Homeopathic Care for Cats & Dogs
Small Doses for Small Animals
Revised Edition

by:

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I would like to thank the publisher and Dr. Hamilton for allowing me to post this material on my website. I hope that the material in this chapter is as enlightening to you as it was to me.

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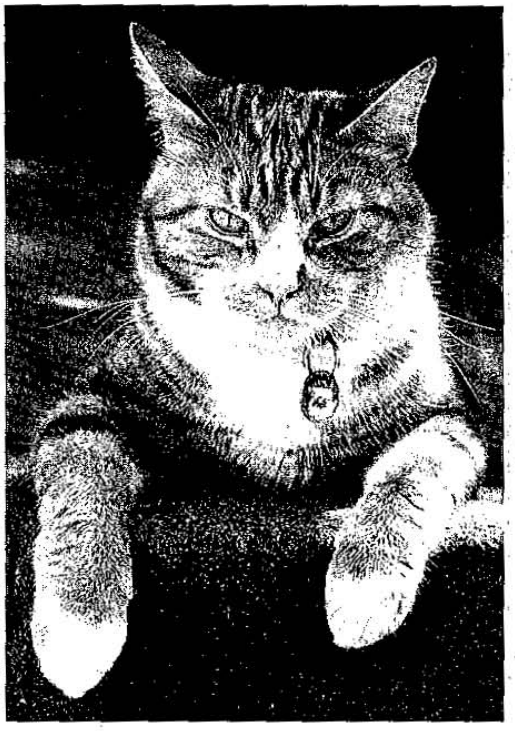
Chapter Sixteen
VACCINATION



Introduction

Fortunately, since I first wrote this book and this chapter, we have made some progress on the vaccine front. Most veterinary schools and most leading veterinary organizations now offer much more conservative vaccination recommendations than a decade ago. Most experts differentiate core vaccines, such as feline panleukopenia virus, canine distemper and parvovirus, and rabies virus, from noncore vaccines like the feline leukemia virus. The latter vaccines are not typically recommended in most circumstances. This change somewhat follows my recommendations, although we do not agree totally here. Furthermore, most experts now recommend booster vaccines every three years rather than yearly. This is just how I began backing away from vaccinations twenty years ago. It is really "baby steps," and it is unnecessary to give triennial (every three years) vaccinations, but it is a big step in the right direction. As I explain in this chapter, vaccine boosters are almost totally unnecessary, but at least the profession as a whole is moving in the right direction. Still, we have a long way to go yet.

I have spoken with university veterinarians who admit that we do not need even the triennial boosters, yet they still teach this to students because they think it would be too confusing for students (and private-practice veterinarians) to learn that boosters are unnecessary. I suppose they think the students and clinicians will have a hard time bridging the gap between previous annual vaccination recommendations and the actual absence of any need for boosters. I disagree; I think my colleagues and soon-to-be colleagues are much more capable of change than this. But I am still grateful for the shift in recent years. Even seeing how the wider veterinary community is taking some of the same steps I took encourages my hope that the shift will continue in the direction I have taken.

Current recommendations, however, as taught by universities, still weigh heavily upon overvaccination. Until the universities begin teaching vaccine practices based upon current immunological knowledge, we who do not wish to use vaccinations, or wish to use them based upon current guidelines, must stand firmly. Hopefully, this chapter will help you in this area. And unfortunately, many clinicians "in the field" have yet to adopt even these basic guidelines, and they still vaccinate yearly. It takes time for new information to filter down, apparently. But you can check such Web sites as the American Veterinary Medical Association and the American Animal Hospital Association, as well as the American Association of Feline

Practitioners, if you need to give your local veterinarian evidence to at least back away from annual vaccinations. You can, of course, also show her this chapter from my book (or buy her a copy!), though obviously my views are much further away than those of the associations above.

To be clear up front, I do not recommend vaccination in almost all circumstances, just in case you have not yet read this chapter from my previous book. I only mention the above as assistance in bringing your local veterinarian along the path toward understanding how much our profession overvaccinates and the possible dangers of vaccination. This is a long distance for many veterinarians, so the information from the sites mentioned above can be a bridge between where your local veterinarian may be now and where you will be once you have integrated the information in this chapter.

Fortunately, there is widespread vaccine awareness among holistically oriented veterinarians and guardians today. In addition to moving away from excessive vaccination, emphasis has shifted toward alternative procedures to ensure animal health. Diet and decreased reliance upon drugs and pesticides are part of this shift, though not directly related to vaccination and specific disease protection. Titer testing and nosode use, however, are directly related. Many people today express interest in both as a part of protecting their companion animals or their patients. Unfortunately, there is a lot of confusion and even downright misinformation out there. In the current version of this chapter, therefore, I have added a more complete discussion of nosodes as well as an entirely new section on titers. I actually overlooked the titer issue in the first edition, so I am grateful now to be able to provide some clarity on this important issue, as titer testing can be helpful for veterinarians and guardians who would like some assurance of protection against those major diseases for which we vaccinate. Understanding just how and when titers can help—and when they do not—is critical. Nosodes as well can reassure some guardians of assistance in protecting their companions, although, as I discuss toward the chapter's end, they are not simply a replacement for vaccines but must be used according to their best effectiveness and safety.

In addition to adding the nosode and titer sections, I have also fleshed out certain parts of the original chapter, including adding new information about vaccine damage. Another shift by the conventional veterinary community has been research into vaccine damage. While I do not like animal

experimentation, the fact that university researchers and others are beginning to examine the vaccine damage question is a huge step. I believe this will further result in decreasing our dependence upon vaccination in the future. I have added a few examples of these research findings to this chapter, as they support my previous conclusions nicely. I encourage anyone who has read the first version of this chapter to read the chapter again, not only for your own edification but also to assist you when you talk with others about vaccines. So let's start from the beginning.

The Vaccine Quandary

Veterinarians and animal guardians alike are seriously questioning the current guidelines for vaccination of animals. Not only holistic veterinarians, but also increasing numbers of conventional practitioners and leading veterinary immunologists believe we are overemphasizing immunization. The issue is a hot one, challenging a half-century of rapid expansion of vaccine use and the attendant income this use provides to veterinarians and vaccine manufacturers. Quite naturally, this provides an ethical dilemma as well as a mounting controversy. Personally, I do not consider the issue controversial; certainly within the veterinary homeopathic community it is not. But realizing how sensitive the vaccine issue is within the broader veterinary community, I decided the best approach for this chapter was to share my experience and what I have learned along the way about vaccination.

During veterinary school, we studied the underlying theory of vaccination: exposing animals to an organism that had been modified so that no disease would be created but immunity to that organism would develop. It made a lot of sense. It still does, at least theoretically. Vaccination would thus prevent suffering by stopping the acute expression of disease. Historically, we learned, vaccination had stopped epidemics by limiting the spread of contagious diseases. Examples in animals included reduction of rabies in most domestic animals since the 1950s, canine and feline distemper virus diseases (they are different viruses), and the feline rhinotracheitis epidemic of the late 1960s. Vaccination had led to decreased mortality, particularly in young animals who were most susceptible to disease. Domestic animals were living longer, healthier lives thanks to these vaccines and to "responsible animal owners." Our professors, in whom we had great trust, asserted that vaccination not only provided benefit to the primary host species but was a public health benefit against diseases that are transmissible to humans,

such as rabies and the equine viral encephalitis viruses. Medical pioneers such as Edward Jenner (smallpox) and Louis Pasteur had gifted humans and animals with a way to reduce suffering.

We did not learn, however, that Pasteur had ultimately recanted much of his theory with the maxim, "the microbe is nothing, the terrain everything." Nor did we learn that Pasteur's success with rabies was not nearly so great as he had originally claimed.

After graduation, I witnessed firsthand the canine parvovirus epidemic of the late 1970s, and I saw the disease diminish after vaccines were introduced. (Parvovirus infection causes severe damage to the intestinal tract as well as immunosuppression. Affected animals become quite ill with vomiting and diarrhea, and many die.) How could I not champion vaccines for stopping this horrible disease that killed thousands of dogs and caused tremendous suffering for these poor animals? I saw that unvaccinated dogs would frequently get "parvo" or occasionally distemper. I observed that vaccinated animals seemed to be generally healthier than unvaccinated animals. As time passed, however, I saw more and more cases of vaccinated dogs coming down with parvo, some so soon after the vaccine that it appeared the vaccine was causing the disease, or at least making the dogs more susceptible.

I remember one client (this was in the late 1980s) who bred huskies and was having problems with parvovirus even though she was vaccinating appropriately. She had called two vaccine companies; their representatives suggested she vaccinate earlier and more often (e.g. start at four weeks instead of eight, and vaccinate every week instead of every three to four weeks). Her problems continued until, at my suggestion, she stopped using modified live vaccine and gave noninfectious (killed) vaccine at normal intervals. She had no more puppies with parvovirus after this change. When I reported to vaccine manufacturers my suspicion that the vaccine might be causing disease, I was politely informed that this was not possible.

With the introduction of the first feline leukemia virus (FeLV) vaccine during this same period of time, the veterinary community had hope that a terrible disease of cats could finally be halted (feline leukemia virus disease is similar to HIV and the AIDS syndrome in humans). Problems arose from the start, however. The vaccine, touted as safe and highly effective, did not appear to prevent the disease, and side effects were numerous and often severe. I even saw (and still see) many cases in which healthy cats, tested

and found free of the virus, succumbed to the disease shortly after vaccination, as though the vaccine had initiated the disease. Again, the manufacturers assured me that this was impossible.

Studies by independent researchers, however, found the effectiveness of the vaccine to be as low as 17 percent, and typically in the 50 to 70 percent range.[1] These same researchers found the incidence of harmful side effects to be much greater than the manufacturer had reported. One study found, for example, that 32 percent of vaccinated cats died during the twenty-four months following vaccination with a feline leukemia virus vaccine. There was a 43 percent death rate of control cats in the same study; researchers vaccinated the latter group with a killed rabies vaccine as a "placebo." Both groups were then housed with feline leukemia virus infected cats to test vaccine effectiveness. While a greater percentage of control cats died, the difference was not statistically significant.[2] Interestingly, while approximately two-thirds of the control (rabies vaccinated) group who died were persistently infected with feline leukemia virus, only one-third of the FeLV-vaccinated cats that died were persistently infected. The unasked question is, why did so many noninfected cats die in both groups (one-third of rabies-vaccinated deaths and two-thirds of FeLV-vaccinated deaths)? Could it have been vaccine-induced?

Canine coronavirus appeared at about the same time as the canine parvovirus outbreak. I remember the emergence of these diseases clearly during my senior year of veterinary school, as they had just appeared, and parvo was so ominous with its fast onset and high death rate. But I remember just as clearly learning that coronavirus was relatively mild, usually causing no more trouble than a few days of diarrhea. So when a major vaccine manufacturer brought out a vaccine for coronavirus in 1984, I wondered why. The company representative reported that the virus was causing havoc "in other areas of the country." Reports of serious illness were showing up in veterinary literature. Other veterinarians in my community later reported seeing coronavirus and that it was "worse than parvo." These colleagues suggested various ways of differentiating coronavirus from parvovirus. This puzzled me. Had the disease changed so much? Was I truly not seeing the disease, or was I missing the diagnosis?

I began sending serum samples out for testing to look for the disease. I continued this for several months. While clinics around me reported case after case, I never obtained a positive report. No cases. So I researched the

literature and found that the majority of the published articles about coronavirus came from the vaccine manufacturer. Then a different company announced the imminent introduction of a test for in-clinic use that would check for both parvovirus and coronavirus at one time. I was eager to get these kits so I could continue my search for the elusive virus. But when the kits became available, only parvovirus was included. I called the company and spoke with the man who developed the test. He informed me that, after months of searching, they simply could not find any coronavirus, and it was impossible to develop the test without a sample of virus. Naturally, I found that interesting.

I then called the director of the lab where I had been sending serum samples for testing. He reported that he rarely had positive tests, and these were usually in very young pups that also had parvovirus infection. I then asked him about all the positive tests my colleagues reported from examination of feces for the virus using electron microscopy (EM). He confirmed what I had heard elsewhere, that EM identification was often inaccurate, as other viruses were hard to differentiate from corona. The obvious question was, why do universities use EM instead of serology if EM is so inaccurate? His answer: the universities did not have the virus either, which they needed to develop a serological test. Coronavirus, with such a notorious reputation, seemed to be less dragon than windmill, our beloved canines not requiring the proffered protection of Don Quixote, DVM. A few years later, in fact, many of my colleagues began referring to the coronavirus vaccine as "a vaccine looking for a disease."

Incidentally, the same company that produced the coronavirus vaccine later introduced a bacterin (a bacterial vaccine) for Lyme disease, another disease that is uncommon (due to very limited geographical occurrence of the ticks that can transmit the disease). This bacterin provides poor protection and has many side effects, including symptoms that are indistinguishable from the disease itself. Unfortunately, however, veterinarians recommend the bacterin in many places where the tick carriers of the organism do not live and thus contraction of the disease is impossible.

As a result of these kinds of situations, my faith in the vaccine industry had eroded tremendously. Sadly, even my faith in the veterinary community, my colleagues, began to wane as well. I began to question the recommendations made by vaccine manufacturers, and even the American Veterinary Medical Association. The first item was the idea of yearly "boosters." It really

did not make much sense. With the exception of feline leukemia virus, for which the vaccine did not appear to work anyway, I rarely saw these diseases in animals over a year of age. They were puppy and kitten diseases. Furthermore, my doctor was not sending me regular notices to come in for my boosters. Why would animals be any different?

The more I considered the issue, I saw no reason boosters would benefit animals. I changed my recommendations, which angered the colleagues in my community. Finally, through involvement in homeopathy, as well as the American Holistic Veterinary Medical Association, I found other veterinarians who also felt as I did, and in 1992 I read the following quote in *Current Veterinary Therapy XI*. This is a veterinary text akin to Conn's *Current Therapy* for human medicine. It is strictly a conventional textbook. The quote is from the section on dog and cat vaccination; the authors are Tom Phillips, DVM, of the Scripps Institute, and Ron Schultz, PhD, of the University of Wisconsin–Madison School of Veterinary Medicine:

> A practice that was started many years ago and that *lacks scientific validity or verification* is annual revaccinations. Almost without exception there is no immunologic requirement for annual revaccination. Immunity to viruses persists for years or for the life of the animal. Successful vaccination to most bacterial pathogens produces an immunologic memory that remains for years, allowing an animal to develop a protective anamnestic (secondary) response when exposed to virulent organisms. . . . Furthermore, revaccination with most viral vaccines fails to stimulate an anamnestic (secondary) response as a result of interference by existing antibody. . . . The practice of annual vaccination in our opinion should be considered of questionable efficacy unless it is used as a mechanism to provide an annual physical examination or is required by law (i.e. certain states require annual revaccination for rabies).[3] (emphasis added)

Thus, yearly "boosters" are unnecessary and provide no benefit if given (they will not increase immunity). Boosters are either a legal issue (rabies) or a manipulation issue (inducing clients to come for examinations rather than directly suggesting an examination). Or a mercenary issue.

This facet is tremendously important, and it is also decidedly clear; I believe most immunologists agree with doctors Phillips and Schultz even

though the veterinary profession still operates in opposition to those facts. When I first read the quote above, I shared it with veterinarians in my community, thinking they would be interested since it came from such a respected source. The gesture, however, was met with anger and resentment. My faith in my veterinary community began to wane as I realized how attached my colleagues were to current practice and the tremendous revenue it provided. Veterinarians who declared their desire to provide the best, most up-to-date care available in fact revolted at the idea of publicizing such "heretical" information. Status quo was more important than new ideas if those ideas threatened vaccine income, even when experts deemed the old ways unscientific.

Why Do We Give Annual Vaccinations if They Are Unnecessary?

If yearly vaccination is unscientific, why did it become the accepted protocol? Some years ago, veterinary practitioners were seeing a neurologic disease they called "old-dog encephalitis." They believed this to be a form of canine distemper in older dogs to whom vaccines were administered as puppies, but not as adults. It was assumed that their immunity had lapsed, allowing development of neurologic distemper, and therefore that more repetition of vaccination would prevent the syndrome. In fact, this scenario was never proven, yet veterinarians began administering vaccines more often, eventually on a yearly basis. More likely, the so-called old-dog distemper was vaccinosis (disease as a result of vaccination). Interestingly, children who have been vaccinated for measles are more likely than unvaccinated children to show neurologic disease if infected with measles. Additionally, there have been some attempts to link measles or distemper viruses with development of multiple sclerosis in humans. Since measles and canine distemper belong to the same class of viruses (paramyxovirus), perhaps a similar mechanism is at work.

Whatever the reason for the old-dog encephalitis, it propelled vaccination into a major part of veterinary medicine. Within a decade or so, cat vaccines were also administered yearly, even though no need was ever suspected, since feline panleukopenia (distemper) vaccine is probably the most effective vaccine produced for any species. Myth simply became reality, and yearly vaccination was represented to the public as the essence of preventive health care. A further consequence was that animals' guardians were led to believe that this was all that was necessary and that they need take

no other responsibility for their companion's health. This was a major step in the giving-away of power to the veterinary medical establishment, and it created a false sense of security for the guardians.

As annual vaccinations are clearly unnecessary from a medical perspective, stopping them would drastically reduce the expense of animal care as well as the trauma for the animals. I also predict that this would drastically reduce the level of chronic disease in animals (see below). This choice should be easy. Rabies vaccination is, however, mandated by state law at one- to three-year intervals. This is unfortunate, as facts are not heeded; rather, fear is the driving force. Vaccination for rabies provides lifetime immunity, probably after one but certainly after two vaccinations (in those dogs and cats that respond to vaccination; the other 5 percent will not respond even if multiple vaccines are administered).[4]

Although manufacturers license rabies vaccines for one or three years, usually they are the same vaccine but packaged with different labels. How are these claims for one- or three-year duration supported? Logic would suggest that animals are vaccinated and then challenged with live virus, and the point in time that susceptibility returns (i.e. protection wanes) would delineate the endpoint of vaccine duration of effectiveness. In actuality, animals are only kept alive for one or three years as needed, challenged, and then killed once the challenge is proven successful. Further testing is not done to determine the actual duration of immunity, as manufacturers only seek to show minimum rather than maximum duration. We need to change testing methods, and with rabies vaccination, we need to work to change state laws that currently require excessive administration.

Vaccination Does Prevent Disease, Doesn't It?

While it is clear that booster vaccination is pointless (and harmful), the question of initial vaccines is certainly more difficult and more controversial. It is generally assumed that vaccines have done much to prevent disease. As I have mentioned, however, I often saw diseases in vaccinated animals. Why was that? In part, immunization is not 100 percent effective, as some animals do not respond to vaccines. Another point that is often overlooked is the type of disease, whether acute or chronic. Only acute diseases can potentially be prevented via vaccination, as they are truly generated by an infectious organism. Acute diseases have symptoms that are constant over time, generally affect most members of a population if exposed,

and will induce immunity once the individual has recovered, so that reexposure does not result in further disease. Examples in humans include childhood illnesses such as measles, mumps, and chicken pox. In cats they are limited to feline panleukopenia (distemper) and possibly the feline upper respiratory viruses (herpes, calici). Acute diseases of dogs include canine distemper, canine hepatitis, and possibly canine parvovirus. Rabies is a cross-species acute illness. We understand acute diseases as being the result of exposure to and infection by a contagious organism, although *susceptibility must precede the exposure.* As an organism seems to be responsible for the illness, it is theoretically possible to prevent the illness with a vaccine for that organism.

With chronic diseases, the primary factor is immune-system malfunction; this may be either immune-system overactivity or immunodeficiency. In overactivity diseases, the immune system attacks elements of its own body because of heightened activity and problems discriminating between host and foreign tissue. We call these autoimmune (*auto* means "self") diseases, and they include such conditions as lupus, autoimmune hemolytic anemia, pemphigus, most thyroid diseases, and the feline eosinophilia diseases ("rodent" ulcers, eosinophilic granuloma, etc.). While these autoimmune diseases are rapidly increasing in number (see below), veterinarians do not generally confuse them with acute disease and do not usually suspect them to be caused by an infectious organism. As such, vaccination is not proposed as a preventive measure.

Immunodeficiency diseases, however, we often misunderstand and place in the same category as acute diseases, as an organism may be associated with these diseases. The organism is not the cause of disease in most cases, though. It may be only a symptom, or it may worsen the disease once present, but exposure to the organism in the majority of individuals does not produce disease. Immunodeficiency is the primary cause and must be present for infection to occur, as these types of organisms are not highly contagious. Additionally, while the organisms are capable of severe damage to immune-compromised individuals, healthy individuals generally remain unaffected by the organism. *Illness must therefore precede infection.* Attempts at vaccine protection will thus fail, as the true cause is not addressed.

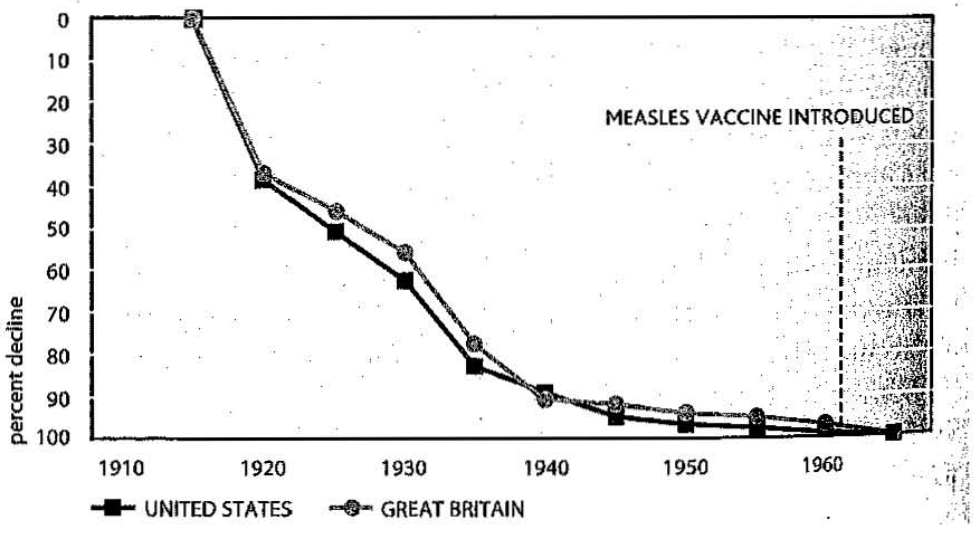
Some examples of immunodeficiency diseases in cats are feline leukemia virus disease, feline immunodeficiency virus disease, feline infectious peritonitis disease, and possibly the upper respiratory diseases. Immunodeficiency

diseases in dogs include Lyme disease, the kennel cough complex, and possibly canine parvovirus. Examples in humans (as a comparison) include the AIDS complex and probably hepatitis B. Of course, many other chronic diseases exist, but researchers have failed to find an organism to incriminate, so these are not pertinent to this discussion.

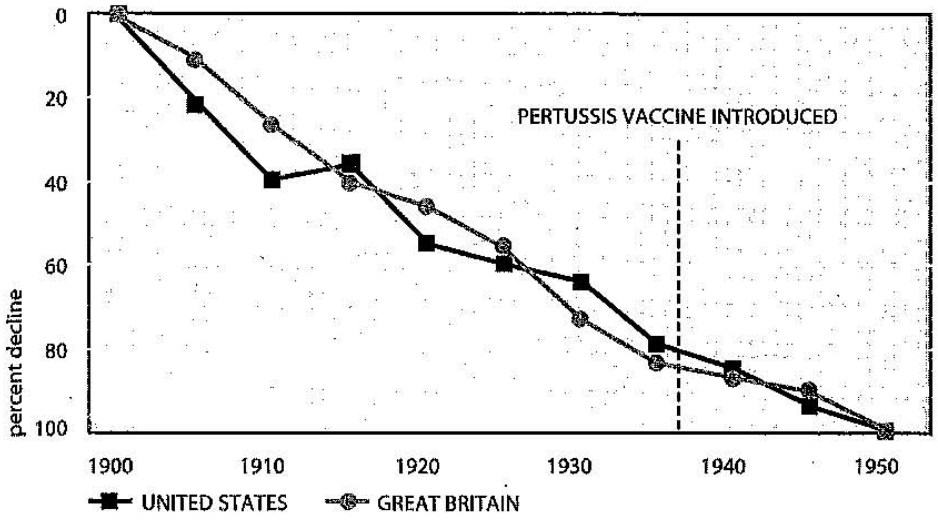
With acute diseases, the infection itself creates the illness. These acute infections require susceptibility to the causative organism, but typically no symptoms precede the infection. As such, prevention is theoretically possible by vaccination. Whether this actually occurs is unclear. When we examine short time frames and narrow population windows, reduction in acute disease appears to result from initiation of vaccine programs. Broadening these time and number windows, however, appears to refute the credit given to vaccines. Let's look at some human diseases as examples, since the data is much more complete than for animal diseases. Please refer to the following charts for measles, whooping cough (pertussis), and poliomyelitis (polio) as they occurred in the United States and Great Britain.

The numbers of deaths from all three diseases were dropping significantly before we began vaccinating against these organisms. Yearly deaths from polio had dropped by over 50 percent before introduction of vaccination. Similarly, deaths from whooping cough diminished by 75 percent prior to vaccine use, and for measles the numbers of deaths had plummeted by 95 percent by the time a vaccine was introduced. Furthermore, the rates of reduction in numbers of deaths were not affected by vaccine use; that is,

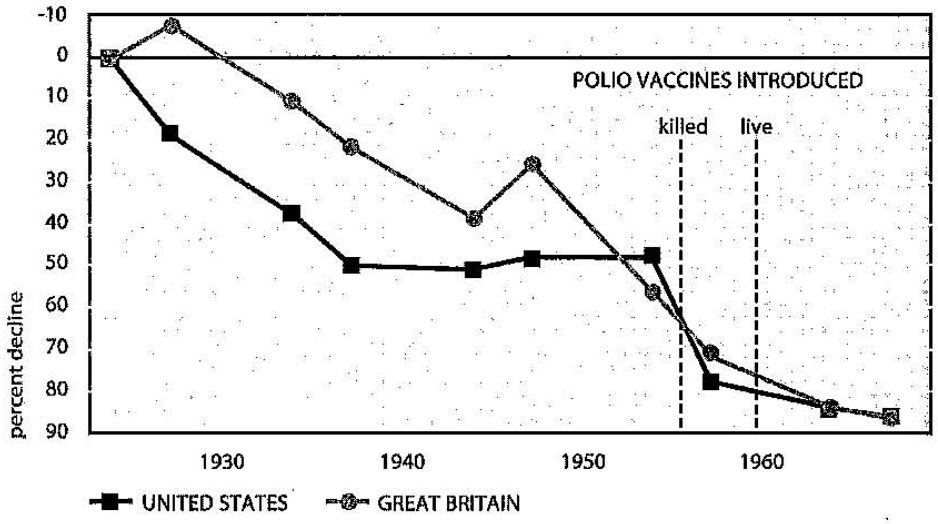
Measles Death Rate



Whooping Cough Death Rate



Polio Death Rate



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the diseases were diminishing just as fast before vaccination as after vaccination.

In some cases, in fact, vaccination appears to have increased the death rate. This trend occurred with polio and smallpox. With both diseases, officials reclassified the diagnostic criteria, however, so the increased numbers of cases would not show up in health records. Additionally, many European

countries chose not to systematically inoculate with polio vaccines, yet polio epidemics just as surely ended in those countries as well.[5] It appears that vaccination had no positive impact upon these illnesses; rather, they diminished through natural resistance of the population. Improved hygiene also contributed to reduced infection and death rates.

Turning to veterinary medicine, let's examine a cattle disease that has a similar picture. Bovine herpesvirus I (infectious bovine rhinotracheitis) causes severe respiratory and genital infections. In the United States, vaccination has proceeded rather aggressively over the past ten to fifteen years in an attempt to reduce this disease. In Australia, however, health officials decided not to vaccinate, rather to allow natural immunity to develop within cattle populations. Interestingly, as of this date there is no difference in infection or immunity rates between the two countries—despite similar rates of infection at the outset.[6] Once again, vaccination does not appear to have made any impact, although we might have been tempted to credit vaccines if not for the comparison with conditions in Australia.

Christopher Day, a British veterinarian, compared the effectiveness of vaccination and homeopathic immunization for kennel cough among dogs housed at a boarding kennel. The kennel had been experiencing recurrent outbreaks of kennel cough prior to Day's study. Although the intent of the study was to evaluate the use of a homeopathic nosode for prevention of the disease, a curious finding was that vaccination actually increased susceptibility to the disease. This is particularly interesting in that it correlates with reports of increased susceptibility to smallpox and polio after vaccination. Incidentally, Day found the nosode to be quite effective at preventing kennel cough.[7] Nosodes are homeopathic remedies made from a product of disease such as saliva from a rabid dog *(Lyssin)* or a tuberculous lung *(Tuberculinum)*. In this case the nosode was made from phlegm of a dog with kennel cough.

In essence, vaccination is more about protecting populations rather than individuals, as Samantha McCormick so eloquently points out in the quote with which I end this section. As in the example above on bovine herpesvirus, vaccination is not necessarily an important component of herd immunity. And so Ms. McCormick's point becomes even more poignant.

> Vaccines are designed to protect populations, not just individuals, from diseases. Every individual who is vaccinated will not necessarily develop immunity. However, if enough individuals do

> respond to the vaccine in a given population, the organism, whose natural host is humans, will not be able to sustain itself in that population and outbreaks will not occur or will be limited. This concept is referred to as "herd immunity." It protects both immune and non-immune members of a community. If non-immune persons fall below a certain percentage, generally around 70–90%, outbreaks of the disease will occur (Plotkin & Mortimer, 1994). This is the reason that the state claims an interest in mandating vaccines, so that the unvaccinated do not pose a threat to the vaccinated. If vaccines truly conferred individual immunity, it would be no one's business if any individual chose not to vaccinate. The risk we ask some individuals to take on, when some vaccines have dangerous adverse effects, is that a few individuals are, in effect, sacrificed, so that the rest of society may survive disease free. Unlike the virgins sacrificed to the gods in primitive societies, the victims of vaccines are not informed beforehand of their brave duty to their community. Nor are they exalted for their sacrifice.[8]

Can Vaccination Cause Problems?

Vaccination may prevent specific diseases in the short term, but the usefulness of this prevention method is uncertain. Do these diseases perhaps provide some benefit that we do not understand? Perhaps we prevent them at some sacrifice to the greater good.

From a herd or species perspective, illness represents a strengthening factor. Overpopulation generally results in a disease outbreak, which reduces the herd size and cleanses the herd (or species) by culling weaker individuals. This, of course, is Darwin's survival of the fittest in action. Diseases such as rabies and distemper have historically provided this "cleansing effect" for wolf populations when necessary (although the dynamics of wolf packs tend to limit overpopulation better than most species, and certainly far better than modern humans).

A fundamental dilemma is that vaccination, in effect, leads to weakening of the gene pool, and thus the overall health of a given population. One way this occurs is by allowing individuals to live that would otherwise succumb to disease. The benefit of the disease process was recognized, and elegantly stated, by Higinio Perez, a homeopathic physician from Mexico who practiced early in the 1900s: "It is not enough to safeguard the individual,

who is a passing phenomenon. It is more important to safeguard the species."[9]

While this concept may seem harsh, particularly to the Western mind, our understanding of native or aboriginal thinking suggests that letting weak individuals die was implicitly understood to be not only acceptable but even proper. These cultures have long recognized the advantage of such a practice, and they remained in balance with their environments for incomparably longer time periods than we do today. Most modern, Western-patterned societies value the individual's right to be; therefore we make efforts to save all individuals. Our reversal of Perez's emphasis, both in human and domestic-animal realms, is conceivably a major factor in the ever-worsening health of individuals and of the species. I would even suggest it is leading to devolution of species. And, of course, the detriment to our planetary ecology is monumental.

The Chinese ideogram for crisis is formed by combining the pictograph for danger with the pictograph for opportunity. There is an old school of thought that suggests that illness is in fact a part of development, both on a physical and mental level. The crisis of illness presents an opportunity for growth. Indeed, I have a friend whose unvaccinated child made major progressions after febrile diseases. After one fever episode he began walking, and another episode was followed by initiation of talking. Vaccination may have prevented these fevers and thus the gains that followed. Perhaps this is one explanation for attention deficit disorder, hyperactivity, and other behavioral and developmental problems with children; these occur at epidemic levels today and have become more numerous over the past few decades. Is it only coincidence that this increase parallels massive childhood vaccination efforts? Apparently, vaccination is harmful not only to the species, but also to the individual.

When I first heard that vaccines may actually cause disease, I was skeptical. Of course, I knew about allergic reactions and other quick responses, but I assumed that these initial reactions were the extent of the problem. I remember a case, however, that opened my eyes. Fluffy was a sweet Persian cat who lived with an equally sweet woman.

Fluffy had recurrent bouts of cystitis (urinary bladder inflammation) that were very resistant to conventional and homeopathic treatment. Despite the fact that I liked Fluffy's guardian (and Fluffy), I hated to hear from her as it was such a frustrating case. The bladder infections were never under

control for long before they would return. One day I was reviewing the record for some clue as to what to do next when I had a stunning realization. The cystitis bouts were always about a month after the yearly boosters. I suggested to Fluffy's guardian that we no longer vaccinate Fluffy, and I never needed to treat Fluffy's cystitis again. I could only conclude that vaccines could indeed cause diseases—even a supposed infection.

Evidence for vaccine-induced damage in humans is vast. Pertussis is linked most often with problems, although all vaccines can and do cause reactions. One of the most common reactions to the pertussis vaccine is an abnormal respiratory pattern. These abnormalities tend to occur according to the typical pattern of response to stress. This pattern includes an alarm stage (the initial response), a stage of resistance (the body's attempt to negate the stress), and then a stage of exhaustion (when the bodily resources diminish).

Sudden infant death syndrome (SIDS) also occurs after DPT (diphtheria-pertussis-tetanus) vaccination, following the same pattern, with clumping of deaths during the three-week stress period following immunization. Younger infants tend to die early in the period (alarm stage), and older children later (exhaustion stage).[10] The death rate for children is eight times the average in the three days following DPT vaccination, according to some studies. Additionally, 85 percent of SIDS deaths occur during the age when children receive DPT vaccines.[11]

In 1976, Japan raised the minimum age for pertussis vaccination to two years; SIDS virtually disappeared from Japan at that time.[12] The United States was the third best in the world in infant mortality statistics in 1950. In the 1980s the country had dropped to number seventeen, and by 1994 we were at number twenty-one. Could this be related to our claims of "the most vaccinated children in history?" Japan, by contrast, was number seventeen in 1975; by 1990 they ranked number one.[13]

Vaccination: Replacing Acute Illness with Chronic Disease

Vaccinosis: a morbid condition resulting from vaccination. Does this really happen? Compton Burnett, a British physician who practiced in the late 1800s to the early 1900s, was originally a supporter of smallpox immunization. As a keen observer, however, he began to note that many chronic illnesses had begun at the time of vaccination, even though it may have occurred years earlier. Burnett also noted the ability of the remedy *Thuja* to

reverse many of these vaccine-induced disease states (this especially holds true with smallpox vaccination). He coined the term *vaccinosis.* Burnett suggested that not only did vaccines create chronic disease, but that *this was how they prevented the acute disease:*

> Given a *perfectly healthy* individual who has never been vaccinated. We say to such a one, you must be vaccinated or you are liable to catch small-pox, which is often about. Let us pause to note clearly that the individual thus warned by us as being liable to catch small-pox *is perfectly healthy.* Now let us vaccinate this perfectly healthy person, and the vaccination succeeding, we say he is henceforth protected from small-pox. That is to say, this thoroughly healthy nonvaccinated person becomes more or less proof against the contagion of small-pox by vaccination, or, at any rate, it is so averred. It may be safely admitted that no one can be *more* than perfectly healthy, and any modification or altering of perfect health must result in a minus, *i.e., less* than perfect health; and *less* than perfect health must necessarily be disease or ill health of some sort and in some degree. Hence it follows that the protective power of vaccination is due to a *diseased* state of the body.[14] (Burnett's italics)

Samuel Hahnemann, in his *Organon of Medicine,* describes the interaction in the body when exposure to two or more dissimilar diseases occurs. He states that "if they are equally strong or if the first is stronger than the second, the more recent is repelled. Thus someone suffering from a grave chronic disease will not be affected by autumn dysentery or by any other mild epidemic."[15] The chronic disease prevents the acute, as with severe schizophrenics who are usually unaffected by colds and influenzas. While Hahnemann was referring to natural diseases, we can apply the same logic to vaccination and reach the same conclusion as Burnett. In this case the vaccinal, or chronic, disease occurs first and is stronger, so the acute disease is repelled. The cost, however, is a lifetime of chronic illness.

In veterinary medicine, we have noticed that whatever affinity an organism has for an organ system will surface with vaccine reactions. For example, bacteria that tend to infect the lungs will tend to create a reaction in the lungs when made into a vaccine. A good example of this in humans is the breathing difficulty induced by whooping cough vaccine. This concept was originally formulated by Richard Pitcairn, DVM, PhD. Let us look at some

certain that vaccination for parvovirus and coronavirus is a major cause. I commonly see inflammatory bowel disease that arises within a month or two after vaccination for one of these viruses.

There is still another syndrome associated with parvoviruses, one that occurred first in cats and later in dogs. Cardiomyopathy is a disease of the heart muscle. The muscle may either weaken and stretch (dilated cardiomyopathy), or it may thicken greatly (hypertrophic cardiomyopathy). Either condition will limit the heart's ability to pump blood. Cardiomyopathy is usually fatal.

We have been diagnosing cardiomyopathy in cats for over twenty years, approximately the same period of time as for inflammatory bowel disease. Many (but not all) cases of the dilated form of cardiomyopathy have been associated with a deficiency of the amino acid L-taurine. The cause for hypertrophic cardiomyopathy, as well as the cause for the nontaurine-associated cases of dilated cardiomyopathy, are considered unknown. I believe that the answer may have appeared in dogs.

When canine parvovirus first erupted in the late 1970s, many young puppies died rapidly, sometimes within hours. It turned out that parvovirus was capable of attacking the heart muscle in young puppies, and this form of the infection killed the puppies rapidly.

Cardiomyopathy did not affect dogs to any degree before the parvovirus outbreak (or if it did, it was very rare), but it has appeared in the years since the outbreak. The number of cases has especially risen over the past five to ten years, coincident with the rise of inflammatory bowel disease in dogs. *The Merck Veterinary Manual* states that, "The cause [of dilated cardiomyopathy in dogs] is still unknown although viral infection and resultant autoimmune reaction against the damaged myocardium are suspect.... Since the canine parvovirus (CPV) pandemic of 1978, male Doberman pinschers appear to be highly vulnerable to both CPV and cardiomyopathy."[18] In the years since this was written in 1986, we have begun to see cardiomyopathy in many other breeds as well as Doberman pinschers.

I believe the author of this section of *The Merck Veterinary Manual* was correct, but I believe that parvovirus vaccination is even more likely to be the cause in most cases. I also believe that this explains the occurrence of cardiomyopathy in cats. Perhaps the heart muscle association of the feline parvovirus (panleukopenia virus) was not seen in natural infections, but vaccination brought it to the surface. Cardiomyopathy is an autoimmune

cat and dog diseases, including feline panleukopenia (feline distemper), canine parvovirus, rabies, and canine distemper virus, to see how this works.

With panleukopenia, major symptoms include inflammation and degeneration of the intestinal tract leading to severe vomiting and diarrhea, severe reduction of white blood cells (leukopenia) leading to immunosuppression, loss of appetite, mucopurulent nasal discharge, dehydration, and rapid weight loss. The chronic diseases we see frequently in cats correspond to many of these symptoms. Inflammatory bowel disease, an autoimmune inflammation of the intestines, is occurring at epidemic levels today. This disease was virtually nonexistent twenty years ago, yet today it is one of the most frequent diagnoses.

Another widespread cat illness is kidney failure. The panleukopenia virus has a strong affinity to kidney tissue and can persist for up to a year in cat kidneys following infection.[16] And studies done by Michael Lappin at Colorado State University found antibodies against feline kidney tissue following immunization with the cat combination ("FVRCP") vaccine.[17] Could there be a connection?

Cats are also extremely susceptible to immune malfunction and immunosuppression. The immunosuppressive state has been associated with two retroviruses (feline leukemia virus and feline immunodeficiency virus), and others are suspected. Rather than these being separate diseases, I believe they are the same, but that more than one virus can fill the niche opened by the immunosuppression (remember that with chronic diseases, the illness precedes the infection). This is probably the same in people with HIV (human immunodeficiency virus)–related viruses. Parvoviruses, which include the feline panleukopenia virus, are known to be very immunosuppressive. Additionally, I suspect the feline upper respiratory infections are a chronic state of the panleukopenia virus-induced immunosuppression and the tendency to get eye discharges.

A similar scenario now exists in dogs. While immunosuppressive states are not common in dogs, reports of their occurrence are on the rise. I believe the massive vaccination program for canine parvovirus, which began some thirty-plus years after we began vaccinating cats with feline parvovirus (panleukopenia virus), is creating this situation in dogs. If this is true, then the imminent future bodes poorly for dogs, if the problem in cats is an indication. Furthermore, we have been seeing inflammatory bowel disease in dogs over the past five to ten years. Prior to this it was virtually nonexistent. I am

disease, and vaccines are major causes of autoimmune disease. In my opinion, these connections are too close to be coincidence alone.

Furthermore, since writing the first edition of this book, evidence has surfaced that supports my suspicion about feline hypertrophic cardiomyopathy. Dr. Philip Fox, of the Animal Medical Center in New York City, tested about thirty-five hearts from cats with hypertrophic cardiomyopathy; the vast majority tested positive for the feline panleukopenia virus, suggesting a probable connection.[19]

For another example, let's take a look at rabies vaccination. Rabies is a neurologic disease that causes convulsions, mental confusion, paralysis of limbs, choking, rage, and aggression. Other symptoms include photophobia (fear or aversion to light); increased sexual desire; hyperesthesia (increased sensitivity to touch, sound, and other sensory stimuli); fear; desire to eat wood, cloth, and other indigestible objects; desire for solitude; or the desire to wander. Interestingly, some animals become friendlier to the point of clinginess when afflicted with rabies.

Chronic diseases of dogs and cats can readily be related to many of these symptoms. Convulsions are not uncommon; nymphomania and satyriasis are more common than ever, even in neutered animals; and eating indigestible objects is also fairly common. A syndrome we see primarily in dogs but occasionally in cats is degenerative myelopathy, a deterioration of the spinal cord that leads to painless lower-limb paralysis. This condition was first described in the late 1960s. By the late 1970s, when I graduated from veterinary school, we saw degenerative myelopathy primarily in the German shepherd dog, and it was (and still is) considered to be genetic. The age of onset was typically around ten years.

Today, the disease is common in numerous breeds, mostly large, and is occasionally seen in cats. I have seen the disease in a six-month-old golden retriever (shortly following completion of the initial vaccine series), and we commonly see it in four- to five-year-old dogs. How could this "genetic disease" cross breed lines? I would be really curious how it was genetically transmitted to cats. Maybe I missed that lecture in veterinary school! This condition may be associated with either canine distemper virus or rabies virus. The former may be more likely, but I suspect rabies may play a part in some animals, especially in cats. As rabies vaccination of cats has been emphasized only in the past decade or so, I fear this disease may become more common in cats over the next two decades.

Mentally, we see both extremes of clinginess and aggression. Aggression sometimes is noted to increase for a few days after a rabies vaccination, even with noninfectious vaccines.[20] We seem to see more and more persistently aggressive animals as well. In fact, a friend of mine, who has been practicing since 1950, flatly states that "animals were much nicer" when he graduated from veterinary school. All of the fear and aggression that we see now was rare in the 1950s.[21] I suspect that the emphasis upon vaccination for rabies, particularly for breeds such as the chow chow, pit bull, and such, serves to make these animals more likely to bite. This bite might then transmit chronic rabies to the bitten person. I also have seen many cases wherein convulsions arose following rabies vaccination, which makes sense given the virus's predilection for brain tissue and its ability to cause convulsions in active infections (see also "Aggression" in Chapter Thirteen, "Nervous System").

Finally, here is one example from canine distemper virus. This virus has an affinity to the parietal lobe of the brain, from whence the nerves of the masseter muscles and the temporalis muscles originate. These are muscles that originate on the skull, on the sides and top, and that close the mandible (lower jaw) during chewing and biting. There is a syndrome we call "chewing-gum seizures" that is a symptom of canine distemper virus infection and is caused by inflammation in the brain and nerves, with resultant muscle activity. These dogs repetitively open and close their jaws in an uncontrollable fashion, almost like chattering their teeth but not as rapidly.

Adult dogs sometimes suffer from an autoimmune disease called masseter myositis (though the temporalis muscle is equally or more affected). Its cause is considered unknown. Affected dogs initially show inflammation of these muscles, usually with difficulty chewing and opening the mouth. Eventually the muscles atrophy, leading to a skull-like appearance of the head, since the temporalis muscles provide the rounded appearance we normally see at the top of a dog's head. I have discovered that vaccination for canine distemper virus is the cause in at least some, and probably all, masseter myositis cases. Realizing that the same nerve-muscle groups were affected as with canine distemper–associated "chewing-gum seizures" led me to this conclusion, and I have successfully treated several cases now using a homeopathic medicine made from a dog distemper-combination vaccine. The same affinity exists in the vaccine virus as in the wild virus.

This concept may not make much sense from the conventional perspective that a live physical organism causes disease by infecting another organ-

ism, and thus it cannot cause disease if it is killed or modified prior to use in a vaccine. From homeopathic theory, however, we understand that a virus has a life force, which interacts with the life force of susceptible individuals. Illness then results from this interaction, which occurs on a nonphysical (energetic) level. Some form of the viral life force is present even with altered vaccine virus particles, so the life force of the vaccinated individual is still affected. Energetic illness precedes physical illness, whether it be a natural or vaccine-induced disease. The change wrought by the interaction between the vaccine life force and the vaccinated animal leads to a physical illness of some sort. This illness may only show initially as the interference with acute disease (i.e. the vaccine protection; see the quote from Burnett above), but over time the symptoms increase, and it will become more visible.

Other conditions we see frequently in veterinary medicine today are not so directly traceable to a particular vaccine. It appears that some vaccine effects are not specific to the organism in the vaccine but may be a nonspecific reaction to vaccination. When I attended veterinary school we were taught about many strange diseases—generally autoimmune diseases such as lupus, pemphigus, and the like—but were also taught that these were rare diseases we might see sporadically, if at all. We heard the adage, "When you hear hoofbeats in the backyard, don't assume it's a zebra." Today, it seems the zebras are as common as the horses, if not more common. Older practitioners affirm that these diseases were virtually nonexistent before the past few decades. Hyperthyroidism (increased production of thyroid hormones), which affects cats more than dogs, was not seen when I first graduated from veterinary school. It was not simply misdiagnosed. The symptoms are so characteristic that the syndrome would have been recognized even if the cause had been unknown. The disease did not exist. Could vaccines be responsible? Let's look at another case:

Sheba is a Siamese mix cat. She was nine years old when her guardian first consulted me. One week after vaccination, Sheba stopped eating and developed a rapid heart rate. Her conventional veterinarian suspected hyperthyroidism, although thyroid testing revealed no abnormalities. One dose of *Thuja* reversed the rapid heartbeat and the appetite problems, and her health bloomed after the remedy so that she was better than before she became ill. Clearly the vaccines had caused these problems. I believe she would have developed true hyperthyroid disease if untreated.

The status of the cat has elevated significantly since the 1960s. Prior to this most cats received little veterinary care. Since the 1970s, however, as cat status elevated, the care given to cats has climbed. This has generally meant more vaccinations. And rabies vaccination was often not recommended for cats until the mid-1980s. I believe the massive increase of vaccines in cats is responsible for hyperthyroidism as well as many other recently emerging diseases. One obvious terrible disease that is directly linked to vaccination is the emergence of fibrosarcomas at vaccine sites. This results from irritants (adjuvants) placed in noninfectious (killed) virus vaccines to increase the immune response. These cancers are extremely difficult to treat and are virtually always fatal. Other irritants (like microchips) can cause these cancers, but vaccination is by far the major culprit.

Other new and increasing diseases include hypothyroidism (decreased thyroid hormone levels) in dogs, feline immunodeficiency diseases (feline leukemia virus, feline immunodeficiency virus), feline infectious peritonitis, chronic hepatitis (primarily in dogs), renal failure, lower urinary tract diseases in cats, inflammatory bowel disease, and autoimmune blood disorders. Allergies are rampant these days, and vaccination has been linked to allergies in humans.[22] The immune systems of domestic animals have gone haywire. Sales of steroids ("cortisone") to suppress these diseases are probably at an all-time high. We have indeed traded the acute diseases for chronic, insidious, debilitating diseases.

Perhaps we have *not* eliminated the acute diseases at all, but merely changed their form into a chronic state of the acute disease. Prior to vaccination, the acute diseases were certainly life-threatening, but once puberty was reached most individuals lived a long, relatively disease-free life. Today most individuals survive or bypass the acute phase, but they (we) live relatively disease-laden lives. Vaccinations may prevent acute diseases, but if the exchange is for a lifetime of chronic disease, is that a viable option? (*Viable* is from the French *vie,* meaning "life," so the question is, will the patient live and flourish, or simply exist?)

Certainly many other stresses besides vaccines are playing a part. Studies of seals showed that consumption of pesticide-contaminated fish created an immunodeficient state that led to the 1992 outbreak of canine distemper virus, which killed vast numbers of seals in the North Atlantic.[23] Similar conditions exist in trees, such as the pine bark beetle infestation and American chestnut blight. Air pollution and acid rain weakened these trees, increas-

ing susceptibility to disease. Perhaps the chestnut is the canary species related to air pollution. Pesticides pervade every ecological niche today, including our foods. In fact, the study with seals used fish that was being sold for human consumption.

The diet of most companion animals is equally deplorable. So many dogs and cats eat out of bags full of poor ingredients, rancid fats, and powerful preservatives; this certainly contributes to abnormal immune functioning. Many commercial pet foods contain ethoxyquin, a suspected carcinogen ruled unsafe for human consumption. I find it mystifying that a substance is labeled unsafe for humans but is acceptable for nonhuman animals. Other foods use benzene-ring compounds like BHA and BHT as preservatives. Most benzene compounds have carcinogenic properties, and they are particularly toxic to cats. Poor diet certainly plays a large part in the deterioration of our companion animals' health.

Yet vaccination is also a major contributor, as evidenced by, among other factors, the excellent response we often see to *Thuja, Silicea,* and other major vaccinosis remedies. We also see cases where the connection is clear, such as Sheba's. I see these connections almost every day in my practice. *What I discovered is that when I stopped denying vaccinosis as a possibility, the evidence was right before my eyes.* This is why I understand when other veterinarians cannot see the connection, even when it is clear. It still saddens me.

How Can Vaccination Cause Illness?

Why would vaccination be more likely than the natural disease to lead to chronic illness? The first consideration is that exposure in a natural illness, with the exception of rabies, is generally oral/nasal. This allows the body to begin local response, both nonspecific as well as specific, some hours, possibly even days in some circumstances, before the virus reaches internal organs. Specific response involves formation of antibodies at the site of exposure, while nonspecific response involves white blood cells and chemicals directed against any foreign material. Injection bypasses the local immunity and forces the body to depend 100 percent upon internal immunity.

Secondly, repetition of vaccination forces repeated responses of the immune system, leading to an excessively stimulated immune response. This is abnormal, as local antibodies (in the mouth and nose) would repel a natural reexposure without allowing penetration into the body.

Thirdly, the preparation of vaccines often breaks down the integral structure of viruses, exposing internal structures such as viral DNA or RNA (depending upon the virus) to the immune system, leading to heavy antibody production against these nucleoproteins. Since nucleoproteins are relatively similar in all life forms, the host antibodies may lose the ability to differentiate between host and virus nucleoproteins, particularly given the induced hyperactivity of antibody production. The result may be antibody-mediated destruction of host tissue, an autoimmune disease. Autoimmune diseases are occurring more frequently than ever; could this be a reason? In the past few years, doctors Scott-Moncrieff, Hogenesch, et al. at Purdue University have studied vaccination in dogs and found autoantibodies to thyroid hormones following vaccination, a possible precursor to thyroid disease, for example[24] (the authors do not state that these autoantibodies lead necessarily to disease, though this is likely). In a natural exposure, antibodies would be directed more at external structures, which are less similar to host tissues and thus less likely to induce cross-reactions. Additionally, much of the immune response would occur at the site of exposure (local antibodies).

Bacteria are much more complex organisms, thus antibody production is directed at the bacterial cell wall (the skin, in a sense) rather than against DNA or RNA, so autoimmune diseases do not so easily result from bacterins. Rather, repetition of bacterins tends to create allergic or anaphylactic reactions. The leptospira portion of the canine combination vaccine commonly produces strong allergic reactions in dogs.

Aside from the above considerations, vaccines commonly contain materials other than the organism to which immunity is desired. These materials may be added as preservatives, adjuvants (materials to stimulate immune response, usually added to noninfectious vaccines), or antibiotics. Preservatives and adjuvants include such toxins and carcinogens as aluminum (alum), mercury (thimerosal), and formaldehyde. Also, many foreign proteins are included if the organism was grown on foreign tissue such as chicken or duck embryos. Even more frightening, nonintended organisms or molecules are sometimes accidentally incorporated as contaminant "stowaways." In 1995 the *Washington Post* reported that MMR (measles-mumps-rubella) vaccine produced by Merck & Co., along with some influenza and yellow fever vaccines, contained an enzyme known as reverse transcriptase.[25] This enzyme is associated with retroviruses such as

FeLV, FIV, and HIV and has the capability to alter genetic information, leading to serious diseases such as leukemia and other cancers. Similarly, the *Seattle Times*, in a February 19, 1999, article, reported that a link is probable between polio vaccination and some types of cancer. The cause may be a virus (SV40, a monkey virus) that contaminated vaccines manufactured prior to 1963. These diseases may take years to manifest, so definitive correlation with vaccination may be impossible, masking a potentially causative relationship.

The current practice in veterinary medicine of giving annual "boosters" amplifies this cascade of events immensely. As a result, we see vaccinosis in domestic animals more clearly, and probably more commonly, than in humans. This amounts to an ongoing model that delineates the disastrous consequences of vaccination in a more obvious fashion than seen in humans. This may then provide evidence of vaccinosis that could be used to study the disease in humans, but *I am not suggesting the use of research animals for further study, as companion animals already provide enough sad evidence.*

Vaccination and Brain Damage

There is a book by Harris Coulter called *Vaccination, Social Violence, and Criminality* (see the appendix) that proposes a theory about vaccination causing psychological and behavioral changes in humans. As I found Dr. Coulter's postencephalitis syndrome to be quite compelling, I decided to see if animals provided any evidence to support the theory. I concluded that this syndrome could explain many abnormal behavior problems we see in animals, including fear, desire for solitude, aggression, rage, inability to relate to others, restlessness, and hypersexual behaviors (nymphomania, satyriasis, and masturbation—even in neutered animals).

We also see many animals with physical conditions that Dr. Coulter associated with vaccination. These conditions include paralytic states, asthma, convulsions, skin allergies, developmental problems, and poor appetite.

I would like to briefly present another case that fits quite well with Dr. Coulter's hypothesis. Dolly is a female cocker spaniel who was nine years old when I was first consulted about her condition. She had quite severe neurologic impairment, including convulsions, mental confusion, and a poor ability to relate with her guardians. She would frequently get "stuck" in corners, that is, she would get her head into a corner or into a small space

such as between a chair and an end table, and she simply could not find her way out. She also had a palsy involving the facial nerves on one side, making drinking and eating difficult. This is interesting in that cranial nerve damage is another part of the postencephalitis syndrome.

A key element for me in connecting her case to vaccination was that when she was vaccinated, she became very hyperactive for a few days. On one occasion she even jumped off an eight-foot-high deck in this frenzied state. Other symptoms that pointed to vaccination were a thickened and cracked nose and foot pads, both symptoms of acute canine distemper.

Fortunately, Dolly responded dramatically to homeopathic treatment. I first tried the remedy *Helleborus,* with minimal improvement. Then, after a single high-potency dose of *Nux moschata,* Dolly's guardian remarked that "it was like she came out of a seven-year coma."

In the decade since this book was originally published, I have seen (or recognized) more and more cases of aggression, convulsions, and other brain disorders following vaccination. Additionally, in humans, there is growing evidence for vaccinations as at least one causative factor in autistic spectrum disorders, as Coulter suggested. With more awareness, more data continually accumulates.

What Steps Should You Take with This Information?

I know the above information is rather detailed and sometimes complex, but I believe in giving complete information, especially for something as controversial as vaccination. *While I include specific vaccine recommendations, this is only for those of you who feel uncertain about abandoning vaccinations altogether. I feel that vaccination is more risky than not vaccinating for most animals in most situations.* If you have read everything up to this point and still feel unsure about just what to do, here is a summary of my recommendations, starting with the most cautious position and moving forward from there.

First, remembering that booster vaccines are unnecessary, we can stop all vaccination after one year of age for virtually all diseases (see below; rabies vaccine boosters are required by law, so we need to work to change the laws so that they are in accordance with fact rather than fear). As repetition naturally increases the likelihood of problems, we can reduce side effects tremendously *with no additional risk to the patient* simply by stopping adult boosters. Of course, there will still be some risk involved with even

the initial vaccinations, but no risk of contracting the acute disease once the animal is immunized by these first vaccines. See below for duration of immunity to the various diseases for which vaccines are available.

Secondly, all vaccines should be administered as single antigens. (An antigen is something that is capable of eliciting an immune response, in this case a viral or bacterial organism from which a vaccine is produced.) This means not using the polyvalent (combination) vaccines, which have become so common these days. Natural exposure to diseases is usually one at a time, and the body is probably more successful at responding to only one antigen and producing immunity without adverse effects, rather than responding to a complex of antigens. Therefore, rather than giving a group of antigens together at three- to four-week intervals, individual components should be given using an alternating schedule with a minimum of repetition (see below).

Third, only immunize for diseases that meet *all* of the following criteria:

1. The disease is serious, even life threatening.
2. The animal is or will be exposed to the disease.
3. The vaccine for the disease is known to be effective.
4. The vaccine for the disease is safe.

Let's look at some common diseases to see how this works. I'll start with feline leukemia virus (FeLV) disease. An indoor-only cat will not be exposed (criterion number two), as this virus requires direct, intimate, cat-to-cat contact for transmission. Many veterinarians recommend immunizing indoor cats against this disease, but I feel this is unethical. This disease does not fit criterion number three or four anyway, in my experience, so vaccination is unwarranted in most if not all circumstances. Most current (2009) recommendations do not include FeLV as a core (essential) vaccine. Transmission of FeLV only occurs in young cats in any case, almost without exception, so vaccination would only be warranted in young cats. Ninety-five to ninety-seven percent of cats who do become infected after exposure to FeLV recover without incident in any case. (In clusters of cats, such as in households with *a lot* of cats, this percentage may drop as low as 70 percent, but this would not pertain to most households. By "a lot," I mean more than at least twenty cats, and really thirty to fifty or more. Furthermore, FeLV infection is declining significantly, at least in the United States, but not because of vaccination, according to Richard Ford, a veterinarian at North Carolina State

University who is on vaccination recommendation committees for the American Animal Hospital Association and the American Association of Feline Practitioners.

Feline infectious peritonitis (FIP) is another disease that fits neither criteria three nor four, and rarely number two. The FIP virus vaccine has generally been found ineffective and has produced severe side effects. Among the side effects I have observed with both FIP and FeLV vaccines is induction of the clinical disease they were intended to prevent. Additionally, it is pretty clear that FIP is an immune suppression (chronic) disease, not an acute disease, so the vaccine is unlikely to help. FIP results from a feline coronavirus (FCoV) infection, but the virus's relationship to FIP illness is complicated. There are two biotypes of FCoV—an avirulent (non–disease causing) biotype one (AB1) and a virulent biotype two (VB2), the FIP virus. AB1 is contagious but rarely causes problems. Most cats only develop a transient infection, though some may become healthy lifelong shedders of AB1. In a *very* small minority of cats who contract AB1, an immunological insult or some other event (this is not fully understood) causes AB1 to mutate to VB2. (I suspect this insult is human-caused, by vaccination, medications, pesticides, or some other toxin, although researchers believe the mutations occur at random. There is a genetic susceptibility in some breeds, though, primarily Persians and Burmese, for this conversion to occur. Some lines within these breeds are worse than others.) VB2 infection results in FIP disease (the disease can have other forms that do not involve the peritoneum), which is 95 percent fatal. This conversion is rare, however. Further, *VB2 is not contagious, so cats with FIP are not contagious.* Only cats with the non–disease causing form, AB1, are contagious. Thus a cat with FIP in a household need not be euthanized or separated from other cats. There may be other cats shedding AB1, however. As with FeLV, illness occurs in only a small minority of cats.

Feline panleukopenia virus is very serious, and the vaccine is quite effective, but most cats will not be exposed to the virus, and the disease generally affects kittens only. Only those cats that are likely to be exposed would benefit from vaccination. One vaccination is sufficient (see below).

With the feline upper respiratory diseases (calicivirus and rhinotracheitis virus as well as feline chlamydia), most are not serious except in very young kittens. These kittens generally contract the disease before vaccines would typically be administered, so the vaccine is not often beneficial. Only the

intranasal vaccine is effective in most cases, and it can cause illness that mimics the natural infection.

Recently a vaccine for ringworm was introduced. I have no direct experience with this vaccine, but I am certain that it will have little benefit and that it is probably unsafe. Ringworm is usually the result of immunodeficiency—a chronic disease rather than an acute illness, so the vaccine will not address the cause of disease. I strongly recommend against using this vaccine.

In dogs, canine hepatitis virus (the vaccine virus to prevent canine hepatitis is adenovirus-2) is almost nonexistent (criterion number two). Leptospirosis is extremely rare (number two) and the bacterial serotypes that cause the few observed cases are often not the same serotype as the ones used in the vaccine[26] (there is no cross-protection between different serotypes). In other words, the leptospira component in the combination vaccines rarely protects the dog against the disease (number three). Additionally, the bacterin for "lepto" is very prone to side effects (number four).

Coronavirus was never a serious threat (numbers one and two) except to dog companions' bank accounts, and the same is true for Lyme disease, except possibly in very small regions (number two). The vaccine for Lyme disease commonly causes illness, in my experience, often mimicking the disease (number four). Additional note for the second edition: Lyme disease has spread much farther than previously; at least it is being diagnosed in a much wider area. I suspect some of this is due to incorrect diagnosis, as diagnosis for Lyme disease is not entirely consistent. Further, I would still not recommend the vaccine, as it provides questionable immunity. Kennel cough disease is generally not serious (number one), and one study showed immunization to be ineffective or even counterproductive (number three).[27] Immunization for kennel cough should be limited to high-risk circumstances, if at all. As with the feline upper respiratory viruses, only the intranasal kennel cough vaccine provides much protection, though it can incite illness. Nosodes can be helpful (see below).

Recently, a horse influenza virus has developed contagion to dogs, and this virus is now spreading somewhat. It is now called the canine influenza virus. As with human influenza, the vast majority of dogs do not develop serious illness (criterion number one). Furthermore, I wonder how safe and effective the vaccine will be (criteria number three and four), since

human influenza vaccination is poorly effective and often causes influenza-like illness.

Canine parvovirus and canine distemper virus present the only real threats, and most dogs will not be exposed to these diseases. Parvovirus rarely affects dogs over one year of age, and even eight- to twelve-month-old dogs generally survive the disease with minimal illness. One vaccination is usually sufficient for either virus (see below). Hepatitis virus (adenovirus type two) is a dangerous virus, although pretty rare. Consider vaccination only if your companion has a likelihood of exposure.

Rabies is another disease for which indoor cats and well-confined dogs have no exposure, so the vaccine is clinically unnecessary, although it is required by law. Even nonconfined animals have little risk of exposure, though there is some risk, and the disease is devastating. Vaccination may be of value for outdoor animals, especially in rural homes, though there is a risk of chronic illness (see "Aggression and the Rabies Miasm" in Chapter Thirteen, "Nervous System"). Once immunized, however, most animals are protected for life.

Fourth, vaccines should *never* be given to unhealthy animals. When I graduated from veterinary school, this was accepted doctrine; it was largely considered malpractice at the time. Unfortunately, however, today it is rather common to vaccinate sick animals. This has gained popularity among veterinarians for some strange reason, and it goes against the recommendations in all vaccine inserts as well as those of virtually all immunologists. It is still malpractice in my opinion—even more now than thirty years ago, as the risks are much better understood.

A bolder option is to refuse immunizations entirely, recognizing the inherent risk in administering even one vaccine into the body, and being willing to accept the risk of not immunizing. While risk does exist if animals are unvaccinated, it can be moderated significantly by feeding better quality foods (home-prepared and including fresh raw meats) and by limiting exposure until the animals are six to eight months of age. An unvaccinated animal will be significantly less likely to suffer from allergies and many health problems.

Please understand that there is a risk, albeit minimal, with not vaccinating. I have seen panleukopenia virus (FPL), for example, in adult unvaccinated cats. The cats were probably overcrowded in an apartment, thus under some stress that would have compromised their immunity, but they did

become ill. But this is rare. The exposure in this case came from a sick cat who went to a veterinary clinic and was exposed there to a kitten with FPL. I also know of canine parvovirus infections in unvaccinated dogs. Again, this is quite rare. The quote by Samantha McCormick in the section above titled "Vaccination Does Prevent Disease, Doesn't It?" clarifies this somewhat. The risk is there, but I believe it is extremely small. Hopefully you understand why if you have read this chapter up to this point.

As with polio virus in humans, there is a moderate risk with exposure to vaccinated animals. Exposure of unvaccinated humans to recently vaccinated children is responsible for all of the polio infections in recent history in the United States. Similarly, exposure to recently vaccinated animals can result in illness, either in unvaccinated animals or in littermates whose vaccinations did not induce protection. This is most common with dogs, and most common with parvovirus. With puppy classes and such, dogs are much more likely to be exposed to other vaccinated dogs than are cats. Thus if you don't vaccinate your dog (or cat), it would be wise to avoid exposure to dogs for a week or two following their immunizations. This can be difficult with puppy classes, but it is possible. Nosodes can help here (see below).

I am still opposed to vaccinations in most circumstances. My position has evolved over thirty years of experience as a practicing veterinarian, from study and from personal observation. My overarching concern is that the veterinary community tremendously overuses vaccines, though there is some slow movement toward fewer vaccinations. The decision to vaccinate is an individual one, though. While I am opposed to vaccination, I do not ask that you blindly accept this judgment but that you make your own decision. I do ask that your decision be based upon facts, however, not fear.

Vaccination has become a freedom-of-choice issue. Animals, like children, have no voice. We as guardians are the voice for our companion animals, so it is up to us to make the best choice for them. *In the case of rabies, state law mandates the vaccines, and so we have no real choice other than breaking the law or asking for exemptions in certain circumstances. We can, however, strive to change the laws to a factual basis.*

Other vaccines are very heavily pushed although not legally required. Some veterinary clinics or boarding kennels require other vaccines prior to admission, sometimes even for emergencies. Guardians who question the

need for vaccines are often belittled. The veterinarian will either imply that the guardian does not really care about the companion animal or that the guardian has no qualification to make such a decision. Unfortunately, however, in most cases the veterinarian himself is not making an informed decision based upon immunological science. Thus, since we as guardians are in fact morally and ethically the responsible party, we must take charge and act upon our knowledge to make a fact-based rather than a fear-based decision. This decision should not rest with someone else.

I entered veterinary medicine because of my deep care for animals, and it is their welfare I have at heart. I believe vaccination to be the source of tremendous illness and suffering in animals, and probably people. My practice involves primarily chronic disease, and I estimate that at least 75 percent (probably more) of the illnesses I treat have their roots in vaccination. Vaccination thus amounts to abuse of animals, something I cannot abide. If we do not defend our rights and those of all animals, including wild animals, we will lose our rights and perhaps even the animals.

What, then, is the best approach to protection against these diseases? First and foremost, prevention is indeed better than trying to cure disease. Rather than vaccination, however, promotion of health is the best choice for long-term well-being. This involves primarily nutrition and lifestyle choices. Good nutrition for dogs and cats is similar to that for humans in that fresh foods are best. Eating out of bags and cans is a poor substitute. As these are carnivores, fresh raw meats with small quantities of cooked grains and vegetables are the basis of a good diet. Use organic ingredients if possible. Lifestyle should include opportunities for fresh air, sunshine, and exercise—conditions that nourish mental health. With young puppies and kittens, minimize their exposure to situations where stress and the presence of unfamiliar animals create opportunities for transmission of infectious diseases.

Possibly the best use of vaccines is in an epidemic situation rather than blanket use where no risk of exposure is involved for most individuals. Interestingly, however, epidemic or other known exposures are situations when nosodes or the *genus epidemicus* (see below) appear to work well. Appropriate use of nosodes could provide adequate protection in most circumstances with a small fraction of the risk of vaccines.

Nosodes

A nosode is a homeopathic remedy made from a discharge or a similar product from an individual with the disease. It is not made simply from the causative agent; it generally contains that agent within the discharged fluid or infected tissue. It thus represents not only the infectious organism itself but also the host response. The nosode therefore carries the energy of the disease. This energetic package has the capability of, in a sense, filling the susceptibility of the patient with this modified, vibratory disease energy. In doing this, it can block receptivity to the actual disease organ and disease process.

I have seen nosodes work quite well in the exposure and stressful atmosphere of an animal shelter. Although it was not a controlled study, there was no doubt about the effectiveness. I have also seen protection in other exposure situations. Indications from these experiences as well as historical use of nosodes in epidemics suggests that nosodes work best when administered shortly before to shortly after exposure. Evidence for long-term protection seems to be lacking, but typically these diseases are a threat only in prepubertal individuals *unless* they have been vaccinated (as with measles in humans—see above). In fact, I doubt that it is possible for nosodes to induce permanent protection, as they do not work like vaccines, even though the concept is somewhat similar. One study with parvovirus in dogs, for example, showed no protection from nosodes. The study, however, was poorly designed—in a sense it was designed to fail, though that may not have been the researchers' intent. But they gave the nosodes, waited, and then exposed the puppies well after any residual nosode protection would have disappeared. Thus they found no protection.

But nosodes are not vaccines, and their protection is only transient. They require intermittent use until puberty for puppy or kitten (or children's) diseases. Alternatively, they can be administered around possible exposures, such as before and after puppy classes or during boarding. The latter works well for kennel cough prevention, for example. In my experience, overuse of nosodes may create a disease situation, however, so wise use is necessary. Do not continue them too long. In fact, it is best to not even use nosodes routinely, though some guardians are uncomfortable with no protection other than good nutrition, so they opt for regular use until puberty. As this can cause problems, *I do not recommend this approach for the vast majority of*

animals. Rather, dosing around probable exposure is better unless exposure risk is fairly constant.

I recommend that you consult with a veterinary homeopath regarding nosode use for disease prevention. Nosodes are prescription medicines and should be used with appropriate guidance, so your veterinary homeopath must have direct experience with nosodes. Essentially, if you desire a vaccine-like regimen, I recommend using 30C potencies once or twice a week until the animal is six to eight months old. At this time it is usually best to stop the nosode administration. You can then go to exposure-based dosing. Some veterinarians recommend repetition of nosodes at four- to six-month intervals for the animal's lifetime, but this is unnecessary. I have seen this cause problems, especially when using high potencies (200C or 1M). Most animals have a competent immune system by the time they reach puberty, and they no longer need nosode protection.

In short, nosodes do work, and they work fairly well, in exposure situations. It is not always possible to know when an exposure has occurred, and they do not provide lasting protection, thus they require repetition. Many homeopaths (probably most) do not understand how they work, and certainly almost no conventional veterinarian or physician does. As a result, many otherwise well-meaning doctors proclaim that they do not work, or on the other hand, attempt to use them without understanding how they work. This can cause failures or problems and leads to a perception that nosodes are useless in disease prevention, which is untrue. Furthermore, nosodes will only work well in acute contagious diseases, just like vaccination (see above in the section "Vaccination Does Prevent Disease, Doesn't It?"). They will provide limited protection in chronic, immune suppression diseases like FeLV and FIP, though they do appear to provide some protection in animals who are exposed. I have even seen some apparent protection in previously exposed cats with high coronavirus titers who lived in a household with an FIP cat. This protection is far from predictable, but it can help.

A *genus epidemicus* is a traditional homeopathic remedy that matches the majority of cases in an epidemic, thus it can be used as a preventive. This has been done quite successfully in outbreaks of such diseases as cholera and yellow fever. It is equally effective for animal diseases, though you would need to consult a homeopath to see if she knows or can ascertain the best remedy for a given outbreak. This would be uncommon, as epidemics are

uncommon in animals. The parvovirus epidemic of the late 1970s was the last major animal epidemic, for example.

Whether with a nosode or the *genus epidemicus*, dosing near exposure is critical. I realize I am repeating myself, but this is probably the most misunderstood aspect of prophylactic nosode use. The best method is simply administration shortly before to shortly after potential exposure. For puppy classes, give one dose of 30C before the class and a second dose upon arriving home or the next day. With boarding, dose before going to the kennel, every day in the kennel if fewer than four days total, or every two to four days for longer periods. Give a final dose after returning home. This is only for kennel cough or feline upper respiratory pathogens unless there is a likely exposure to other viruses in young animals. Even better on all counts is to keep your animals at home with a house sitter. With unknown or potentially extended exposure risk, continued repetition is feasible (e.g. in puppies or kittens up to puberty), but it is not without risk and is a secondary approach.

If You Still Decide to Vaccinate, What Vaccines Should You Use?

What should you do if vaccination still seems an appropriate choice? *If you have not read this chapter in its entirety, I suggest you do so prior to deciding to vaccinate.*

I present the following information only for those of you who cannot make the decision to avoid vaccinating a puppy or kitten. I do not recommend vaccination, but this information can limit their use for those who still wish to vaccinate. Essentially, the primary diseases for which vaccination may be warranted are canine distemper, canine parvovirus, feline panleukopenia (distemper), and rabies.

Previously, I generally supported the use of noninfectious (killed) vaccines for those who choose to vaccinate, as I feel they have less likelihood for long term damage. Dr. Ron Schultz, of the University of Wisconsin–Madison School of Veterinary Medicine, presents a strong case for the use of modified live vaccines (MLV), however, as repetition can be necessary with noninfectious vaccines. Further, the adjuvant-associated vaccine fibrosarcomas in cats warrant careful consideration of noninfectious rabies and FeLV vaccines in that species. *For this reason, you should never use adjuvanted vaccines in cats.* And maybe even in dogs, since there have been

a very few rare instances of vaccine sarcomas in dogs. With modified live vaccines, one dose can have high efficacy. This primarily applies to canine distemper and canine parvovirus, as noninfectious rabies and feline panleukopenia vaccines are as effective as modified live versions. Rabies vaccines are all noninfectious, as far as I know, at least in the United States. I would be extremely cautious with MLV rabies vaccines in cats, as they have a tendency to revert to wild strains. Purevax, by Merial, is the only nonadjuvanted rabies vaccine at this time, and it is the one to use. Dr. Schultz's "one dose 95 percent" (one dose of vaccine at a given age will successfully immunize 95 percent of animals) suggestions are as follows:

- canine distemper (MLV): ten to twelve weeks;
- canine parvovirus (MLV): twelve to fourteen weeks;
- feline panleukopenia (MLV): ten to twelve weeks.

Thus, if you have a new puppy, one dose of modified live canine distemper virus vaccine at ten to twelve weeks of age, followed in two weeks by one dose of modified live canine parvovirus vaccine, stands a 95 percent chance of protecting him for life from these two diseases. Similarly, one dose (per cat) of feline panleukopenia virus vaccine will protect 95 percent of cats for life. One or two doses of rabies vaccine provide the same lifetime protection, though state law mandates regular boosters. In cats, I recommend panleukopenia virus vaccination only unless there is a known risk for calicivirus or rhinotracheitis virus exposure, in which case I recommend the intranasal vaccine. Intranasal vaccination mimics the natural exposure and works better than the injectable vaccine, though it may create a mild form of the disease. The intranasal rhino-calici vaccine should be given separately from the panleukopenia virus vaccine. I do not recommend vaccination for feline leukemia virus, feline infectious peritonitis virus (feline coronavirus), chlamydia, giardia, or ringworm under any circumstances. There is now a vaccine for the feline immunodeficiency virus, but I would not recommend this either.

In dogs, I would recommend distemper virus and parvovirus vaccines only, and not combined. In rare cases you may need to dose the parvo vaccine at an older age. A titer test can tell you if you need a booster; see below. If there is a risk of exposure to kennel cough, the intranasal bordetella-parainfluenza vaccine may be useful, though it often causes a mild case of kennel cough. I don't recommend it for most dogs, though. I do not rec-

ommend vaccination against canine coronavirus, Lyme disease, giardia, or leptospirosis under any circumstances, and I would only recommend hepatitis (adenovirus-2) vaccination if there is a definite risk of exposure (although the American Animal Hospital Association considers adenovirus-2 to be a core vaccine, the disease is quite rare, though it can be dangerous). One manufacturer has produced a vaccine for giardia, though it may no longer be on the market by the time this edition is published. It is almost universally not recommended by veterinary experts. Finally, there are vaccines against the western diamondback rattlesnake *(C. atrox)* venom and a vaccine for periodontal disease in dogs. I would recommend neither one. I have seen some harsh skin damage with the *C. atrox* vaccine, and periodontal disease is an immune deficiency. Further vaccination is likely to further depress immune function.

Finally, once again, rabies is generally mandated by law for cats and dogs, regardless of risk. This is a legal, not a medical, requirement. The medical status is not much different than with Dr. Schultz's core vaccines, as listed above. He does not give data, but approximately 80 to 85 percent of animals should be protected with one dose, and 95 percent with two doses. This protection should last for life. See the discussion on titers below. It is possible to obtain exemptions in some cases in some states, especially with animals with autoimmune or other known vaccine-compromised illness. Chronically ill animals also warrant an exemption, though not all officials will grant such an exemption. It can help to have a protective titer, however; see below. Additionally, in cats I recommend using the nonadjuvanted rabies vaccine (Merial's Purevax is currently the only one) if you must vaccinate your cat. Other nonadjuvanted single vaccines at the time of writing (to my knowledge) include Schering-Plough's Galaxy-D (canine distemper) and Merial's Recombitek (canine parvovirus). Merial currently also makes a three-way cat vaccine without adjuvant or thimerosol. Any of these products could change at any time, however, so do your research if you choose to vaccinate.

Titers (Antibody Testing)

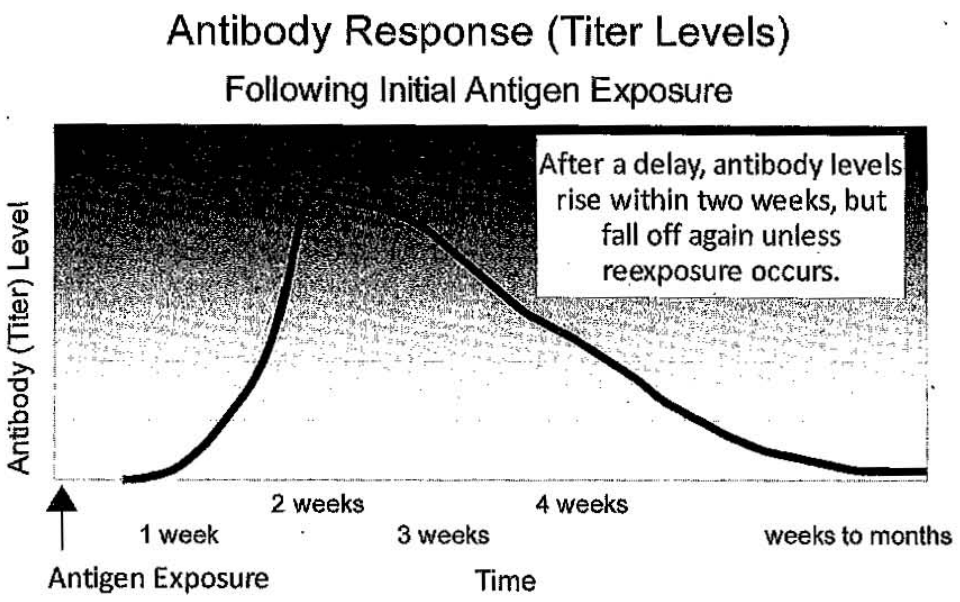
With our awareness of potential vaccine damage, and especially as animal guardians insist upon a more conservative approach to vaccines by their veterinarians, titers have become more of an issue. As with nosodes, however, there is a lot of misinformation, or at least misapplication, regarding

titer use and need. So in this section, I'll give an overview of titers: what a titer represents, what it can tell us, and when it is or is not useful. First, however, a bit about antibodies.

Just what is an antibody? An antibody is a protein, manufactured by lymphocytes, that is engineered to attach to foreign antigens and assist in their destruction and removal from the body. Remember that an antigen is anything that can induce an immune response, normally something foreign to the body. It may be an organism, like the canine distemper virus, or it may be pollens, poison ivy oils, or (in an abnormal response) food proteins. The body has basically two responses to foreign material. The first response, cell-mediated immunity, is less specific to a given antigen/foreign invader. With this immune response, once the sensory arm of the immune system recognizes a foreign antigen, the system sends cells to the area. These cells attempt to ingest and destroy the antigens by a process called phagocytosis. They also utilize other chemical and physical methods to cleanse the antigens from the body, as well as sending signals to bring in white blood cells to begin to form antibodies (also called immunoglobulins) against the antigens. This is the second, antigen-specific part of the immune system.

It usually takes about two weeks following an initial exposure for antibody production to get into high gear. Upon subsequent exposures, however, antibody levels will climb rapidly, typically within forty-eight hours. This secondary response we call an anamnestic response. The reason the anamnestic response is so rapid is that once the immune system has recognized a new antigen, it creates a population of antibody-producing cells (beta lymphocytes or ,-lymphocytes—ß is the Greek letter beta) that are specific to this antigen. Their only job is to make antibody against, for example, canine distemper virus (CDV). For a time following activation of these cells, they continue to multiply and maintain a significant population, constantly producing that CDV specific antibody. After a few weeks or months, however, without further exposure to CDV, antibody levels will slowly drop, sometimes to very low levels. See the chart titled "Antibody Response (Titer Levels)" for more clarity.

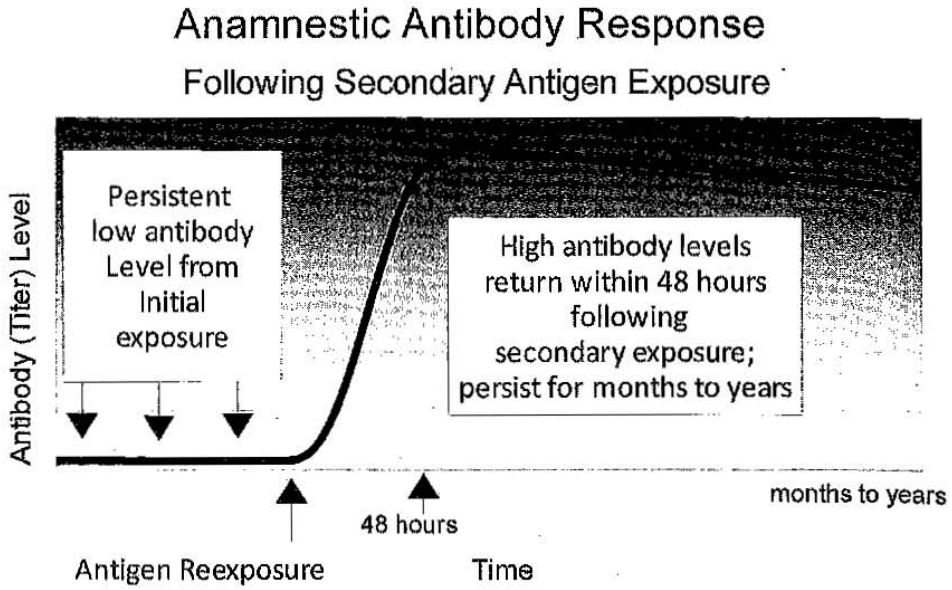
The CDV antibody-specific ß;-lymphocytes, however, never disappear. The immune system maintains a low population of these cells, just in case. They are sometimes called memory cells because they "remember" their specific antigen, in this case CDV. If the immune system "sees" CDV again,



the cells rapidly divide and multiply, producing protective antibody levels within forty-eight hours. It's a bit like firefighters. As long as there is no fire, we can forget they are around, but they are still there at the fire station, servicing trucks, taking firefighting classes, maybe even playing cards. Shortly following a fire alarm, however, they are everywhere. The anamnestic response is like this. You can test antibody titers and find very little antibody because it is not currently needed. But should reexposure occur, antibodies are everywhere, just like the firefighters. See the chart titled "Anamnestic Antibody Response" for more clarity. The line on this chart is a continuation of the previous one; the low antibody levels at the beginning follow the drop in antibody levels on the first chart.

Sometimes the circulating antibody level, as measured by a titer test, is actually below levels we consider protective. In the second chart, on the anamnestic response, this is represented by the flat line at the beginning, marked "persistent low antibody level from initial exposure." This is typically in an animal who has not been vaccinated for or exposed to CDV (using our example) in a long time, usually years. Upon reexposure, however, protective levels occur quickly. This is important, as this is often misunderstood or ignored. We'll see why in a minute as we examine titer testing.

A titer—from the word *titrate*—is an analysis of serum for circulating antibody levels against a given antigen. To assess antibody response, laboratory technicians test serum (the liquid component of blood, excluding blood



cells and clotting agents) against specific antigens to see if the serum proteins bind with the antigen. This binding we call agglutination. Here is how it works (the process is called titration): we'll continue with CDV as our example. The tech would take a given quantity of CDV and mix it with a given quantity of serum. If she found agglutination, she would then dilute the serum with equal parts of a diluent (diluting solution). If she still got agglutination, she would dilute again and retest. She would continue this stepwise dilution and testing until she reached a dilution that did not agglutinate. Then she would know she had reached the limit. The previous dilution, the last one that did agglutinate with CDV, would be the titer level. As this process has historically been done by diluting the serum to half-strength in each step, titers were (and still often are) reported in multiples of two. A serum sample that only agglutinated at the first dilution would have a titer of 1:2. A sample that agglutinated at the first and second dilutions would be 1:4, and one that agglutinated to the third dilution would be 1:8. This could go on as far as agglutination occurred. The higher the dilution at which agglutination occurs, the more antibody is present in the serum. Thus, higher titers are those that have a higher second number; the first number is always one. Titers may reach to 1:1,024 and even higher. Essentially, a titer is not a direct measurement of antibody; rather it is an inverse measurement in that it refers to the level of dilution at which the antibody is still capable of reacting to or neutralizing the antigen or virus.

In recent years, laboratories often dilute in steps of one to five, so the titer may be 1:5, 1:25, 1:125, and so on. Sometimes laboratories report the antibody level directly, in international units per milliliter (IU/ml). This is especially the case with rabies titers in most countries except the United States, as the World Health Organization utilizes antibody levels rather than titers for reporting and establishing minimum levels of protection. The numbering system is not critical, however, other than understanding what is higher or lower within a given system. Additionally, laboratories may measure the ability of antibody to neutralize live virus rather than simply the agglutination (this is the case with rabies). Again, this is not so important to know as is how your animal's test results compare with normal values and minimum protective levels.

The next step is to determine what minimum titer level is a protective level. This is complex, as it involves various factors, sometimes including animal testing. The why and how of this is not important here. The only important aspect is that laboratories or researchers determine a minimum titer that they deem protective against a given agent. It may vary, depending upon the disease organism. Essentially, however, the intent is to ascertain at what level it is clear that a vaccine (or an exposure) has induced a protective antibody response. Once this is determined, titer testing can tell if a given individual adequately responded to a vaccine. At least that is the idea, and it does work, but timing is critical.

Remember in the charts how the antibody level drops after a time if there is no reexposure? And how, upon reexposure, antibody levels rapidly climb to protective levels? This is where that comes into play. Here is why. We'll return to CDV. With at least one major laboratory, the minimum protective titer to CDV is 1:5. That is, the serum still reacts to the virus at a five-fold dilution. Now, suppose you vaccinate your puppy and then test him three weeks later. Chances are good that you would see a titer higher than 1:5, unless he is not capable of a proper immune response, which is rare. But what if you do not test him for a year? If he has not run into CDV on the street somewhere, his titer may have dropped below that 1:5 level. If we only look at that one isolated test, we might assume he is not protected, and many veterinarians would recommend a booster vaccine. Unfortunately, without testing at three to six weeks following the vaccine, we do not know if he had a response initially or not. If he did, then we know that the anamnestic response will pick up and cover him upon subsequent expo-

sure. If he never developed a protective antibody level, then he may or may not have an adequate anamnestic response.

Now, what about the dog who was vaccinated twice, or who had a vaccine and then a street exposure somewhere? His titer will remain high much longer, months to years, so yearly titer testing is likely to find him protected, at least for a year, two years, maybe five to seven years. At some point, however, the antibody and titer level may drop. Here is the other place where veterinarians, doctors, and others err with titer testing. A common recommendation is to do yearly titers (assuming the first one shows protective levels), wait for the titer to drop below the minimum protective level, and then give a booster. But wait, you now say! What about the anamnestic response? And you are absolutely correct. He does not need the booster because the memory cells are still there, ready and waiting. The bottom line is that, if a dog ever shows a protective titer against CDV, then that dog is always protected against CDV. Are you with me? If not, refer again to the charts. A dog who at some point developed protective antibody levels against CDV will, even if those levels fall below what we call protective titer levels, regain or better those levels within forty-eight hours (often much sooner) upon reexposure. The booster vaccine is a waste of time, money, and stress.

So, are titers useful? Yes, they are. Are yearly titers useful? No, they are not. Essentially, if you have read this entire chapter, you still realize that I do not recommend vaccination for most animals for most conditions. In that case, don't worry about titers. If you vaccinate, however, you could have your veterinarian run titers three or four weeks following the vaccine. If the titer is protective, then forget it. Don't worry again about that disease. Your animal is protected. You could even test a young animal, at about six months, even if you did not vaccinate him, to see if he may have been exposed somehow and developed a protective titer. (This especially applies to outside animals, but it is also more important for them.) If so, again, relax. If not, you can decide whether you feel the risk of disease exposure is great enough to gamble with the risk (arguably more certain) of vaccine damage. Titer testing is only useful for the big diseases, like canine distemper and parvovirus, feline distemper, possibly canine hepatitis virus, and rabies. But see the next two paragraphs about rabies titers.

With rabies, I must give a cautionary note. In all likelihood, rabies titers work just the same as with other diseases. Once there is a protective titer, the animal is protected. There is an argument that this does not hold true

for rabies. That argument, as best as I can determine, comes mostly from vaccine manufacturers, so I question its validity. Further, immunologists like Dr. Schultz believe that titers provide the same guidance with rabies as with other diseases. As of this writing, however, no state public health agency has gone out on a limb and officially accepted titers in lieu of their revaccination requirements. While this is not in accordance with immunological understanding, they err on the side of caution. As rabies is a threat to humans, the laws are to protect humans, even if dogs and cats (and other species) suffer from overvaccination. Everyone in the public health field is reticent to accept titers instead of boosters, in case it turns out that titers are not protective. It is a liability issue. And a shame, as there is little likelihood that titers are not accurate here, and there is so little risk for the vast majority of animals.

Should you choose to use titers in lieu of rabies boosters, you will most likely be breaking the law in your state. You will be on your own, and your local veterinarian will most likely be resistant to your choice. You can still request the titer, however. You want the RFFIT test, and you can ask your veterinarian to send the sample directly to Kansas State University (www.vet.k-state.edu/depts/dmp/service/) or Auburn University (www.vetmed.auburn.edu/index.pl/virology). These are the only laboratories in the United States (and for Canada, I believe) where rabies testing is done. The commercial labs send the samples to these university labs, and they just mark up the cost. I am totally comfortable with protective rabies titers, but the law is not on my side—yet. Work within your state to get these laws changed. Rabies vaccines do cause damage, and beyond one or two vaccines they are almost wholly unnecessary.

Summary

In summary, I hope that you understand a few things:

- While vaccination may have reduced illness in some cases with acute contagious diseases, it is not so clear what the impact has been. In diseases such as bovine herpesvirus and polio, countries where vaccination was not major saw reductions in disease to the same extent as countries that utilized vaccinations. Herd immunity (immunizing the majority of a population) is important, but this may occur as much by natural exposures as by vaccination.

- Even if vaccination is helpful, only initial vaccination is necessary. As I explained in the "Titers" section, once immunized, we are immunized for life with vaccines for acute contagious diseases. Booster vaccines are wholly unnecessary.
- Core vaccines for dogs are distemper, parvovirus, and rabies, as well as adenovirus-2 (for canine hepatitis) in rare circumstances.
- Core vaccines for cats are panleukopenia (distemper) and rabies.
- For the core vaccines, one appropriately timed vaccine provides lifetime immunity in about 95 percent of animals. Rabies may require two vaccines for this.
- Vaccination for upper respiratory infections of dogs (kennel cough) and cats (rhinovirus, calicivirus) are usually unnecessary, but intranasal vaccination is best. Nosodes can work well for these as well, though.
- Diseases that are not acute contagious diseases do not benefit from vaccination. These include such diseases as feline leukemia virus, feline immunodeficiency virus, feline infectious peritonitis virus, Lyme disease, ringworm, and giardiasis.
- Vaccines can and do cause disease, sometimes severe disease. They are not the "helpful or neutral" agents that we formerly thought they were. They have great potential to do harm, and I believe the harm they do is vast. We are only beginning to understand the extent of vaccine damage. In fact, I suspect that we will abandon vaccination entirely before too long, once we as a medical society and as a general society grasp the degree of this damage.
- The more vaccinations we give, the more likely the damage, although sometimes one vaccine initiates a cascade of problems. This may result from damage passed on from parents to offspring, whether via genetic or other means.
- I do not recommend vaccination in almost all circumstances. While many may see this as extreme, I believe the risk of vaccination outweighs the risk of disease for the vast majority of animals in the vast majority of circumstances. Arguably, those of us who do not vaccinate our animals may depend upon the majority who do, but as explained in the first item in the summary, it is not totally clear how much vaccination plays a part. There is a risk in not vaccinating, but there is a risk in vaccinating. Each guardian must weigh these risks for herself.

- Rabies, as a public health threat, falls somewhat outside these bounds, as vaccination is mandated by law. The law, however, is based more upon fear than upon immunology, and it should be changed. Until then, any decision not to vaccinate as the law mandates should be taken seriously. It is a matter of weighing your companion animals' health against complying with the law, while not putting yourself or others at undue risk.
- Nosodes do work for immunity but must be given near exposure. They do not work like vaccines and do not provide long-lasting immunity. They can be problematic if repeated for too long.
- Titers can assess immunity, but once an individual shows a protective titer to a given illness, there is no need for further testing, as immunity is lifelong.