

# Health

## **THE FIRST DAY**

**When you pick your puppy up from the breeder, bring a lead, and--if you are driving--a crate. Don't forget paper towels in case of an accident. For the first 24 hours after bringing the puppy home, try to stay home and keep visitors and noise to a minimum. Observe your puppy and get to know him or her better. If puppy seems fine during that time, then start having fun. Take him/her places, let everyone visit, expose him/her to as much as possible.**

**For that first day you may offer your puppy some food, but don't push it. Put it down and if the puppy does not immediately start eating the food, quietly remove it and wait until the next day. By that time the puppy should feel more secure, be more settled, and should be very hungry and is quite likely to want to eat. The puppy will obviously be stressed by the sudden changes in its life and may not want to eat at first--so don't worry about it. If you do, you may start a vicious cycle of you trying to get your puppy to eat, and your puppy refusing. Best to wait until the puppy is really hungry and have a successful first feeding. You both will then feel more confident.**

## **VET**

**Besides the regular vet visits for other reasons, always have a thorough checkup done on your Cavalier every March or April. This should include a stool and body check for parasites, a heartworm test, a temperature check, the vet must listen to the heart and lungs for any murmurs or abnormalities, check the patellas to be sure they are tight, look carefully in the ears, at the eyes, check the condition of the teeth and color and condition of the gums, check the abdomen for hernias or masses, and check all lymph nodes for swelling. Also please see the Annual Checkup Form that is included with this Manual. Please make sure you take a copy of that form to your vet each year and have him/her fill it out. Then be sure to return it to me. This keeps me informed of any problems my dogs might be producing--I can't 'fix' something unless I know it is 'broken'!**

## **SPAYING/NEUTERING OF PETS**

**All Cavaliers sold as pets are sold on a Restricted from Breeding Contract and Pedigree through CKCSC and a Limited Registration through the AKC. Please be sure to get him/her neutered or spayed. I suggest that you spay or neuter at about 12 months of age--after the growth plates of your puppy have closed. You can still show your spayed or neutered Cavalier at CKCSC shows or matches or in obedience or Children's Handling classes if you wish to do so--anything but AKC Conformation Classes. Dogs spayed or neutered before their growth plates are closed WILL grow taller and leggier than those spayed or neutered later. And this will result in several negative changes. Please read Early Spay/Neuter Considerations for more information on this.**

## **VACCINATIONS**

**Read and reread the information on vaccinations. This is of utmost importance! Humans do not get vaccinations every single year for the rest of their lives--why should your dog? It is absolutely NOT**

necessary and **DEFINITELY** unhealthy for your puppy. Be prepared when your puppy visits the vet. Download or copy the information supplied on this site and show it to your vet, be knowledgeable and discuss with him/her why you want your puppy vaccinated this way. Reassure your vet that you have your puppy's best interests at heart.

The following is an excellent article regarding a summary of the latest information on vaccinations. I follow Jean Dodd's schedule of Proguard Distemper/Parvo at approximately 9 weeks of age, 13 weeks of age and 17 weeks of age--again 1 year later and then every 3 years after that--discontinuing around 10 years of age. Rabies--by state law. Others are chosen only when and if necessary. There will also be a few links to other sites about vaccination protocols that you can read and download. These will be listed after the article.

### **NEW APPROACH TO VACCINATION OF THE CANINE**

by Leanne Bertani, MD (*posted with permission from the writer*)

For years, it was believed that annual vaccinations for viral diseases were necessary to keep our beloved companions out of harm's way. But we have recently come to a turning point in vaccination of the canine. While we are grateful for protection from diseases such as distemper and parvovirus, there is growing realization that vaccination is not always benign.

In 1996, a study was published suggesting an association between vaccination and autoimmune disease, specifically autoimmune hemolytic anemia, an often fatal destructions of red blood cells. (1) This was followed by another study that demonstrated that dogs may develop an autoimmune response after vaccination. (2) In 1998, the American Association of Feline Practitioners responded to the increasing incidence of vaccine-induced fibrosarcomas in cats by changing the recommendation for feline parvovirus vaccination from annually to every three years.

These events, coupled with the knowledge that some vaccinations for viral diseases may protect for seven or more years, have caused veterinarians and dog breeders alike to begin to ask, "Are we vaccinating too much?"

### **DURATION OF IMMUNITY FOR COMMON VACCINES**

Studies have shown that, once fully immunized, more than 90% of canines retain immunity to Parvovirus-2 and Adenovirus-2 for more than seven years. (Full immunization may not take place with vaccinations administered prior to 16 weeks, due to interference by maternal antibodies.) Immunization to Distemper may last up to 15 years, and immunization to Coronavirus probably lasts a lifetime. Immunization to Rabies and Parainfluenza lasts about 3 years in about 80-85% of dogs. Note that proven duration of immunity may vary dependent on the type of vaccination used; for instance, modified live parvovirus demonstrated a long duration of immunity than killed virus; one strain of distemper tested for a longer duration than another. New recombinant vaccines may be more efficient and produce a longer-last immunity.

Other vaccines, particularly the bacterial ones, are less durable. Some vaccines such as Bordetella may last less than a year and are probably only effective in about 70% of dogs. Sufficient data of Leptospira, Borrelia (Lyme) and Giardia vaccine is not available to suggest immunization lasting much longer than a year. (4)

#### **PROGRESS IN THE VETERINARY COMMUNITY**

The American Veterinary Medical Association Council on Biologic and Therapeutic Agents published immunization recommendations for dogs and cats in 1989, suggesting annual revaccination. The companies that produce the vaccines also suggest annual revaccination. A study published in 1998 found that 27% of vaccinated dogs had a less-than-protective CPV titer [parvo], and 21% of dogs had a less-than-protective CDV titer [distemper], and summarized that the current practice of annual revaccination of dogs against CPV and CDV infection should be maintained. (5) (Critics of that study argue that authors used CDV antibody titers that are inconsistent with sterilizing immunity and don't take into consideration that those dogs with lower titers will be protected from disease but not infection.) With the above in mind, it was understandable that veterinarians were reluctant to buck tradition, as the legal community generally compares medical practice to the "standard of care".

But the vaccination revolution received a couple of big pushes in 2001. The January 2001 issue of The Veterinary Clinics of North America (Small Animal Practices) featured revaccinations and discussed the need for reconsidering traditional annual vaccinations. A chapter author, Dr. Ronald Schultz, Professor & Chair at the University of Wisconsin, says that their Veterinary Medical Teaching Hospital has been on an "every three or more" year vaccination schedule for cats and dogs for over four years. "The goal for the future should be to vaccinate more animals than are now vaccinated, but to vaccinate those animals less often and only with the products that the animal needs," says Dr. Schultz.

Another advance came in April 2001, when the American Veterinary Medical Association Executive Board approved the Council on Biological Therapeutics new "Principles of Vaccination." This statement was published in the Journal of the American Veterinary Medical Association on September 1, 2001. The principles state that "unnecessary stimulation of the immune system does not result in enhanced disease resistance and may increase the risk of adverse post-vaccination events." It recommended that veterinarians create "core" and "non-core" vaccination programs (see below for examples), and that vaccine schedules should be tailored to the needs of each specific animal.

#### **HIGH PRIORITY ("CORE") VACCINES**

The high-priority vaccines are those protecting against diseases that are of greatest risk to the dogs or to public health, and those that carry a large benefit-risk ratio. Possible vaccines that might be included in many core programs would include:

1. canine parvovirus-2 (CPV-2)
2. canine distemper virus (CDV)
3. infectious hepatitis, controlled by canine adenovirus-2 (CAV-2)
4. rabies (RV) - a priority in all but the "rabies-free" countries

**At this time, most products intended for vaccinating for CAV-2, also includes Parainfluenza (PI), so vaccinations for Parainfluenza may be included by default.**

**Rabies vaccine is almost a "no-brainer", as it is considered a core vaccine in most areas, and is high priority and governed by state law in the United States. Although there appear to be some rabies-free areas in Canada, most dogs in the U.S. should receive a rabies vaccine between 4 and 6 months, with a booster a year later, and then every three years. There are a few states with a high rabies incidence that may require an earlier initial vaccine, and yearly revaccination.**

#### **MINIMALIST APPROACH**

**Like many decisions, the vaccination decision comes down to risk versus benefit. The absolute minimum requirement would be vaccination with the high priority vaccines at least one time after the age of 4 months, and revaccination with rabies vaccine according to area law. Using this minimalist approach, a dog living in a rabies-free area may only have one injection in its entire life. This approach might be useful in families of dogs that are at risk for adverse reactions to vaccines such as anaphylaxis or autoimmune disease.**

**But the minimalist approach is risky. Knowing that the parvovirus vaccine is over 90% effective is not much comfort if you are in the small percentage whose dog is unprotected and that dog brings it home to your puppies. Then there is always the worry that some puppies will contract disease between the ages of 6-12 weeks, when protection by maternal antibodies begins to wane. And there are some breeds that don't appear to "immunize easily" (Dobermans, Rottweilers). There is concern that the initial vaccines may not be effective due to poor handling or other reasons, and that extra vaccines are necessary for "insurance". There is also concern that without the vaccines to draw pet owners in for annual veterinary visits, life-threatening conditions may go unnoticed.**

#### **TITERS**

**Titer tests (blood tests to attempt to determine the dog's level of immunization) are also becoming more common, but are inconvenient and expensive in some areas, and remain somewhat controversial. As yet, there is no consensus on the usefulness of titers. Critics point out that there have been no studies to determine what levels actually confer protection from disease, or if there is even a correlation between antibody levels and susceptibility to disease. Some maintain that there is a difference between protection from infection, and protection from disease. Also somewhat suspect is the lack of standardization for tests determining antibody concentration.**

**Dr. Richard Ford, of North Carolina State University, states, "The risk lies in the fact that a single serum sample divided three times and sent to three different laboratories is quite likely to yield three different titers, and quite possibly three different interpretations. What may be deemed 'protective' by one laboratory could well be labeled 'susceptible' by another. Furthermore, it is important to note that a vaccinated dog or cat that does not have a significant concentration of antibody may, in fact, have excellent immunity. A**

**'negative' antibody titer does not necessarily correlate with susceptibility to infection. Likewise, the presence of antibody, even at high levels, does not guarantee immunity subsequent to exposure. (6)**

**At this point, the biggest role of the titer may be merely to convince boarding clinics or show committees that the animal doesn't require its annual vaccination. It is likely that titer testing will receive greater utilization in the future, but further studies are obviously needed.**

#### **SAMPLE CORE PROTOCOLS: 1998 COLORADO STATE UNIVERSITY PROTOCOL**

**Some universities have already developed new vaccination programs. One of these is Colorado State University. (7) Their 1998 core recommendation is a standard three shot series at 8, 12 and 16 weeks of age, including parvovirus, adenovirus 2, parainfluenza, and distemper. A rabies vaccine was recommended after 16 weeks of age. Following the initial puppy immunization series, dogs would be boosted one year later and then every three years thereafter for the above diseases. Bordatella vaccine was recommended at least 72 hours prior to possible exposure (dog show, trip to boarding kennel) and could be repeated every two to four months. The summary is below:**

**8, 12 & 16 weeks: parvo, adenovirus, parainfluenza, distemper (Proguard 5)**

**After 16 weeks: rabies (Imrab 3)**

**68 weeks and every 3 years thereafter: parvo, adenovirus, parainfluenza, distemper, rabies  
Bordatella as required**

#### **DR. DODDS**

**Some veterinarians, such as Jean Dodds, DVM, recommend that vaccines be given separately if possible, to minimize the consequences to the immune system. This is presently difficult, as most vaccines in the United States are only available in combination ( polyvalent) vaccinations - sometimes seven or either in one injection! But there are a few that are available in smaller combinations; her recommendations (as of April, 2000) for dogs prone to autoimmune disease are below.(8) Dr. Dodds also recommends that vaccination be avoided during estrus, pregnancy or lactation.**

**9 weeks MLV Distemper/Parvovirus only (e.g. Intervet Progard Puppy)**

**12 weeks MLV Distemper/Parvovirus only (e.g. Intervet Progard Puppy)**

**16-20 weeks MLV Distemper/Parvovirus only (e.g. Intervet Progard Puppy)**

**24 weeks or older, if allowable by law Killed Rabies Vaccine**

**1 year MLV Distemper/Parvovirus only booster**

**1 year (give 3-4 weeks apart from Distemper/Parvo booster), Killed 3 year rabies vaccine**

**(MLV = modified live virus)**

**After 1 year, annual measure serum antibody titers against specific canine infectious agents such as distemper and parvovirus.**

**Bordatella, corona virus, leptospirosis or Lyme only if endemic in the area.**

**These are only sample core schedules, and recommendations for any one particular dog should be made by a veterinarian with a valid patient-client relationship.**

#### **BREEDERS' COMPROMISE**

**Because of the fear of puppy mortality from distemper and parvo, many breeders still give annual distemper and parvo vaccinations to dogs and bitches being bred or shown, but more and more are choosing to discontinue vaccinations for viral diseases at the time the bitches are retired, with the exception of rabies where required by law.**

#### **THE LOWER-PRIORITY (non-core) VACCINES**

**Again it comes down to risk vs. benefit. Killed vaccines are more risky in the short term, i.e. more likely to cause immediate adverse reactions (anaphylaxis/anaphylactic shock) than live vaccines, and bacterial vaccines more risky than viral ones. Those generalities would denote Leptospira (killed bacterial) as the most likely of the commonly used vaccines to cause anaphylaxis, followed by Borrelia/Lyme's Disease (killed, recombinant bacterial), and Rabies (killed viral), Corona and Bordatella. Corona is available as modified live viral, but the killed viral preparation is commonly used. Bordetella bronchiseptica is a bacterial vaccine, available as a modified live and killed; the nasal preparation is thought to have the highest benefit-risk ratio.**

**The Leptospirosis vaccine is a controversial one. Leptospirosis is an important disease because it can be transmitted to man and some other animals, and can cause severe kidney disease. As mentioned above, it is one of the vaccines most likely to cause a fatal anaphylaxis in puppies, so many breeders just don't give it. Until recently, the vaccine only covered two serovars and was effective in less than 50-75% of dogs that received the vaccine. But two more serovars have been recently added, and leptospirosis has become endemic in some areas. Therefore, the decision to include Leptospira will have to be made on the basis of its presence in the dog's area, as well as the future performance of the two new serovars.**

**The value of the Canine Coronavirus vaccine is also controversial. Some authors go as far as to say that it is not needed. Corona is a highly contagious virus, but one that rarely causes death in an adult dog. It may cause protracted diarrhea, though, and can be fatal to puppies, so the decision on whether or not to vaccinate for Coronavirus probably depends on how much exposure your dogs have to outside dogs, and also whether or not you raise puppies in your home. Many breeders choose to vaccinate their adults just one time in hopes that it will decrease the possibility that they will bring the Coronavirus home to their puppies.**

**Vaccinations for Borrelia/Lyme's Disease and Giardia are generally not necessary for the large population of toy dogs that spend most of their time on the couch. But some of the sportier toys and those in endemic areas may be vulnerable, so it is best to consult with your veterinarian and possibly the Public Health Department in**

**making decisions regarding Leptospira, Borrelia, Corona and Giardia vaccines.**

**Bordetella bronchiseptica is a bacteria that causes infection of the trachea and bronchi; the infection is commonly called "kennel cough", and is kin to the human "whooping cough". The Bordetella bronchiseptica vaccine is often given when dogs are likely to be exposed to large numbers of other dogs, such as a dog show or boarding kennel. It is available both as injection and as a nasal inhalant. The inhalant vaccine is thought to be less likely to cause a severe reaction, and also to have less interference by immunity from colostrum. Immunization to Parainfluenza and CAV-2 is thought to enhance the protection of the Bordetella vaccine. Unfortunately, the Bordetella vaccine is not one of the more efficient ones, having a short duration and about a 70% protection rate, but I expect we will have more efficient vaccines in the future.**

#### **CONSIDERATIONS FOR TOY BREEDS**

**It does appear that toy breeds may have more adverse reactions to vaccines, so a less-frequent vaccination schedule may be of particular benefit to this group. The most frightening response is severe anaphylaxis, most common after killed bacterial vaccines such as leptospirosis. There are some vets who will not give a leptospirosis vaccine to a dog under ten pounds for this reason.**

**The one milliliter dose volume listed on most vaccine labels is recommended because that was the volume tested during the licensing process. During the efficacy testing, the issue of breed was ignored. Consequently, we really don't have studies to tell us if the Toy Poodle should get the same volume as the Great Dane. Although a natural inclination would be to halve the dose for toy breeds, there is little or no scientific data to back up that recommendation.**

**Human studies, though, advise against decreasing dosage on basis of size. In a study of premature babies given half of a DTP vaccination, those babies did not appear to develop an adequate immune response to Pertussis.(9)**

**A common compromise used by breeders is to halve the dose of the vaccination during the initial puppy series, giving a full dose after 16 weeks. Leptospirosis is usually omitted until after a year of age, or omitted entirely, unless there is local concern about the disease. This may change after the performance of the new vaccine is evaluated.**

#### **THE FUTURE**

**The veterinary community is somewhat hampered by lack of adequate funding for the research needed, but the future should bring more efficient vaccines. Instead of modified-live virus, we will probably have vaccines available made from recombinant DNA. We may also see more nasal vaccines, which may be less likely to cause adverse reactions. Hopefully, more work will be done to correlate antibody titers with immunization to clinical disease. It would also be nice to see some studies done comparing the prevalence of autoimmune disease between groups of annually-vaccinated dogs, and dogs vaccinated less frequently under the new proposals. And of course, there will need to be more studies regarding the actual**

**duration of immunity following vaccination. We can help by encouraging our breed clubs to contribute to funding of veterinary research.**

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**Questions regarding the article may be directed to [LBertani@columbus.rr.com](mailto:LBertani@columbus.rr.com)**

**The above article is merely an exploration of changing trends in vaccination and should not be misconstrued as advice. Consult your veterinarian before making changes in your vaccination program.**

**References:**

- (1) Duval, D., Giger, U.. Vaccine-induced immune-mediated hemolytic anemia in the dog. J Vet Intern Med 1996.**
- (2) Hogenesch, H., et al. Vaccine-induced autoimmunity in the dog. In: Schultz, R.D., ed. Advances in Veterinary Medicine 41: Veterinary Vaccines and Diagnostics. San Diego: Academic Press, 1999; 715-732.**
- (3) Schultz, R.D.. Duration of Immunity to Canine Vaccines, Canine Infectious Disease Workshop, James A. Baker Institute, August, 1999.**
- (4) Recent Advances in Canine Infectious Diseases, L. Carmichael, Editor. Baker Institute for Animal Health, College of Veterinary Medicine, Cornell University, Ithaca, New York, USA.**
- (5) McCaw, D.L.; Thompson, M.; Tate, D.; Bonderer, A.; Chen, Y.J., Department of Veterinary Medicine and Surgery, College of Veterinary Medicine, University of Missouri, Columbia, J Am Vet Med Assoc., 1998, Jul, 213:1, 72-5.**
- (6) Vet. Clin. North.Am.Small Anim. Pract. 2001 Jan., p. 442.**
- (7) <http://www.cvmb.colostate.edu/vth/savp2.html>**
- (8) <http://ighawaii.com/naturally/doddsvac.html>**
- (9) Pediatrics, 1989, April 83(4), 471-6. Half-dose immunization for diphtheria, tetanus, pertussis: response of preterm infants. Bernbaum, J., Daft, A., Samuelson, J., Polin, R. A.**

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**Here is another article taken from the AAHA journal stating the latest thoughts on vaccines and new protocols.**

**2003 VACCINE PROTOCOLS**

## **MITRAL VALVE DISEASE**

**Please go to the Cavalier InfoCenter site at [www.cavalierinfosite.com](http://www.cavalierinfosite.com) and go to the page on Mitral Valve Disease. There is a lot of information already there and more will be added as more information comes in.**

**Roycroft also asks that all puppy buyers download and have their vet fill out the Annual Checkup form here on an annual basis and then return this form to the breeder. This keeps me aware of any problems that might be arising in my puppies.**