

Are You Over-Vaccinating Your Pets?

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“The patient receives no benefit and may be placed at serious risk when an unnecessary vaccine is given...”

(Schultz, Ronald D, *The vaccine Controversy: What Vaccines Do Cats and Dogs Really Need and How Often Do They Need To Be Vaccinated?* Veterinary Immunologist & Professor, Chair of the Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin-Madison)

*This article has many medical/technical terms with which you may be unfamiliar. It also includes an extensive Reference section at the end so you can research this information further. For many years we've had clients feel guilty that they have been over-vaccinating their animals. We would like to state clearly that this article is **not** about guilt but about EDUCATION. **We invite you to educate yourself...your companion's health depends on the choices YOU make!***

We believe that everyone tries to do their very best for their animal companions. And while we also believe that all Veterinarians, at heart, intend 'well' for your animals, it is very difficult to keep up with the latest research in Veterinary Medical Science.

The long-term cumulative effects of over-vaccination can be devastating to the health of your animal companion. It is our sincere desire to shed some light on this controversial topic and provide quality information that will help to keep your beloved animal friend as happy and healthy as possible. Please feel free to share this information with your Veterinarian and to contact Healing Place Veterinary Clinic if you have any questions.

What does it mean to ask if your companion animals' vaccines are up-to-date?

Many Veterinary practices still recommend vaccinations annually, yet the recommendation for annual vaccination is a practice that was officially started in 1978. That recommendation was made without scientific validation of the need to booster immunity so frequently. In fact, the presence of good humoral antibody levels can block the anamnestic response to vaccine boosters just as maternal antibody blocks the response in some young animals. In other words, if a body has been given its initial vaccine and first year booster, giving another vaccine does not create a stronger immunity. However, the danger of over-vaccinating is a very real risk. (Schultz, Ronald D. "Current and future canine and feline vaccination programs", Veterinary Medicine, March 1998, p. 243)

Dr. Ronald Schultz is one of the leading independent researchers and proponents of vaccinating animals less often. Shultz began researching vaccines more than twenty-five years ago when he noticed the two different vaccination approaches for humans and animals—humans were vaccinated as children and then not again...but animals were vaccinated annually. His research confirms that most animal vaccines, like human ones, create long-term immunity. Shultz emphasizes that while it's critical to stimulate initial immunity in animals when they are young, his work has revealed that many vaccines provide lifelong immunity, making repeated vaccinations after the first year of doubtful value. To compound the situation, Shultz has found that indiscriminate vaccination of adult animals can actually trigger adverse physiological reactions.

In studies Dr. Ron Shultz performed at the University of Wisconsin, 106 dogs vaccinated within the previous one to four years were each given a canine parvovirus booster vaccine. Only one of the 106 dogs showed significant increase in serum antibody titer following the booster. These results

demonstrated that revaccination does not automatically enhance antibody levels or improve immunity. What happens is that the vaccine virus is neutralized before it can reach the memory T and B cells. The immunity provided by previous vaccination not only protects against the virulent disease but also prevents response to revaccination. (Wolf Alice, *"Vaccines of the Present and Future"*, Proceedings of the World Animal Veterinary Congress, Vancouver 2001.)

The term "up-to-date" is only valid if you use the vaccine manufacturers' protocols, which are reflective of the amount of animal testing the vaccine company has actually done with a particular vaccine.

Our Holistic perspective on vaccines being "up-to-date" is reflective of two things:

- 1) To find out whether or not your pet has current protection against a disease in question, we take a small amount of blood and send it to a lab. This is called a Titer Test and will determine whether or not your animal has an adequate amount of antibodies to protect them. A Titer Test for various diseases and can be done annually or as required.
- 2) Then we look at the risk of contracting the disease compared to the risks associated with giving a vaccination.

Titer testing for parvovirus, distemper, and rabies are available for dogs. Panleukopenia (feline distemper), calici, and herpes testing are available for cats. Results for both canine and feline vaccine titer panels are usually back from the lab in 24-48 hours.

Adverse Vaccine Reactions

(excerpted from multiple studies and resources listed at the bottom of this article)

"Viral disease and recent vaccination with single or combination modified live-virus (MLV) vaccines—especially that containing distemper virus, adenovirus 1 or 2, and parvovirus—is an increasingly recognized contributor to immune-mediated blood disease, bone marrow failure, and organ dysfunction. 1-11 Potent adjuvanted killed vaccines, like those for rabies virus, can also trigger immediate and delayed (vaccinosis) adverse vaccine reactions. Beyond immediate hypersensitivity reactions, other acute events tend to occur 24-72 hours afterward, or 7-45 days later in a delayed type immunological response." ^{1-4, 6-10}

"Even more delayed adverse effects include mortality from high-titered measles vaccine in infants, canine distemper antibodies in joint diseases of dogs, and feline and canine injections-site fibrosarcomas." ^{5, 7}

"The increasing antigenic load presented to the host individual by modified-live virus (MLV) vaccines during the period of viremia is presumed to be responsible for the immunological challenge that can result in a delayed hypersensitivity reaction." ^{2,3,6,7}

"The clinical signs associated with vaccine reactions typically include fever, stiffness, sore joints, and abdominal tenderness, susceptibility to infections, neurological disorders and encephalitis, collapse with autoagglutinated red blood cells, and icterus (autoimmune hemolytic anemia—AIHA), or generalized petechiae and ecchymotic hemorrhages (immune-mediated thrombocytopenia—ITP). ^{1, 2, 4, 7, 8, 12, 13} Hepatic enzymes may be markedly elevated, and liver or kidney failure may occur by itself or accompany bone marrow suppression. Furthermore, MLV vaccination has been associated with the development of transient seizures in puppies and adult dogs of breeds or cross-breeds susceptible to immune-mediated diseases, especially those involving hematologic or endocrine tissues (i.e. AIHA, ITP, autoimmune thyroiditis)." ^{1, 7, 10}

“Post-vaccinated polyneuropathy is a recognized entity associated occasionally with the use of distemper, parvovirus, rabies, and presumably other vaccines.”^{2,3,7} “This can result in various clinical signs including muscular atrophy, inhibition or interruption of neuronal control of tissue and organ function, muscular excitation, uncoordination and weakness, as well as seizures.”⁷ “Certain breeds or families of dogs appear to be more susceptible to adverse vaccine reactions, particularly post-vaccinal seizures, high fevers, and painful episodes of hypertrophic osteodystrophy (HOD).”^{7,9}

“Vaccination of pet and research dogs with polyvalent vaccines containing rabies virus or rabies vaccine alone was recently shown to induce production of antithyroglobulin autoantibodies, a provocative and important finding with implications for the subsequent development of hypothyroidism.”^{10,17}

“Furthermore, injection site fibrosarcomas have recently been documented in dogs as well as cats.”¹⁸

“The recently-weaned young puppy or kitten being placed in a new environment may be at particular risk. Furthermore, while the frequency of vaccinations is usually spaced 2-3 weeks apart, some veterinarians have advocated vaccination once a week in stressful situations, a practice that makes little sense scientifically or medically.”⁶

“For special cases, appropriate alternatives to current vaccine practices include:

- measuring serum antibody titers
- avoidance of unnecessary vaccines or over-vaccinating
- caution in vaccination sick or febrile individuals
- tailoring a specific minimal vaccination protocol for dogs of breeds or families known to be at increased risk for adverse reactions.

Considerations include:

- starting the vaccination series later, such as at nine or ten weeks of age when the immune system is more able to handle antigenic challenge
- alerting the caregiver to pay particular attention to the puppy’s behaviour and overall health after the second or subsequent boosters
- avoiding revaccination of individuals already experiencing a significant adverse event.

Litter mates of affected puppies should be closely monitored after receiving additional vaccines in a puppy series, as they too are at higher risk.”^{6,7,19-22}

REFERENCES

1. Dodds WJ. *Immune-mediated diseases of the blood*. Adv Vet Sci Comp Med 1983; 27:163-196.
2. Phillips TR, Jensen JL, Rubino MJ, Yang WC, Schultz RD. *Effects of vaccines on the canine immune system*. Can J Vet Res 1989; 53: 154-160
3. Tizard I. *Risks associated with use of live vaccines*. J Am Vet Med Assoc 1990; 196:1851-1858.
4. Duval D, Giger U. *Vaccine-associated immune-mediated hemolytic anemia in the dog*. J Vet Int Med 1996; 10: 290-295.
5. Cohen AD, Shoenfeld Y. *Vaccine-induced autoimmunity*. J Autoimmunity 1996; 9:699-703.
6. Schultz R. *Current and future canine and feline vaccination programs*. Vet Med 1998; 93:233-254.
7. Dodds WJ. *More bumps on the vaccine road*. Adv Vet Med 1999; 41:715-732.
8. HogenEsch H, Azcona-Olivera J, Scott-Moncrieff C, Snyder PW, Glickman LT. *Vaccine-induced autoimmunity in the dog*. Adv Vet Med 1999; 41:733-744.
9. Dodds WJ. *Vaccination protocols for dogs predisposed to vaccine reactions*. J Am An Hosp Assoc 2001; 38:1-4.
10. Scott-Moncrieff JC, Azcona-Olivera J, Glickman NW, Glickman LT, HogenEsch H. *Evaluation of antithyroglobulin antibodies after routine vaccination in pet and research dogs*. J Am Vet Med Assoc 2002; 221:515-521.

11. Paul MA (chair) et al. *Report of the AAHA Canine Vaccine Task Force: 2003 canine vaccine guidelines, recommendations, and supporting literature*. AAHA, April 2003, 28 pp.
12. May C, Hammill J, Bennett D. *Chinese shar pei fever syndrome: A preliminary report*. *Vet Rec* 1992; 131:586-587.
13. Scott-Moncreiff JC, Snyder PW, Glickman LT, Davis IL, Felsburg PJ. *Systemic necrotizing vasculitis in nine young beagles*. *J Am Vet Med Assoc* 1992; 201:1553-1558.
14. Dodds WJ. *Estimating disease prevalence with health surveys and genetic screening*. *Adv Vet Sci Comp Med* 1995; 39:29-96.
15. Wilbur LA, Evermann JF, Levings RL, Stoll LR, Starling DE, Spillers CA, Gustafson GA, McKeirnan AJ. *Abortion and death in pregnant bitches associated with a canine vaccine contaminated with blue tongue virus*. *J Am Vet Med Assoc* 1994; 204:1762-1765.
16. Day MJ, Penhale JW. *Immune-mediated disease in the old English sheepdog*. *Res Vet Sci* 1992; 53:87-92.
17. Dougherty SA, Center SA. *Juvenile onset polyarthritis in Akitas*. *J Am Vet Med Assoc* 1991; 198:849-855.
18. Vascellari M, Melchiotti E, Bozza MA, et al. *Fibrosarcomas at presumed sites of injection in dogs: characteristics and comparison with non-vaccination site fibrosarcomas and feline post-vaccinal fibrosarcomas*. *J Vet Med* 2003; 50(6):286-291.
19. Twark L, Dodds WJ. *Clinical use of serum parvovirus and distemper virus antibody titers for determining revaccination strategies in healthy dogs*. *J Am Vet Med Assoc* 2000; 217:1021-1042.
20. Flemming DD, Scott JF. *The informed consent doctrine: what veterinarians should tell their clients*. *J Am Vet Med Assoc* 2004; 224:1436-1439.
21. Klingborg DJ, Hustead DR, Curry-Galvin E, et al. *AVMA Council on Biologic and Therapeutic Agents' report on cat and dog vaccines*. *J Am Vet Med Assoc* 2002; 221:1401-1407.
22. Schultz RD, Ford RB, Olsen J, Scott F. *Titer testing and vaccination: a new look at traditional practices*. *Vet Med* 2002; 97:1-13 (insert).
23. Moore et al. *Adverse events diagnosed within three days of vaccine administration in dogs*. *J Am Vet Med Assoc* 2005; 227:1102-1108.
24. Dodds WJ. *More bumps on the vaccine road*. *Adv Vet Med* 1999; 41:715-732.
25. Dodds WJ. *Vaccination protocols for dogs predisposed to vaccine reactions*. *J Am An Hosp Assoc* 2001; 38:1-4.
26. Hogenesch H, Azcona-Olivera J, Scott-Moncreiff C, et al. *Vaccine-induced autoimmunity in the dog*. *Adv Vet Med* 1999; 41:733-744.
27. Hustead DR, Carpenter T, Sawyer DC, et al. *Vaccination issues of concern to practitioners*. *J Am Vet Med Assoc* 1999; 214:1000-1002.
28. Kyle AHM, Squires RA, Davies PR. *Serologic status and response to vaccination against canine distemper (CDV) and canine parvovirus (CPV) of dogs vaccinated at different intervals*. *J Sm An Pract*, June 2002.
29. Lappin MR, Andrews J, Simpson D, et al. *Use of serologic tests to predict resistance to feline herpesvirus 1, feline calicivirus, and feline parvovirus infection in cats*. *J Am Vet Med Assoc* 2002; 220:38-42.
30. McGraw DL, Thompson M, Tate D, et al. *Serum distemper virus and parvovirus antibody titers among dogs brought to a veterinary hospital for revaccination*. *J Am Vet Med Assoc* 1998; 213:72-75.
31. Moore GE, Glickman LT. *A perspective on vaccine guidelines and titer tests for dogs*. *J Am Vet Med Assoc* 2004; 224:200-203.
32. Mouzin DE, Lorenzen M, Haworth J, et al. *Duration of serologic response to five viral antigens in dogs*. *J Am Vet Med Assoc* 2004; 224:55-60.
33. Mouzin DE, Lorenzen M, Haworth J, et al. *Duration of serologic response to five viral antigens in dogs*. *J Am Vet Med Assoc* 2004; 224:61-66.
34. Paul MA. *Credibility in the face of controversy*. *Am An Hosp Assoc Trends Magazine* 1998; XIV(2):19-21.

35. Paul MA (chair) et al. *Report of the AAHA Canine Vaccine Task Force: 2003 canine vaccine guidelines, recommendations, and supporting literature*. AAHA April 2003; p28.
36. Schultz RD. *Current and future canine and feline vaccination programs*. Vet Med 1998; 93:233-254.
37. Schultz RD, Ford RB, Olsen J, Scott F. *Titer testing and vaccination: a new look at traditional practices*. Vet Med 2002; 97:1-13.
38. Scott FW, Geissinger CM. *Long-term immunity in cats vaccinated with an inactivated trivalent vaccine*. Am J Vet Res 1999; 60:652-658.
39. Scott-Moncrieff JC, Azcona-Olivera J, Glickman NW, et al. *Evaluation of antithyroglobulin antibodies after routine vaccination in pet and research dogs*. J Am Vet Med Assoc 2002; 221:515-521.
40. Smith CA. *Are we vaccinating too much?* J Am Vet Med Assoc 1995; 207:421-425.
41. Tizard I, Ni Y. *Use of serologic testing to assess immune status of companion animals*. J Am Vet Med Assoc 1998; 213:54-60.
42. Twark L, Dodds WJ. *Clinical application of serum parvovirus and distemper virus antibody titers for determining revaccination strategies in healthy dogs*. J Am Vet Med Assoc 2000; 217:1021-1024.
43. www.vetmed.wisc.edu/articles/68/5/39 "Vaccination: Time to Take a Second Look," Current and future canine and feline vaccination program by RD Schultz, March 1998, Veterinary Medicine.
44. www.britfeld.com/vaccination-adverse.htm
45. www.creativeemotion.com/vaccineinfo.htm