

# Seven Simple Words

by Deb Zorn

## Part 1: Mattie's Story

**Seven simple words.** Who would have thought seven words, spoken almost as an afterthought, could cost my beautiful, crazy girl Mattie her health and ultimately her life? But that is essentially what happened, and in the hope of preventing this from happening again, I am sharing her story.

It all began innocently enough. Mattie had what I thought was a very small sebaceous cyst at the base of her neck, just above the withers. The veterinarian performed a fine needle aspirate, said he thought it was a tumor because he observed abnormal cells which were not inflammatory, scheduled a date to have it removed, recommended a biopsy, and then casually stated those seven words which eventually ended her life, "*Mattie is overdue for her rabies vaccine.*"

Billy Wilder said hindsight is 20/20, and I agree. If I had known then what I know now, I would not have had her vaccinated at that time. I would have realized her immune system was potentially compromised. I should have had the growth removed and waited for the biopsy results. (The growth disappeared when Mattie was put on the steroids, so a biopsy was never performed.)

But I had known my veterinarian for over twenty years and none of my previous eight dogs had ever had an adverse reaction to a vaccine. At the time, Mattie was actively competing in agility, rally, and water, and had been trained through Utility in obedience. As we were leaving for a water trial in Michigan the following day, I agreed to the three-year rabies vaccine.

Later that morning, Mattie was unusually lethargic. The clinic staff said her reaction was perfectly normal, and not to worry. I did not know it at the time, but Mattie was far from fine.

Three days later she spent the night at the emergency clinic. Her temperature was 106.8. (Per Dr. Richard Pitcairn, a dog's normal temperature ranges from 100.5 degrees to 101.5 degrees, with slight variations allowed for the potential stress of the veterinarian's office.) All of Mattie's joints were swollen and inflamed, and she had difficulty walking.

She was diagnosed as having Idiopathic Immune-Mediated Polyarthritis. We can dissect this diagnosis as follows: Idiopathic meaning of unknown cause, immune-mediated meaning there has been a failure of the immune system resulting in the body attacking itself, and polyarthritis meaning there is arthritis in several joints.

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Editor's note:

Adverse reactions to vaccinations are rare, and their occurrence is not limited to any single type of vaccine.

The laws requiring vaccinations for rabies exist because rabies is virtually 100% fatal in humans. It is also 86% fatal in dogs.

Rabies is a zoonotic disease, meaning it can be transmitted from animals to humans. A dog or human does not have to be bitten by a rabid animal to be exposed to the disease; it can be transmitted via saliva.

Taking these facts together, nothing in Deb Zorn's article is intended as encouragement to evade fulfilling the legal requirement to safeguard our dogs, ourselves, and our communities from infection from rabies.

The article is intended to inform us: how and when may adverse reactions present so we can observe knowingly; what is the current status of research into the duration of immunity from existing vaccines; and what are methods used in immunity evaluation.

Most of all, Deb shares with us some options we have in preparing for and following up on the administration of vaccinations to reduce the chances that an adverse reaction will occur.

We are deeply indebted to Drs. Ronald Schultz, Jean Dodds, Michael Moore, Barbara Royal and Richard Palmquist for sharing their extensive knowledge through information and multiple, painstaking reviews of this article.

—Kathryn Monroe  
Editor

At the emergency clinic, Mattie was given subcutaneous fluids and prescribed ten milligrams of prednisone, a corticosteroid, twice daily. (A corticosteroid is intended to resemble a naturally occurring hormone produced in the adrenal cortex. It decreases the immune system's response to disease.) Later, when we tried to taper off the prednisone, her original symptoms of fever, swollen joints, and stiffness would return. Over time, although her daily dose of prednisone decreased, she developed many of the drug's side effects, including loss of muscle tone in her abdomen and rear legs, increased thirst, and a thinning, unhealthy-looking coat.

She was also prescribed fifty milligrams of doxycycline, an antibiotic, to be taken every other day for fourteen days. When her temperature continued to fluctuate as high as 106 degrees, another immunosuppressant (azathioprine) was briefly added. (I do not think I fully appreciated the gravity of Mattie's condition until I learned the azathioprine came with rubber gloves with which I was to administer the drug, so as not to suppress my own immune system.)

**Three powerful words.** At that point, I was still hopeful Mattie would make a full recovery, and that she would, in time, return to the many activities we enjoyed. We needed stronger medicine than what was available from my traditional veterinarian, and so three powerful words, “*Integrative Veterinary Medicine*”, became a crucial component of our lexicon.

For almost a year, the extraordinary Dr. Barbara Royal and her talented team passionately wrestled with Mattie’s condition using empathy and a balanced blend of both western and eastern medicines. At The Royal Treatment Center, Mattie received a variety of complementary medicines including acupuncture, chiropractic, massage, underwater treadmill, and various Chinese herbal supplements, topped with encouragement and boundless love.

At TOPS Veterinary Rehab, the marvelous (and also passionate) Dr. Laurie McCauley, and her wonderful assistant Laura, treated Mattie’s symptoms using Aquatic Bioelectric Therapy, Laser Therapy, and Pulsed Signal Therapy (PST), together with unlimited compassion.

Mattie responded quite well to the additional treatments. She went for walks and was able to retrieve a tennis ball thrown fifty yards away. However, it soon became apparent she would never have the joint flexibility to return to competitive sports.

Approximately eleven months after she received the rabies vaccine, she began vomiting periodically and lost her appetite. An ultrasound revealed a thickened stomach lining and the probability of cancer. One morning, at approximately 2:00 a.m. (*Why do emergencies always happen in the middle of the night?*), I awoke to Mattie’s strangled breathing. She was lying in a pool of vomit, and she died within a minute of my awakening, without regaining consciousness. She was eight years old.



Mattie receiving therapeutic massage at TOPS

As heartbroken as I was, Dr. Royal was equally heartbroken, having worked so hard and for so long to restore Mattie’s health. I should have donated her body to the Georgie Project but she died so unexpectedly and I

was distraught. Her body was frozen before I realized that was a mistake. Due to my lack of preparation, there was no autopsy.

What are we to learn from Mattie’s experience? The vaccine was probably not contaminated. There was nothing unusual regarding the actual injection. On that day, her level of antibodies may have already been high enough to protect her from rabies. The vaccine and its adjuvant material simply overloaded her system, which may have been compromised by the nature of the tumor, triggering an acute immune-mediated response. And then the immunosuppressants, which had initially saved her life, enabled the presumed stomach cancer cells to proliferate, and finally kill her.



Dr. Royal with Levi and staff

After Mattie died, I heard similar stories from grieving owners that indicate her reaction to the vaccine, though not common, was not an isolated case. And while in her case the vaccination was for rabies, a powerful formula to combat a powerful disease, adverse reactions to some other vaccines occur with more frequency.

## **Part 2: Measurement and Duration of the Effectiveness of Vaccines**

Vaccinations of all types have recently become a controversial topic. How long is a vaccine effective? Are complex vaccines potentially more harmful than simple vaccines? Why does a dog need to be re-vaccinated? Who dictates how often a vaccine must be repeated, and on what basis do they decide?

In Mattie’s case, the vaccine that was administered was against rabies. Rabies is a viral disease, affecting the brain and central nervous system. The disease is always fatal, once clinical signs develop. The virus is spread through the saliva of infected animals. Each year in the USA, approximately 6000 cases are documented in animals, primarily wildlife. It is virulent (highly contagious) and its current containment in humans is the result of universal, mandatory vaccination protocols.

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Veterinarians are required by law, therefore, to administer the rabies vaccine. The age and frequency of required rabies vaccinations varies from state to state, with some states referring to the CDC's Compendium of Animal Rabies Prevention and Control. Depending upon whether or not the dog has had a prior rabies vaccination, a veterinarian will offer either a one-year or a three-year rabies vaccine, although the vaccines are identical. Depending on which vaccine is administered, re-vaccination is required by law after that time period has elapsed.

While time intervals for vaccinations are defined in laws, immune systems are complex, and their ability to continue to produce antibodies after a vaccination is affected by a number of external and internal factors, not just time. Only in the last few decades, long after the governing laws were established, has technology developed that can measure continued antibody production.

How often should the risk of adverse reaction to a vaccination be undertaken to obtain the individual and societal benefits of immunization against a deadly disease? In other words: What is the interval of protection/Duration Of Immunity (DOI)? Can it be defined, and how?

After exposure to a disease (through controlled vaccination or other exposure), immune systems retain the antibodies that were produced, to combat the presence of a disease if it is detected again in the future. If the disease is detected again, the antibodies self-generate, mounting a strong defense. The level of antibodies, that is, the latent strength to generate a defense, is generally tested by blood serum tests called titers. Per Dr. Dodds, "A titer test is a simple blood test that measures a dog or cat's antibodies to vaccine viruses (or other infectious agents)."

The Kansas State Veterinary Diagnostic Lab (KSVDL) offers several titer tests for rabies. It is important to note that although KSU studies indicate a positive correlation between RVNA titers and the level of protection after virus challenge, predicting whether a dog is protected against rabies based solely on a single serum titer is a simplification of an extremely complex immune system.

And so I became aware of **three hopeful words**, namely the *Rabies Challenge Fund* (RCF.) Per the web site, "The Rabies Challenge Fund Charitable Trust will determine the duration of immunity conveyed by rabies vaccines. The goal is to extend the required interval for rabies boosters to 5 and then to 7 years."

Per Dr. Jean Dodds, "From serum rabies titer testing we know it should last at least 5 years, likely more. The Rabies Challenge Fund project is now in the challenge phase and we should have data by the end of the year (for) 6 and 7 year post-vaccinal studies."

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Per Dr. Ron Schultz, "***Rabies is the most important zoonotic disease that can be transmitted from dogs and cats to human beings. The most effective way to prevent this zoonotic disease is by vaccinating dogs and cats. Showing that a vaccine for rabies can provide 5 or preferably 7 years of immunity would have great significance not only in controlling rabies but more importantly in reducing the adverse vaccine reactions that can occur in dogs and cats after vaccination.***"

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A recent 2015 study from KSU (Kansas State University) documented long term immune memory in dogs vaccinated for rabies and tested at, or after, 3 years. The objective of the study was "to compare anamnestic antibody responses of dogs and cats with current versus out-of-date rabies vaccination status." Anamnesis denotes an enhanced reaction of the body's immune system to an antigen that is related to an antigen previously encountered. The "results indicated that dogs with out-of-date vaccination status were not inferior in their antibody response following booster rabies vaccination, compared with dogs with current vaccination status."

Historically, per the Kansas State University Veterinary Diagnostic Laboratory (KSVDL), veterinarians have "considered vaccination a (relatively) innocuous medical procedure... The standard operating procedure in veterinary practices has been 'when in doubt, vaccinate the patient' believing the benefits of vaccinations always outweigh any possible risks. However the emerging awareness of acute and chronic adverse reactions to vaccines is changing the way vaccine decisions are being made in small animal practices. The current trend is to carefully assess each patient's disease risk to determine if vaccine(s) are necessary and if so, which vaccine(s) would be appropriate. The use of serological titers can be a valuable tool in making those vaccine decisions."

Are there alternatives to vaccination? For rabies, no, not at this time; it is required by law. Dr. Michael Moore, of the KSU Veterinary Diagnostic Lab, told me modifications to the CDC's Compendium based on study results will be published in the next month or two.

He could not provide details at this time but he advised checking the Journal of the American Veterinary Medical Association (JAVMA, , January 15, vol 246:205-211, 2015.) He said we are definitely over-vaccinating, although there are low and high antibody responders. The changes to the Compendium are the first steps toward modernizing the law, as it gives legislatures scientific justification.

Homeopathic nosodes have been available and prescribed by holistic veterinarians for decades. Per Dr. Richard Pitcairn, nosodes are "made from natural disease products. Distemperinum, for example, is made from the secretions of a dog ill with canine distemper. It is sterilized, diluted, and carefully prepared in accredited pharmacies." **Nosodes, however, do not replace vaccines, as nosodes can be "used only temporarily and during times of likely exposure."**

Lyssin, an oral homeopathic remedy, has been called the rabies nosode but, per Dr. Jean Dodds, it is technically not a nosode. Per Dr. Barbara Royal, both Thuja (made from the leaves & oil of Thuja occidentalis, also known appropriately as the “Tree of Life”) and Lyssin are homeopathic detox supplements.

Non-homeopathic drugs such as an appropriate dose of Benadryl can be used. Benadryl decreases the dog’s immune system reaction to the initial presence of the vaccine and reduces the possibility of an adverse reaction. Dr. Royal advises giving your dog the appropriate dose of Benadryl before receiving a vaccine and loitering at the clinic for at least thirty minutes after the vaccine is administered..

The most promising alternative to automatic vaccination is analyzing an individual dog’s actual level of antibody response, regardless of how long ago the vaccination was taken. Since titers are not currently accepted by any state in lieu of the vaccine, Dr. Schulz will compare serum titer levels to actual challenge results as part of the RCF.

Dr. Richard Palmquist remarked, *“The laws regarding rabies vaccination need to be reformed, as they are not based on science, and they need to allow for titer testing. We need transparent research and more scientific understanding.”*

Dr. Royal sums it up best by stating, *“I am not against vaccination; I am for a healthy immune system.”* But what compromises a “healthy” immune system?

Dr. Royal writes, *“Immune systems are affected by many factors – diet, stress, exercise, circulation, toxins, diseases, and vaccinations. Where possible, I choose to minimize the use of vaccines, employing them only after they are proved safe and effective.”* These remarks are quite pertinent to our breed, as Portuguese Water Dogs have some unusual aspects of immune system functionality.

### Part 3: What Can We Do?

If we cannot eliminate vaccines, such as the rabies vaccine, what can we do to reduce or prevent adverse reactions?

Dr. Dodds’ Canine Vaccination Protocol, published in 2014 (but unchanged for 2015) is as follows for rabies:

- Initial rabies vaccine given to a puppy at the age of twenty weeks or older, if allowed by law.
- Rabies booster one year after the initial dose using a killed three-year product that is mercury (thimerosal) free, and given three to four weeks apart from any other vaccine (distemper/parvovirus.)
- Vaccinate for rabies virus according to the law. Where circumstances indicate that a written waiver needs to be obtained by the primary care veterinarian (in states that make provision for such exemptions), a rabies antibody titer can also be performed to accompany the waiver request.

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- While vaccination against rabies is required, there are still choices owners can exercise when any vaccine, not just rabies, is administered. Each choice clearly has both benefits and risks. When are the risks more influential than the benefits?

Dr. Royal’s (abbreviated) checklist for weighing the risks is:

- Is the timing appropriate? (Is there still immunity? Is there a longer-lasting vaccine?)
- Is the pet healthy enough to mount an immune response?
- Is there a reason **to delay the administration of the vaccine** (possible signs of illness or upcoming stressors)?
- What is required for kenneling/grooming/boarding or by the city or dog parks?

The possibility of exposure to the rabies virus varies from region to region. Enforcement of the rabies vaccine law fluctuates from state to state, and by county. Unvaccinated dogs, when exposed to a rabid animal, must be quarantined for an extensive period of time, or may be immediately euthanized depending on the jurisdiction.



Mattie, February 2014

**Any dog without a current rabies vaccination (as defined by local statutes), even if an exemption has been granted due to a history of severe adverse reaction, is subject to restrictions prohibiting public contact and presence in public places. These restrictions, spelled out in each state’s statutes, may include always having your dog on a short leash or wearing a muzzle.**

Even when the results of the RCF are known and standards for reading titers have been established and incorporated into law, every dog will receive at least one initial vaccination against rabies, or against other diseases. What can be done to diminish the risk?

- Ask your veterinarian to give Lyssin or Benadryl before injecting the vaccine and have additional

- Benadryl ready at home, if advised by your veterinarian.
- Discuss with your veterinarian what constitutes an adverse reaction, what you should look for, and the steps you should take. Symptoms can start subtly, such as lethargy, lameness, or changes around the injection site. There are many and varied signs, and they cover a wide range. Your best defense is awareness and observation of any change from your dog's routine behaviors or sensitivity levels.
- Do not immediately leave the veterinarian's office after the injection but wait at least thirty minutes.
- Check your dog's gums before and after the injection. They should be pink, with no swelling.
- Try to schedule your appointment in the morning of a day when you can watch your dog, when you do not have to leave for work. Preferably, your appointment should occur so that the veterinarian's office is open for several additional hours. Do not schedule the appointment for a Saturday afternoon, or before a holiday. Watch your dog for any changes in health or behavior.
- If your dog has trouble breathing or moving, return to the clinic immediately, or take your dog to an emergency clinic.
- Per the manufacturer's label, vaccinate "healthy animals only."
- Do not automatically re-vaccinate. Consider a titer test instead, if allowed in your state, and if appropriate for your circumstances. Or ask your veterinarian about a Medical Exemption for the rabies vaccine if you live in Alabama, California, Colorado, Connecticut, Florida, Illinois, Maine, Massachusetts, Maryland, New Hampshire, New Jersey, Nevada, New York, Oregon, Pennsylvania, Vermont, Virginia, or Wisconsin, and you are willing to constrain your dog in accordance with the attendant restrictions.
- Never allow your veterinarian to administer multiple vaccines during one visit. Instead schedule several visits, preferably three to four weeks apart.
- Ask for a killed rabies vaccine in a mercury (thimerosal) free adjunct. For an adult dog, ask for the three-year vaccine instead of the one-year vaccine.
- Avoid vaccinating a dog with a history of vaccine reactions.
- Do not vaccinate puppies younger than eight weeks old.
- Report all reactions within six weeks of the injection to your veterinarian, and ask him (or her) to record the details, including the severity, of the reaction. Ask that a "medical alert" tag be placed on the fold-

er, in case ownership or veterinary staff change.

- Report all reactions within six weeks to the vaccine manufacturer, unless your veterinarian has already performed this task. See the AVMA web site (<https://www.avma.org/KB/Resources/Reference/Pages/Reporting-Adverse-Events.aspx>) for more information regarding the reporting of adverse events.

### Looking Back...and Forward

This article was extremely difficult to write, as it brought back all of the memories and roller-coaster emotions experienced during Mattie's long struggle and consequent death. Yet I am hopeful because I see change all around me.

I am heartened by the RCF and KSU studies and their impending impact on the rabies vaccination laws. I am curious to hear the results from the American Holistic Veterinary Medical Foundation's (AHVMF) Small Breed Vaccine Study being conducted by Dr. Dodds; the early results are encouraging. I am inspired by the reports I hear on the news and read on the internet wherein concerned veterinarians and dog owners are asking questions about vaccines. I am reassured by the insightful comment provided by my holistic veterinarian, Dr. Barbara Royal, when she writes, "Like my veterinary colleagues, I struggle with worries about adverse effects of vaccinations, while recognizing vaccines' necessity."

And so to Mattie, my heart, I counteract the seven simple words with which I began with seven optimistic words from Mitch Albom, "*Death ends a life, not a relationship.*" I will see you again.  
— Deb Zorn

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