to negate their worth -- it's just that we don't have good data at this point to support their use." The use of nosodes to prevent illness is also the subject of some controversy in the homeopathic community, which has traditionally prescribed remedies based upon a patient's existing symptoms. "More often, homeopathy treats an individual that is actually ill," observed Joe Lillard, president of Washington Homeopathics in Bethesda, Maryland. "You see how an animal is responding, and give the remedy that is appropriate for that response." "It's far better in my opinion to build up the health of an animal and only use nosodes in the face of an epidemic, or when they have actually been exposed to the disease," suggested Christina Chambreau, D.V.M., a holistic veterinarian in Sparks, Maryland. "When we look at how homeopathy works, that may be the most effective use, after the animal has been exposed. We know that nosodes do not give 100% protection. The best protection seems to come from not vaccinating, feeding the animal a great diet of whole, fresh food, and treating any symptoms when they appear."

Evaluating the Risks:

For pet owners faced with the decision whether to vaccinate -- and if so, for which illnesses -- it is important to weigh the risks, experts advise. "It really is a cost-benefit situation," said Jay Borneman of the AHPA. "In terms of my own pets, that's what we've done. We looked at the benefits of the conventional approach and the benefits of the complementary approach, the relative costs, safety issues, and what can one expect. Clearly, some common-sense cautions apply. Most veterinarians agree, for instance, that vaccinations should not be given to an animal that is sick, facing surgery, or that has previously had an adverse reaction to a particular vaccine "We will not give a vaccine to any animal who is immunologically compromised, that is, if they have leukemia, cancer, or chronic immune [deficiencies] such as skin problems," emphasized Dr. Mehan. "If they are already struggling, it doesn't make sense to give something that has the potential to drag the system down or intensify an allergic response." "If an animal has had a life-threatening reaction before, I can't ethically suggest they do it again," said Dr. Jean Dodds. "Then the owner needs to use common sense, keep the animal away from other animals or areas where it might be exposed, to keep it reasonably protected. Then we're using epidemiological methods instead of vaccination methods to protect against infectious diseases." The age of the animal may be a further consideration -- although one that perhaps cuts both ways. "When animals are young is when it makes the most sense [to vaccinate], because that's when their immune system is less developed and diseases like panleukopenia and parvovirus are most apt to be life-threatening," observed Dr. Dee Blanco. "But it's really a Catch-22. When they are young they are also quite susceptible to vaccine reactions, particularly when we vaccinate heavily and start early. And we must remember that developing an illness is not always a bad thing for young animals. Many childhood diseases are really training grounds to develop the immune system," she noted. In addition, pet owners should consider the lifestyle of their animal when deciding which immunizations are most critical "The vaccination program needs to be tailored to the animal," emphasized Dr. Ronald Schultz. "Does that cat ever get outside? Is it a single-cat household? Unfortunately, a lot of cats that will never see another cat are getting the feline leukemia vaccine every year, and there's probably a greater risk of reaction from the vaccine than from the disease, for that cat. On the other hand, if you don't vaccinate for parvo, the risk of a puppy becoming infected is far greater than the risk of a vaccine-induced reaction. So it depends on the disease, the conditions under which an animal is housed, and the exposure conditions." But even if you believe the risk of exposure is relatively low, it is important to factor in the potential severity of the consequences if your animal does become exposed, other experts caution. "You cannot make a blanket statement that all animals coast-to-coast need XYZ vaccine at a certain frequency," said Roger Schwartz, D.V.M., clinical research veterinarian with Hoechst Roussel Vet in Somerville, New Jersey. "But the flip side is, even if there is a one in a thousand chance that your animal could be exposed to such a disease, are you willing to risk the consequence, which may be an 80 percent chance it will die if exposed?" "As a pet owner myself and as a veterinarian, I see many more animals that become harmed or die due to disease than I ever have from any sort of treatment or preventive medication," cautioned Dr. Bielsker of Solvay Animal Health. "Certain animals may experience hypersensitivity to a vaccine, but many more animals become ill or die a terrible death due to viruses such as parvovirus and/or distemper."

Making Your Own Choice:

To vaccinate or not to vaccinate? Ultimately, the decision becomes a very personal one. "What is most important is to pay attention to your animal, and to how you feel about giving vaccines," advised Dr. Chambreau. "Learn how many cases of each virus in the vaccine are actually seen in your area -- what is the risk? Deciding to change your vaccination procedures is only one part of achieving better health for your animal. Start a comprehensive program to improve your animal's health which will also include better nutrition and treatment of the individual animal, not just its ailments." And remember that you're not facing such questions alone. Talk to other pet owners about their experiences; have lunch with a breeder whose opinion you trust; and above all, discuss your concerns and questions with your veterinarian. Expect that arriving at the the 'right' answer -- for you and your pets -- will be a process that takes time and research. "We offer people options, we tell them the pros and cons, and we tell them that nothing is a sure thing," emphasized Dr. Mehan. "We let them make their own decision about what is appropriate for their animal. And that's the way I think it should be." □