

Does Your Pet Really Need That Rabies Shot?

Part 4 in a series with Dr. Ronald Schultz & Dr. Karen Becker (2014)

In this final segment, the doctors discuss the future of rabies vaccines and the vaccination protocol Dr. Schultz uses with his own pets.

Dr. Becker:

Today I'm wrapping up my 4-part interview with Dr. Ronald Schultz, Professor and Chair, Department of Pathobiological Sciences, School of Veterinary Science at the University of Wisconsin – Madison. We're returning to the subject of rabies vaccines and Dr. Schultz's fascinating work in this area.

Are Rabies Vaccinations Really Needed Every Year or Three Years? I asked Dr. Schultz to explain why there are 1-year and 3-year vaccines, but not, say, 7 or 12 or 20-year rabies vaccines. Dr. Schultz explains he's conducting studies at the moment to successfully demonstrate a minimum duration of immunity for rabies at 7 years. This could enable us to extend the time between re-vaccinations. Up to now, no one has done the research to prove we can go beyond 3 years. Part of the reason is because the studies are very expensive and take a lot of time.

Currently Dr. Schultz is in year 4 of his 7-year study. You can read more about the study at the Rabies Challenge Fund. He is looking to be able to recommend that after an animal is vaccinated at from 12 to 24 weeks of age for rabies, it doesn't require re-vaccination every 3 years. Every state in the U.S. now has a 3-year rabies law, however, depending on what city or municipality you live in, the laws may be more restrictive, requiring every-year or every two-year rabies vaccines. Dr. Schultz reminds every pet owner that you are the one with the ability to get the laws changed if you live in a location that requires your pet be vaccinated more frequently than every 3 years for rabies. There is absolutely no scientific reason for anyone to vaccinate an animal more often than every 3 years with products that are licensed by the USDA to be given at 3-year intervals. Re-vaccinating that animal more frequently will not enhance herd immunity or protection against rabies. Animal owners who never have their pets vaccinated will continue to avoid doing it, so the requirement for more frequent rabies vaccines is nothing more than a penalty handed out to pet owners who do get their animals vaccinated per the law. It is those pet owners who are potentially causing harm to their animals because they are complying with the every 1 or every 2-year vaccine mandate.

Is There a Difference Between the 1-Year and 3-Year Vaccines? I asked Dr. Schultz if the 1 and 3-year rabies vaccine products are the same. His opinion is most of them are. There is also a 1-year feline rabies vaccine that has no adjuvant, but there is not at this time a similar 3-year product. I asked Dr. Schultz why there isn't a 3-year non-adjuvanted product. His answer is the adjuvant free 1-year feline rabies vaccine is new technology. It is a recombinant vaccine that is

similar in nature to a modified live vaccine, but there's no live rabies in it. The cat's immune system sees this vaccine as live. The company that developed the adjuvant-free 1-year vaccine did studies that showed vaccinated cats were still protected 100 percent from rabies 3 years later. However, a problem in the control (non-vaccinated) group of cats (not enough of them died) prevented the USDA from issuing a 3-year license for the vaccine. In a second round of studies, even fewer non-vaccinated cats died, so again, the USDA refused to issue a 3-year license for the product.

With regard to vaccine-associated sarcoma (VAS) in cats, Dr. Schultz believes it's preferable to give the non-adjuvanted 1-year rabies vaccine over the 3-year vaccine containing adjuvants. Whereas the non-adjuvanted 1-year vaccine created no inflammatory response at the injection site (a marker for tumor development), adjuvanted rabies vaccines are known to cause more VAS. So even in genetically predisposed kitties, it is assumed the non-adjuvanted product, even given yearly, is less harmful than the adjuvanted vaccine. Since it is known that cats are more likely to develop vaccine injection site sarcomas, the direction for feline vaccines is toward non-adjuvanted products. Adjuvanted products are more likely to cause adverse reactions in general, across all species. So, the overall goal in future vaccine development is to 1) have fewer adjuvanted vaccines and 2) to develop new adjuvants that are less likely to create adverse reactions.

The Vaccine Protocol Dr. Schultz Would Use with a New Puppy or Kitten in His Family The last question I had for Dr. Schultz was how his vaccination protocol has changed over the years for his own pets and those of family members. Dr. Schultz feels very confident about the effectiveness of vaccines. He is also a risk taker in his personal life (he rides motorcycles, has a pilot's license), and not everyone (including me) is as comfortable taking risks as he is. So his choices for vaccination of pets must be put into that context. With that said, there are very few people who know more about veterinary vaccines than Dr. Schultz, so he is really not taking much of a risk with his pets, his children's pets, or his grandchildren's pets with the vaccine protocol he follows.

He does antibody titers on the mother (Nomographs) to know the right time to effectively immunize (not just vaccinate) the puppy or kitten for the 3 core viruses. He titers the puppy or kitten 2 or more weeks post vaccine to make sure the animal responded, and as long as the response is adequate, he would probably not re-vaccinate for the rest of the dog's or cat's life. This is a protocol he has followed since 1974. He would also give a rabies vaccine (which is technically also considered a core vaccine), the frequency of which is not dictated by Dr. Schultz's knowledge of immunology, but is dictated by the law. He gives the first rabies vaccine sometime after 4 months of age, re-vaccinates in a year, and then again in 3 years and every 3 years thereafter. Dr. Schultz reiterates his rabies vaccine protocol is because of the law, not because every 3-year vaccines are necessary immunologically. The law is not interested in when an animal actually needs another rabies vaccine to be protected – the law simply demands every 1, 2 or 3-year vaccinations with no consideration for whether the animal's body is already immune to the rabies virus thanks to a prior vaccine. If you choose not to re-vaccinate your pet for rabies, it is your choice, but you should be aware it is also against the law. Neither Dr. Schultz nor I are suggesting you do anything illegal. However, if you choose not to re-

vaccinate, be aware your pet is probably protected for life from the virus anyway due to prior rabies vaccination. If Dr. Schultz's 7-year rabies study can prove the vaccine is good for at least that long, prompting a change in current vaccination laws, then a dog might only receive 2 rabies vaccines in a lifetime. My Sincere Thanks to Dr. Schultz I want to point out to all of you that Dr. Schultz is single-handedly changing the face of immunologic veterinary medicine. I am so grateful for the work he does – his effort and his passion – and for helping all of us make better decisions for the animals in our care.

Dr. Schultz, in turn, thanks the veterinarians who've been willing to make changes to their vaccination programs, as well as the vaccine companies that conduct their own studies with their products. Every major veterinary vaccine manufacturer has completed a minimum 3-year vaccine study with the core vaccines, and they have all demonstrated their products provide a minimum of 3-years duration of immunity. This should say something to any veterinarian out here who is wondering if it's really safe to go 3 years between vaccinations — as well as any pet owner with similar concerns — that yes, they can confidently go 3 years, regardless of the product used.