

# The Whole Dog Journal™



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*A monthly guide to natural dog care and training*

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# Smallville

*No matter how tiny, every dog can – and should be – trained.*

BY NANCY KERNS

The first small dog I ever owned came to me as a hand-me-down. My sister's husband brought home a long-haired Chihuahua puppy on a whim, but after the initial "new dog" thrill wore off, no one in the family took the time or had any interest in training the tiny dog. Mokie grew up eliminating in the house, chewing anything that interested him, and barking shrilly at everyone who came to the door. If they took him outside, he had to be on a leash, because he would gaily run down (and into) the street any chance he got, and no amount of calling would bring him back until he was exhausted. When I first met him, he was almost a year old and knew *nothing*. He responded to his name – sometimes – but didn't know how to perform a single behavior on cue. When I asked what behaviors he knew, my sister responded with a tone that indicated I was being ridiculous for asking. "Oh right," she said. "Like you can even *train* a dog that small."

Well, gosh, of course you can! If you can train chickens to play the piano and goldfish to dunk tiny basketballs through tiny underwater basketball hoops – and you can, just do a search on YouTube and you'll see proof – of course you can train a Chihuahua to sit and come to you on cue!

I spent my three-day visit with my sister training Mokie to sit, lie down, and come to me on cue, and showing everyone in the family how to support that training. He was whip-smart and learned fast. But he needed time with and attention from people, and no one stepped up. It wasn't long before my sister asked me if I could help her re-home Mokie.

Within a month of arriving at my house, he was reliably trained to do almost everything any dog should know to do: come, sit, down, off, get in your crate. (Achieving a reliable "Shush!" has been a lifelong project, however.) He was so cute and fun that we kept delaying the search for a new family for him. (Years later, after dog-sitting him for a week while I moved, my *other* sister fell in

love with him and begged to keep him. He bonded so well to her and her husband and their two other small dogs, that I let him stay there. Mokie is now a portly 12-year-old and the best-trained dog she has (though still a bit barky!)

I'm a huge fan of force-free training for *all* dogs, and even though it's grammatically incorrect to say so, positive techniques are even *more perfect* for training small and tiny dogs. They are every bit as smart (some would say smarter) than bigger dogs, and often very motivated to "work for food." In my experience, the only thing about training little dogs that is more difficult than training larger ones is the speed – they often move so fast that it can be difficult at first to mark and reward their good behavior quickly enough that they understand which behavior has earned the reward.

In the article on the facing page, Training Editor Pat Miller has a lot of tips for training the tiny dog. I hope you'll give them a try.

NK

**MISSION STATEMENT:** WDJ's mission is to provide dog guardians with in-depth information on effective holistic healthcare methods and successful nonviolent training. The methods we discuss will endeavor to do no harm to dogs; we do not advocate perpetrating even minor transgressions in the name of "greater good." We intend our articles to enable readers to immediately apply training and healthcare techniques to their own dogs with visible and enjoyable success. All topics should contribute to improving the dog's health and vitality, and deepening the canine/human bond. Above all, we wish to contribute information that will enable consumers to make kind, healthy, and informed decisions about caring for their own dogs.



🐾 TRAINING AND BEHAVIOR 🐾

# Training Tiny Dogs

*Small dogs learn in the same way that big dogs do, though some techniques might have to be carried out a little differently.*

BY PAT MILLER, CBCC-KA, CPDT-KA, CDBC

**A** long time ago, I was a “big dog person.” For the first three decades of my life, I looked disdainfully down on yappy little foo-foo dogs and the people who owned them. Then I fell in love with and adopted Dusty, an 8-pound Pomeranian, and my whole perspective shifted, as did some of my long-held paradigms on small dog behavior, training, and management. I came to appreciate the behavior of owners who snatched their tiny toy breeds off the floor at the approach of a bigger dog. I was constantly worried for my little dog’s safety. I was certain one of our bigger dogs would play with him too roughly and crush him. Or worse – some unknown dog could kill him with a grab-and-shake move. And it was so easy to pick him up and carry him that I did it frequently. The concept of having an “arm-dog” began to make perfect sense to me.

Today, I’m keenly aware that some little dogs – and their owners – play right into the small dog stereotype. Many small dogs I see in public are ill-mannered with humans, reactive toward other dogs, and yappy. Lots of little dogs strain on their leashes, don’t come when

called, and think “sit” is something their owners do so the human can bend over and pet them.

But it doesn’t have to be this way. Every little dog is as capable of learning basic and advanced training behaviors as big dogs – and it’s just as important

**Don’t let their size fool you into thinking they are any less able or intelligent than larger dogs. Small dogs can become exquisitely well-trained and athletic, fast-performing dogs.**

for their long-term well being and safety. Dusty had his AKC Companion Dog degree, and was well on his way to Companion Dog Excellent before bad hips curtailed his jumping and cut his show career short.

If you doubt a little dog’s ability to learn, just watch any canine competition. You’ll be amazed by the number of diminutive canines who compete successfully in obedience, agility, rally, flyball, canine freestyle, nose work and more. (In fact, every flyball competitor wants a little dog on her team, because the jump heights for the whole team are set at the proper height for the smallest dog in the group!)

Positive training techniques are equally effective for all sizes of dogs; all dogs learn in a similar fashion. That said, some minor modifications to training and management can make the relationship-building and training process more successful for little dogs. Whether your goal is a well-mannered family companion, competition titles, or both, if you keep the following concepts and tips in mind you and your little dog can be more successful and have more fun playing the training game together.

But before I describe these tips, let’s define some terms.

## SMALL PROBLEM?

Let's arbitrarily define "little dog" as one that weighs 25 pounds or less. This encompasses a wide range of breeds, from the tiny, truly fragile 2-pound teacup Yorkie to the short and sturdy 20- to 25-pound Scottish Terrier. It includes dogs with such varied personalities as the independent and pugnacious Jack Russell Terrier, the more dignified and amiable Pug, the independent and aloof Basenji, the energetic and responsive Toy Poodle, and the relatively phlegmatic French Bulldog, to name just a few. That doesn't even take into consideration the infinite combinations of small mixed-breed dogs or the wide range of individual personalities within a given breed.

A Pomeranian once seemed quite small to me, but recent decades have seen a proliferation of smaller and smaller dogs – the so-called "teacup" breeds. At a local humane society "Bark In The Park" fund-raising event recently, a couple walked past my booth with a pair of

tiny Yorkies in their arms. The male, the "larger" of the two, was three pounds at full maturity. The female was a mere two pounds. They made Scooter, my current Pomeranian, who tips the scales at a whopping 12 pounds, look quite massive by comparison!

Next, let's define "training." Owners of larger dogs are likely to understand training as encompassing everything including polite "good manners" behaviors in the house, coming when called, walking nicely on leash, and calmly greeting new people and other dogs. But owners of small dogs might have no behavior expectations of their little companions beyond potty training – and maybe not even that! After all, jumping up is much easier to accept from a 5-pound dog than 50-pound one, so lots of little dog owners don't bother to teach a polite greeting.

In my opinion, all dogs, even tiny ones, should be trained to exhibit all the same good manners behaviors as larger dogs, such as sitting politely to greet

visitors, or asking permission for sofa privileges. For optimum quality of life and his relationship with you, it's every bit as important for the little dog to be trained as the large one.

## EIGHT TIPS FOR TRAINING LITTLE DOGS

Fortunately, training is not any more difficult to accomplish with a small dog than with a big one, with the following adjustments:

### 1 MINIMIZE YOUR INNER PRIMATE.

Primate body language (such as a direct approach, looming over the dog, eye contact, assertive gestures and voice) is intimidating to any dog who has not learned to read and interpret "human." It's even more so to the little dog. The smaller the canine, the more threatening our natural human body language can be. When you are training your little dog, at least until he learns to read and trust you, conscientiously use soft

## CONSIDERING A LITTLE DOG?

There are a number of advantages to sharing your life with a little dog:

- ✓ They take up less room! You can have several in the same amount of space as one Great Dane. They share your bed without hogging it. They sit on your lap and still leave room for the newspaper.
- ✓ They don't eat as much, so they are less expensive to feed.
- ✓ You can get by with smaller backyards, and often (though not always) lower fences.
- ✓ Little dog poops are tiny and inoffensive, even in the house – you can pick up their mini-feces with a tissue and flush them down the toilet. And it's easier to train a little dog than a Mastiff to use a litterbox, if that suits your lifestyle.
- ✓ You are much less likely to worry about counter-surfing.
- ✓ Your little dog is less likely to knock over your 93-year-old Great Aunt Helen when she comes to visit (although a little dog can run under her feet and trip her up).
- ✓ The little dog is highly portable; you can fit him under an airline seat, in your shopping cart, or in a doggie backpack. You can still drive a sports car!

- ✓ Finally, your little dog is less intimidating to people who are fearful of dogs, and more acceptable to landlords, hotels, motels, outdoor cafes, and other public places.

Of course, there are some disadvantages.

- ✓ Little dogs do break more easily, especially those with very fine bones, such as Chihuahuas and Italian Greyhounds.
- ✓ Because of their small size, they can be mistakenly perceived as good pets for children. Some of them can be, but they're not automatically the right choice for small humans – it depends on the individual dog, a good socialization program, and the child's ability to be gentle with and careful around a tiny dog.



- ✓ Their reputation as yappy and snappy ankle-biters is not entirely undeserved; they can become defensively aggressive if they feel threatened – and it's easy to feel threatened when you are surrounded by human and canine giants who are anywhere from 10 to 100-plus times your size. Because the dogs are small, their owners tend to be permissive and overprotective, overlooking and excusing behaviors that larger dogs could never get away with.

**Trainer Cindy Rich reinforces polite sitting in a “small dog daycare” group; it doesn’t take any of the little guys long to realize that only dogs who sit calmly get treats. Cindy’s back would probably appreciate it if she kneeled instead of bending over to reach the dogs, however.**



eye contact; make your gestures and voice small and soft rather than large and effusive; turn slightly sideways to him; and squat instead of looming over your dog to interact with him.

**2 USE TINY TREATS.** I constantly remind dog owners to use small (pea-sized) pieces of food treats and perhaps incorporate some of his regular food into his portion of treats. When you use training treats with your *little* dog the treats must be *very* tiny – perhaps the size of a *quarter* of a pea! Also, you may need to reduce or even eliminate some of his meals, based on how many treats you feed him during training. Otherwise you’re likely to fill him up far too quickly, and pack on the pounds, as well.

**3 MAKE YOURSELF SMALLER.** If you always train your little dog standing up, you are guaranteed to end up with a sore back. Exercises like luring the down and practicing puppy push-ups (sit-down, sit-down, sit-down) can be especially backbreaking. In the beginning, sit on the floor with your dog to save your back, and to make yourself less intimidating to him. You can also work with your little dog while you sit on a stool or chair, or you can put him on a raised surface where he is comfortable, such as a table, sofa, or bed.

#### **4 USE REACH-EXTENDING TOOLS.**

You also need to train standing up – at least some of the time. Your dog needs to learn to walk politely with you; even a little dog can damage his throat if he constantly strains at the leash. The better his leash manners are, the more fun it will be to take him places, and the less likely he’ll become an arm-dog. Teach him to target and then use your target stick to help him learn to walk with you,

without having to bend over. Simply put the target stick where you want him to be. You can also smash a soft treat onto the end of the stick for delivery to your little dog without having to bend over, or just drop treats on the floor. Another trip to your chiropractor averted!

#### **5 TAKE ADVANTAGE OF LITTLE DOG TRAINING TOOLS.**

Little dogs need lightweight collars and leashes. It’s easy to underestimate the impact of a standard-weight leather leash if it accidentally bumps into your dog’s face, or, worse, if you drop your end and it falls on him. His training tools and toys should be scaled appropriately to his size. Fortunately, pet suppliers have gotten wonderfully creative with little dog products like toy-dog-size tennis balls and squeaky toys, and narrow, lightweight nylon leashes.

#### **6 TEACH YOUR LITTLE DOG A “PICK-UP WARNING” CUE.**

Of course you’re going to pick him up sometimes – it’s what we little dog owners do. You can minimize pick-up stress for your dog by using a “pick-up warning” cue. Choose your cue (I use “Okay!” for Scooter) and use it every time you pick him up. Place your hands around him as if you’re going to pick him up, give your cue, and then put a little pressure under him but don’t pick him up yet. This gives him time to realize you are picking him up, so he isn’t startled. When you

**Many small dogs reflexively resist being picked up, or brace their bodies when someone reaches for them. Who can blame them? The smallest among them get picked up a lot! Do your small dog a favor and give him a “pick up warning” cue before gently lifting him.**



## HOUSETRAINING A SMALL DOG CAN BE A CHALLENGE

Housetraining small dogs is sometimes difficult – but not because they are any less capable than bigger dogs of learning where and when it’s appropriate or inappropriate to go potty. If your little dog’s housetraining is giving you headaches, it may be because:

- ✓ Little dog signals are harder to see. If a Bloodhound sits and stares at your face and drools in your lap while you are reading the paper, sending “I have to pee” signals, you probably notice. If a Cavalier King Charles Spaniel sits and stares your ankle, it’s easy to miss.
- ✓ Big dog owners have more reason to be motivated. A tiny Chihuahua puddle behind the guest bed may not be discovered for weeks or months (or maybe never). The Great Pyrenees lake in the kitchen is impossible to miss. It’s a simple matter to pick up a teeny terrier turd, toss it in the toilet and dismiss the mistake. A moist, massive Mastiff mound is an entirely different matter.
- ✓ Little dogs may have smaller holding capacities. Although you would expect their organ capacity to be proportionate to their size and intake, bottom line is that some of them do seem to need to go out on a more frequent potty schedule.
- ✓ Little dog owners are more likely to supervise less, and use crates that are too large (in which the teeny Toy puppy can poop and pee in one end and sleep and play happily in the other) or not crate at all. “A little pup can’t possibly be as much

trouble as a big one, can he? (wrong!), and besides, we want Shrimp to sleep with us!” Later, maybe, but not until he’s house-trained!

- ✓ Little dog owners are more likely to paper-train and continue to rely on paper-training, sending a mixed message about inside-elimination versus outside-elimination.
- ✓ Little dogs are more likely to have had their den-soiling inhibitions damaged prior to purchase or adoption by the owner as a result of over-crating and dirty puppy mill conditions. If a dog is required to live in his own excrement and urine, he comes to think that living in filth is normal, and he won’t make an effort to “hold it” until he has access to a more suitable environment. This makes housetraining very difficult. Little dogs, by virtue of their size, are more popular as pet store and puppy mill breeds – both environments where they are more likely to be over-crated.

The answer to housetraining the little dog is scrupulous management. Constant supervision, through the appropriate use of leashes, crates, tethers, direct supervision, and regular trips to the outdoor bathroom spot – every hour on the hour, at first, if necessary. Pay close attention so you don’t miss your dog’s signals. All the other regular housetraining tips also apply, of course – feed regular meals instead of free-choice feeding; pick up water before bedtime, switch to a different kind of crate substrate if necessary, and clean soiled spots with enzyme-based cleaners meant for animal messes.

can see he’s aware of the pending lift, go ahead and pick him up. Eventually the cue itself will be enough to prepare him. When I put my hands on Scooter and say “Okay!” he actually boosts himself off the ground a little, into my hands.

**7 RESPECT HIS NEEDS AND PREFERENCES.** Owners of little dogs often complain that they can’t train their dogs to lie down. Think of it from the dog’s perspective: he’s already tiny and vulnerable; well, he’s even more so when he’s lying down. Plus, lots of small dogs are sensitive to cold, and to hard or rough surfaces. Try teaching him to lie down on a soft, raised surface, where he’ll be more comfortable and feel less

threatened. The raised surface gives you the added advantage of being able to move your lure below “ground level” to maximize the “down” potential.

**8 ALLOW HIM TO SAY “NO.”** One of the reasons “arm-dogs” have a reputation for being snappy is that they are often forced to greet people while re-

strained in their human’s arms. If they are at all fearful or feel threatened in any way, they cannot escape – whereas a dog on the ground, on or off leash, can move away or duck behind his owner to escape unwanted attentions. Ask your potential greeters to kneel down, make themselves small, and let your little dog approach them. If he chooses not to greet, don’t force him.

### COMPANION DOG BASICS

Keep in mind that *managing* your small dog (like every dog) is just as important as training him. If his potty-training isn’t rock-solid, keep him out of situations when he’s likely to “make a mistake.” Prevent him from being rewarded by the behaviors you don’t want, and consistently and generously reward the behaviors you *do* want, with treats, attention, toys, or a nap on the sofa.

This means turning your back on the jumper and petting him (and/or giving a treat) only when he sits – and making sure guests do the same. He will soon



**Pay attention to signs that your dog is not comfortable with greeting unfamiliar people, such as yawning, licking his lips, panting (when it’s not hot), or averting his gaze. Give him a little more space – and plan to work on making introductions more rewarding for him.**



**Allowing big dogs to greet your little guy on-leash puts your dog at risk – not recommended. This little dog’s handler is turned away and not attentive – risky.**

learn to sit for attention. Be sure to pay attention to him when he does!

It also means body-blocking your dog when you see the “sofa gleam” in his eye – by moving into the open sofa space and/or not making your lap available – until he sits, and then inviting him up (assuming he is allowed up). Be sure to notice when he sits (as small as he is, it’s easy to overlook him when he’s sitting politely), and invite him up as his reward.

Every little dog also needs to be well-socialized. Treat him like a dog! From early puppyhood, make sure that he has lots of positive experiences with other dogs, to help dispel the aggressive “arm-dog” image of the angry Pomeranian nestled in the ample and befurred bosom of the wealthy dowager.

Your little dog needs to have his feet on the ground a good part of the time so he can learn to go up and down stairs, get into cars, and walk on grass, dirt, gravel, carpeting, wood, and tile floors. Take him hiking. Dusty could easily hold his own on an all-day wilderness hike with the rest of our pack.

Have him meet lots of friendly people – all ages, shapes, sizes, and races – armed with lots of tasty treats in lots of controlled circumstances. A good rule of thumb for socialization is to expose your pup to at least 100 different kinds of settings and types of people in his first four months of life. At the same time, of course, protect him from dangerous situations, such as encounters with larger dogs who truly could hurt him. (See “Super-Socialized,” WDJ June 2009.)

### **PLAY IT SAFE AND SMART**

One of the reasons little dogs sometimes have attitudes about big dogs is that owners tend to panic when they see a big dog approaching. The owner’s stress transmits to the little dog, who then becomes anxious himself. If you grab your dog every time another dog approaches, it can be even more stressful for him and increase the potential for a confrontation.

Little dogs sometimes do get savaged by big dogs because their owners forget to think or to anticipate and avoid hazards to their little companions. “Be smart” means don’t take your little dog places that you know are frequented by large, uncontrolled dogs. Use your local dog park only if there is a separate fenced area for little dogs.

If you’re walking your dog on the street and you see someone approaching with a large dog, take evasive action – calmly cross the street while you practice good heeling so you can pass at a safe distance. Be on guard even at canine competition events, where you might think your dog is safe. He’s not. There are multiple stories of little dogs being attacked, injured, or even killed, by larger dogs at canine competitions.

If you see a loose dog approaching, look for an escape route – a place of business or fenced yard you can step into for safety. Toss a handful of tasty treats away from you to slow down the approaching dog and give you and your little guy time to escape. Carry an aversive spray, a pop-open umbrella, or marine air horn that can thwart a persistent canine visitor. (Be

sure to give your own dog a positive classical association with the aversive first, so you don’t scare the stuffing out of him if you have to use it.)

Only as a last resort should you pick your dog up; doing so also puts you at risk for injury if the approaching dog is intent on mayhem. Not that the risk of injury would stop any of us “little dog people” from protecting our beloved little ones. Our own safety is often the last thing we think about when our canine family members are threatened. Their diminutive size only heightens the protective instinct that motivates us to risk life and limb for them.

During his 14 years with us, Dusty convinced me that he was much sturdier than I imagined, and that he was every bit a Real Dog in his little dog body. Go ahead, big dog people, scoff at us if you want. It’s only a matter of time before you meet the little dog who steals your heart the way Dusty stole mine. 🐾

*Pat Miller, CBCC-KA, CPDT-KA, CDBC, is WDJ’s Training Editor. She lives in Fairplay, Maryland, site of her Peaceable Paws training center, where she offers dog training classes and courses for trainers. Pat is also author of many books on positive training. See page 24 for more information about her books and classes.*

### **What you can do . . .**

- **Commit to giving your little dog a bigger life by providing him with good manners training that makes him welcome anywhere dogs are allowed.**
- **Respect your little dog’s needs and preferences; don’t coerce him just because he’s little and easily overpowered.**
- **Protect your little dog appropriately from unwanted attention and potential threats.**



# Truth on the Label

*How accurate or honest are the pet food companies when it comes to the label?*

BY NANCY KERNS

**H**ave you ever wondered whether the label information on your dog's food packaging is accurate? If so, welcome to the club! We fret about this sort of thing, too – and sometimes, our worries turn out to be well-founded.

There are a host of laws that regulate pet food labels, the broadest one being the Food and Drug Administration's Federal Food Drug and Cosmetics Act, which requires all food labels – pet food included – to be truthful.

Other FDA regulations for the label require proper identification of the product (the contents must match the label); a net quantity statement (amount of food inside the package is accurately described on the outside); the name and place of business of the manufacturer or distributor; and proper listing of all the ingredients in the product in order from most to least, based on weight.

The FDA also reviews specific claims on pet food, such as “maintains urinary tract health,” “tartar control,” and “improved digestibility,” to make sure that

the company wishing to make those claims can provide evidence that the statements are supported by sound scientific research and testing.

Believe it or not, there are also state and federal laws that address the point size of the type that can and must be used for various parts of the label, the location of various bits of information on the label, and even the adjectives that may be used to describe the food.

## PET FOOD POLICE – NOT!

Sadly, we all know that laws are useless if there is no surveillance or enforcement. State feed control officials bear the responsibility for monitoring pet food labels and testing products to make sure they are accurately labeled. By all accounts, some states have well-funded

programs, with vigilant feed control officials who consistently review pet food labels and routinely pull samples to test. However, other states have virtually zero surveillance and testing – unconscionable when you consider that pet food companies must pay *each state* for a permit, with fees based on tonnage sold, wherever their products are sold.

If they find something illegal on the label, or pull a sample and determine that the product is not accurately labeled, state feed control officials can order a “stop sale” of the product in their own state and/or fine the company for the infraction. Again, in some states, this happens frequently; in others, never.

In the states where pet food surveillance, testing, and enforcement are alive and well, feed control officials are mainly focused on whether the products are labeled truthfully, and whether testing confirms the accuracy of the guaranteed analysis (GA).

Even in the states with a reputation for strict surveillance, however, it's rare that pet owners will ever learn about failed tests or enforcement actions taken by state feed control officials. If labeling infractions are found or testing reveals that the GA is inaccurate, officials and pet food companies almost always resolve the issues without ever notifying the public.

## GUARANTEED ANALYSIS

The GA is important to pet owners *and* regulators because it's where the macronutrients of chief concern to pets are quantified. By law, only four items are required to be listed on a pet food's GA: The minimum amounts of protein and fat; and the maximum amounts of crude fiber and moisture. Minimums of protein and fat are used, because, from a dog's standpoint, these are the significant components of the food – and from a dog owner's perspective, they comprise a goodly share of what you are paying for.

**State and federal laws require that all of the text on a pet food label be true and accurate. States with active feed control officials usually focus on the guaranteed analysis (and may run tests to check its accuracy) and any “special claims” made on the label.**





Crude fiber and moisture are expressed in maximum percentages, since both are nutrient-free (though they do have functions in the formula).

The numbers given for crude fiber and moisture are nearly always perfectly accurate. But dog owners should be aware that the minimum amounts listed for protein and fat are just that: the minimum amount that is in the food. Sometimes, the actual amount is far higher. This isn't a huge problem for most of us, but owners of dogs who need to have scrupulously restricted fat in their diets (such as dogs who are prone to pancreatitis) should never trust the amount listed on the GA alone.

Why don't the pet food companies use more accurate numbers on the GA? It's partly to make sure that the products won't fail a test of the minimum amounts of protein and fat, and partly to account for variations in nutrient levels in their raw ingredients.

If your dog needs a restricted fat diet – or maybe you just want to test the professionalism of your dog's food maker? – contact the food company and ask for the *actual* amounts of protein and fat in your dog's food. *Every* company should be able to provide this information for every product they make; after all, the products are tested for these levels during the production of every batch. We wouldn't recommend buying products from any company that can't or won't provide this information.

Some companies list both the guaranteed analysis (what the product is guaranteed to contain) and the "nutrient analysis" (the actual amounts as confirmed by lab tests of a typical batch) for all of their products on their websites. This consumer-friendly strategy is ideal.

## WHERE'S THE BEEF?

We've often been asked whether there is any way to know that the ingredients that are listed on the label of a pet food are really in there. There is! In recent years, lab tests have been developed that can identify specific animal proteins and grains.

We were interested in running some of these tests the moment we learned they existed, but our ardor cooled when we learned the cost of the tests – prohibitive for even the most motivated consumer – say, someone who owned a valuable dog who is seriously allergic to beef or wheat. We consoled ourselves that the out-of-our-reach tests were not necessary; we've

always assumed that the risk of bad press for a pet food company who could be caught in the act of cutting corners or handling its ingredients in a sloppy way was far greater than any benefit of doing so.

But then this happened: An article appeared in the October 2012 issue of *Petfood Industry* magazine, authored by Laura K. Allred, PhD, president of ELISA Technologies, Inc, which happens to be one of the labs capable of such testing. In the article, Dr. Allred described animal protein and grain identification tests conducted by ELISA Technologies on 21 commercial dog foods. The results shocked us:

- Eight of the foods tested positive for an animal protein not listed on the ingredient label. (For example, a food was found to contain beef, but the label did not indicate beef was in the formula.)
- Two of the foods claiming to contain a certain animal species tested negative for that species. (As one example, a food claiming to contain venison contained no venison.)
- Five foods with no gluten source listed on the label were found to contain gluten. This included two foods that were specifically labeled as "gluten-free" (in addition to not having a gluten source listed on the label).

None of the products tested, including the products that were caught with inaccurate labels, were identified in the article. And the article, written for an industry audience, included lots of helpful suggestions for how a pet food maker could avoid what were assumed to be accidental contaminations or production errors in the future, in order to "more confidently guarantee both the safety and authenticity of their products."

Of course, we drew a different conclusion: That we absolutely *have* to find the money in our budget to order a bunch of tests of various foods. We looked up the prices – and were thrilled to learn that the cost has dropped quite a bit since we last checked. We're choosing products to include and getting samples ready now. And you can bet that we will report the full results of every test we order. 🐾

*Nancy Kerns is Editor of WDJ.*

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**Collies are at greatest risk of having a toxic reaction to certain medications. But many other breeds – and mixed-breed dogs – are at risk, too.**



# Dogs With a Drug Problem

***MDR1 mutation affects more than just Collies – and involves more drugs than ivermectin.***

BY MARY STRAUS

**M**ost dog owners are aware that Collies and other herding breeds may be sensitive to ivermectin, used for heartworm prevention and to treat certain parasites. But did you know that these dogs can also be sensitive to a number of other drugs, and that other breeds can also be affected?

It's been known since 1983 that ivermectin can cause neurologic toxicity in some, but not all, Collies. In affected dogs, toxicity is caused by doses of ivermectin that are 1/200th of the dose needed to cause toxicity in normal dogs. Symptoms of neurologic toxicity can in-

clude uncoordination or loss of balance (ataxia), depression, disorientation, excess salivation, pupil dilation, nystagmus (abnormal movement of the eyes), blindness, tremors, recumbency (inability to get up), coma, respiratory compromise, and even death.

But the next big accomplishment in gaining an understanding of exactly what was responsible for the toxic effects of ivermectin in some dogs came in 2001, when Katrina Mealey, DVM, PhD, DACVIM, DACVCP, at Washington State University College of Veterinary Medicine, identified a mutation in the MDR1 gene that causes ivermectin sensitivity. The discovery led to WSU's development of a test that can detect the mutant gene, so that dogs who are susceptible to this toxicity can be identified.

## TEST CAN SAVE LIVES

Dogs can have either two copies of the defective gene (homozygous, double recessive), or one defective gene and one normal gene (heterozygous). Dogs with two copies will be most severely affected. Dogs with one copy are less sensitive (able to tolerate a higher dose before adverse effects are seen), but they are more sensitive than normal dogs.

Further research revealed that dogs with the MDR1 mutation are sensitive to a number of different drugs, not just ivermectin. Melissa Best, DVM, who went to veterinary school at WSU, explains, "MDR stands for 'multidrug resistance.' The protein encoded by this gene is P-glycoprotein (PGP) and is an important protein for keeping potential neurotoxins from entering the brain. The MDR1 mutation means that this protein is improperly coded and cannot do its job."

The MDR1 mutation allows drugs to build to toxic levels in the brain, and is now referred to as "multidrug sensitivity." Toxicity may occur from a single high dose or frequent low doses of problem drugs. *Topical* application of certain drugs can also cause toxicity, and the effects may last longer, but it generally takes higher doses.

The discoverer of the mutation of the MDR1 gene and establishment of testing procedures, WSU is the sole patent holder for the test to detect the mutant gene. The test requires only a simple, non-invasive cheek swab that you can collect yourself and send to WSU's Veterinary Clinical Pharmacology Laboratory (VCPL). The

# CHECK BEFORE GIVING THESE DRUGS TO DOGS WITH THE MDR1 MUTATION

**The following drugs are known to cause toxicity for dogs with the MDR1 mutation.** In some cases, normal doses can be reduced, while for others, the drugs should never be given to dogs who have either one or two copies of the mutated gene, or to dogs from affected breeds and mixed-breed dogs of unknown parentage who have not been tested:

- ❖ **BUTORPHANOL (TORBUGESIC, TORBUTROL).** Used to treat pain and as a cough suppressant. Sometimes used as a pre-anesthetic agent. Dosage should be reduced up to 50 percent for affected dogs. Butorphanol is not recommended for pain control because the effects are short-term, lasting less than one hour. Tramadol or opiates are better choices and should be safe to use for affected dogs.
- ❖ **ACEPROMAZINE (ACE).** Used as a tranquilizer and as a pre-anesthetic agent. Dosage should be reduced up to 50 percent for affected dogs. Ace is not effective for treating anxiety, such as from thunderstorms; use alprazolam or clonidine instead.
- ❖ **LOPERAMIDE (IMODIUM).** Used to treat diarrhea, available in some over-the-counter preparations. Should be avoided in all dogs with the MDR1 mutation.
- ❖ **DOXORUBICIN, VINBLASTINE, AND VINCRIStINE.** Chemotherapy drugs. Affected dogs are more likely to suffer from bone marrow suppression and gastrointestinal side effects. Dosage should be reduced up to 50 percent and dogs closely monitored.
- ❖ **ERYTHROMYCIN.** Antibiotic.
- ❖ **IVERMECTIN (IVOMEc), MILBEMYCIN, MOXIDECTIN, SELAMECTIN.** Safe when used at low heartworm

preventive doses but should not be given at the higher doses used to treat other parasites. Advantage Multi has been approved in Europe for topical use in treating demodectic mange and was shown to be safe for affected dogs at recommended doses (applied once a month).

- ❖ **EMODEPSIDE (PROFENDER).** Deworming agent.

**The following drugs are also affected by PGP but appear to be safe for use in dogs with the MDR1 mutation,** as there have been no reports of toxicity. Normal dosages can be given but dogs should be monitored for adverse effects:

- ❖ **DIGOXIN (DIGITALIS).** Used to treat heart disease.
- ❖ **MORPHINE, BUPRENORPHINE (BUPRENEX), FENTANYL.** Opiates used to treat pain.
- ❖ **CYCLOSPORIN (ATOPIcA).** Immunosuppressive drug used to treat allergies and autoimmune disease.
- ❖ **DOXYCYCLINE.** Antibiotic.

**There are many other drugs that *might* be problematic for which no data is available.** The following drugs should be used with caution for dogs with the MDR1 mutation, starting with low doses and gradually increasing if no side effects are seen:

- ❖ **DOMPERIDONE.** Used in Canada and elsewhere to improve gastric motility.
- ❖ **ETOPOSIDE, MITOXANTRONE, PACLITAXEL (PACLICAL VET).** Chemotherapeutic drugs.
- ❖ **ONDANSETRON (ZOFRAN).** Used to stop vomiting.
- ❖ **RIFAMPICIN, RIFAMPIN.** Used to treat bacterial and fungal infections.

Additional medications potentially affected by PGP may be listed on other sites, but according to Dr. Mealey, there is no evidence that many of these drugs will affect dogs with the MDR1 mutation. In fact, she says, "We know that many of the drugs on those extensive lists have been used safely in dogs with the MDR1 mutation. That is why the list on the WSU VCPL website is different from many other lists."

Flea and tick control medications have not been found to cause adverse effects on dogs with the MDR1 mutation when used as directed, but toxicity can occur if *topical* products are *ingested*. Advantage Multi, a topical medication that combines imidacloprid for flea control with moxidectin for heartworm prevention, was found to cause no side effects when applied topically to affected dogs, even at 5 times the recommended dose; however, ingesting less than half the recommended topical dose caused extreme toxicity and coma in four of five dogs.





The Silken Windhound is a recent breed developed by crossing multiple sight-hound breeds, including the Borzoi, Whippet, and Longhaired Whippet. The MDR1 mutation was likely introduced from the inclusion of the Longhaired Whippet.

test costs \$70, with a discount for more than four dogs. It can be performed on any dog, including mixed breeds, at any age after weaning. The test will identify whether a dog has one or two copies of the defective gene. It takes about two weeks to get results.

**HEARTWORM PREVENTIVES**

All heartworm preventive medications can affect dogs with the MDR1 mutation, including ivermectin (Heartgard), milbemycin (Interceptor, Sentinel), selamectin (Revolution), and moxidectin (ProHeart, Advantage Multi). The very low doses

used for heartworm prevention, however, should not cause any harm, even to dogs with two copies of the defective gene.

“I don’t know of any homeopathic or naturopathic alternatives to these drugs, particularly for heartworm,” says Dr. Best. “While I am very pro-holistic care, the risk of death from heartworms is greater than the risk of the drugs (especially at the low doses used for prevention). I recommend using commercial heartworm preventatives under the direction of a veterinarian.”

The higher doses of these medications that are used to treat demodectic mange, sarcoptic mange, ear mites, and other

parasites, however, should be avoided in all affected dogs. Generic ivermectin preparations such as Ivomec 1% solution should not be given to affected dogs, as the potential for toxicity from the wrong dosage is too great (the instructions on many websites result in dosages at least 10 times too high). Long-acting injectable products such as ProHeart 6 may also be problematic for affected dogs.

Toxicity can also occur from eating the manure of other animals, such as horses or sheep, after they are treated for parasites with products containing ivermectin. Pesticides with ivermectin used to treat a home or yard may cause toxicity if an affected dog is exposed to the area afterward.

Ivermectin has the most potential for toxicity. Dogs with normal MDR1 genes can usually tolerate oral dosages as high as 2,500 mcg/kg of body weight before signs of toxicity are seen, while dogs with two copies of the defective MDR1 gene can tolerate only up to 100 mcg/kg of oral ivermectin. No toxicity was seen when affected dogs were given 28 to 35.5 mcg/kg monthly for one year. (For comparison, Heartgard contains 6 to 12 mcg/kg.)

**AFFECTED BREEDS**

Continued research led to the discovery that the same genetic mutation affects more than just Collies. The MDR1 mutation has been found in herding breeds and sighthound breeds. Mixed-breed dogs can also be affected, even if they don’t look like herding breeds.

A 2004 study found that the mutation is most common in Collies, affecting almost three-quarters of dogs in the United States, with more than 30 percent being homozygous (two copies of the defective gene) and more than 45 percent being heterozygous (one copy). Longhaired Whippets were next, with about 65 percent affected dogs. The problem is also common in Australian Shepherds (50 percent) and McNabs and Silken Windhounds (30 percent each), with other breeds being less commonly affected.

See the table (right), from the VCPL, for more information about the approximate percentage of affected dogs, by breed.

The mutation has *not* been found in several related breeds, including the Anatolian Shepherd, Australian Cattle Dog, Bearded Collie, Belgian Tervuren, Borzoi, Greyhound, Irish Wolfhound, and Kelpie.

BREED	FREQUENCY
Australian Shepherd	50%
Australian Shepherd, Miniature	50%
Border Collie	< 5%
Collie	70%
English Shepherd	15%
German Shepherd Dog (Frequency in white dogs is greater than in dogs of other colors)	10%
Herding breed mixes	10%
Longhaired Whippet	65%
McNab	30%
Mixed breeds	5%
Old English Sheepdog	5%
Shetland Sheepdog	15%
Silken Windhound	30%

Toxicity has been seen in affected dogs receiving oral doses that were 30 times the heartworm preventive dose of moxidectin and 10 times the regular dose of milbemycin. Selamectin caused toxicity at 2.5 times the recommended dose when that amount was given orally, but higher doses are tolerated when the product is applied topically, as directed.

Other avermectins can also cause toxicity, including doramectin (Dectomax), eprinomectin (Eprinex), and abamectin.

Spinosad, a flea-control medication included in Comfortis, Triflexis, and other products, increases the risk of neurological toxicity even in normal dogs when combined with high doses of ivermectin (and possibly other drugs) used to treat parasites. While theoretically safe, use caution when combining Heartgard or other ivermectin heartworm preventive drugs with products containing spinosad for affected dogs. Do not combine high doses of ivermectin with spinosad for any dog.

## OTHER DRUGS

Some additional drugs are known to cause problems for dogs with the MDR1 mutation, while others are suspected to be problematic. A few drugs affected by PGP appear to be safe to use in normal doses. "There are many known drugs which are pumped out of the brain by p-glycoprotein," says Dr. Best. "However, not all seem to cause toxicity in mutant dogs. Clearly more research is needed to understand the mechanisms at work."

Drugs that are known to affect or may affect dogs with the MDR1 mutation include some used to treat cancer, pain, parasites, bacterial infections, diarrhea, vomiting, and anxiety, as well as pre-anesthetic drugs. In addition to ivermectin, the most commonly used problem drugs are acepromazine (Ace), butorphanol (Torbutrol, Torbugesic), and loperamide (Imodium). Most of these drugs require a prescription, but loperamide, an anti-diarrheal medication, is available in over-the-counter preparations.

## BREEDING CONSIDERATIONS

Ideally, only dogs with no copies of the MDR1 mutation would be used for breeding. This may not be feasible or even optimal in some cases, however, particularly in heavily affected breeds, where the rest of the gene pool would be too lim-

ited, which leads to other problems. Any dog with the mutation may pass it along to their offspring, but dogs with just one copy of the mutation can also produce normal puppies, particularly when bred to dogs that do not carry the mutation at all. In this way, the population of affected dogs can be reduced through subsequent generations.

## WHAT TO DO

Even if you don't plan to breed, **all dogs from affected breeds should be tested for the MDR1 gene for their own protection.** Mixed-breed dogs from affected breeds or whose parentage is unknown should *also* be tested, as it's impossible to tell for sure just by looking at a dog what its ancestry might be.

Before the genetic test became available, vets often repeated the adage, "White feet, don't treat!" as a reminder that such dogs might be at risk, since many herding breeds and mixes have white feet. This is not reliable, however, as some dogs with white feet may have normal genes, and dogs with non-white feet may be affected by the mutation. Dr. Mealy recommends testing *all* mixed-breed dogs with unknown breed status, as one exposure to a drug to which they are sensitive could be fatal.

"The biggest problem I have seen with MDR1 mutants is accidental exposure by owners who were unaware of the problem," says Dr. Best. "I have seen several dogs die from this problem after being exposed to ivermectin products.

"The worse case that I saw where the dog survived was an Australian Shepherd from Montana who became exposed after licking up a dollop of dewormer that had dropped out of a horse's mouth when the owner was deworming it. The dog was flown on a private jet to WSU, with a private vet tech hired to breathe for the dog, as he was severely affected by the time he had been brought to his veterinarian (within hours of exposure to the drug).

"That patient was on a ventilator for nearly two weeks and eventually made a full recovery, however the bill was well over \$10,000 and not everyone can fly a dog to a referral center on a private jet! I have also seen dogs become affected who ate horse manure after the horses had been dewormed with Ivermectin."

If tests show that your dog is affected by the MDR1 mutation, or if your dog could be affected and has not been tested,

## RESOURCES

- ❖ **VETERINARY CLINICAL PHARMACOLOGY LABORATORY**, College of Veterinary Medicine, Washington State University, Pullman, WA (509) 335-3745; [vetmed.wsu.edu/depts-vcpl](http://vetmed.wsu.edu/depts-vcpl)
- ❖ **MELISSA BEST, DVM, APEX ANIMAL HOSPITAL**, Helena, Montana. (406) 449-4455; [Apex-Animal-Hospital.com](http://Apex-Animal-Hospital.com)

make sure that your vet is aware of potential drug sensitivity. You may want to give your vet a copy of the list of drugs from the VCPL website to include in your dog's file. Be sure to remind your vet of the situation any time that your dog needs to be anesthetized or sedated so that the wrong medications will not be given.

If you use any drug that might cause toxicity, start with low doses and gradually increase the amount that is given over a few days as long as no adverse side effects are seen. Continue to monitor your dog closely for signs of toxicity, particularly when the drug is given daily, as chronic toxicity caused by cumulative effects could develop.

If your dog shows signs of toxicity after applying a topical product, immediately bathe your dog with soap to remove as much of the product from the skin as possible.

If your dog ingests a topical product or if you see signs of toxicity after giving oral medication, contact your vet immediately. If ingestion was recent, your vet may induce vomiting and give activated charcoal. Further supportive care, including IV fluids and ventilation, may be needed if signs are severe. Dogs may recover if supportive care can be offered for long enough, but it can take days or weeks before enough of the drug breaks down on its own. "Sadly," says Dr. Best, "Because we have no way to get the neurotoxic drugs out once they are in the brain, most dogs are not able to be saved once we recognize a toxicity problem." 🐾

*Mary Straus is the owner of DogAware.com. She and her Norwich Terrier, Ella, live in the San Francisco Bay Area.*

# Giving to Animal Charities

*Here's how you can (and should!) ensure that your donations accomplish or support what you want them to.*

BY BARBARA DOBBINS

**I**t's that time of year again: making a list and checking it twice. Many of us include animal-related charities on our gift list. But how do you choose which ones to support? There is no shortage of good causes. Here are some guidelines for how to evaluate an organization as a potential recipient of your hard-earned dollars.

It may seem obvious but the first thing to contemplate is whether the cause – and the approach to it – is something you believe in and are passionate about. There are so many pleas for funding that sometimes we can get caught up in the immediate emotional moment, especially when faced with horrific images or stories; that can be an effective tactic to raising money. We hope to purge the haunting images of abused, neglected dogs in dire circumstances by sending off a check. But how do you know whether your check will actually alleviate any animal suffering?

## RESEARCH, RESEARCH, AND MORE RESEARCH

Think about your specific goals for your contribution. For example, let's say you want to contribute to an organization that addresses pet overpopulation. There is a wide spectrum of approaches to this very issue, so you should think hard about how you would like to see the

problem addressed. You could contribute to the actual costs of spay and neuter programs, or rescue organizations, or education programs!

When you've found the type of cause(s) near and dear to your heart, obtain as much information as you can about the organizations you might support. A charity's website is a good place to start. Read about the organization's goals, accomplishments, and challenges.

Look for its mission statement; it should be a concise and vivid expression of the group's purpose, and provide an overview. Who's running the show? Review the credentials of the key staff members and board members; if it's a 501(c)(3) organization and thus able to receive tax-deductible charitable contributions, there must be a board of directors.

Next, look at how the organization determines the need for its services and programs. Does it have targeted goals? Who benefits? How are these goals monitored and evaluated? How does the organization report results (short-term and long-term)? Are reports clear, understandable, and supported? Do they reflect the stated mission? How do they share the results of your donation?

Ideally this information will be readily available; if not, ask for it. Most organizations are more than willing to discuss their programs. That said, I recently crossed a couple charities off my list of prospects when I called for more information and the individuals I spoke with weren't able to answer my questions and no one returned my call as promised. An important hallmark of a good charitable organization is its transparency in all aspects of its operations (not to mention good donor relations).

## FOLLOW THE MONEY

Next, as much as you may hate this idea, it's important to take a look at any charity's financial reports. Many organi-

**There is no shortage of organizations competing for animal lovers' hearts and wallets. But before you give, make sure that the group actually does what you want them to do with your money.**



# SHOW ME THE MONEY: INTERPRETING FORM 990

The IRS requires that charities allocate their expenses into three categories: program, management/general, and fundraising. These are all reported on Form 990, which must be filed annually. The 12-page document (plus Schedules) can appear daunting at first, but here are a few line items to zero in on.

## ❖ EXPENSE REPORT

Part IX is the organization's Statement of Functional Expenses and lists by line item how money was spent. Line 25 totals these functional expenses. To obtain the percentage that the organization is spending on programs and services, divide Line 25 Column B (Program Services) by Line 25 Column A (Total Expenses) then multiply this figure by 100. Ideally this percentage falls in the 65-75 percent range.

Part III Statement of Program Service Accomplishments provides the detail of an organization's expenses for its three largest programs.

## ❖ REVIEW COMPENSATION

Part VII of Form 990 requires organizations to list certain personnel as well as individuals receiving compensation of more than \$100,000 annually (Charity Navigator reports that the average annual CEO salary for large charities is \$150,000). Keep in mind the size of the organization, location, and type of services provided. Charities, like other good businesses, realize that they need to pay their key personnel comparable salaries.

## ❖ INCOME

Review lines 1a through 1g in Part VIII Statement of Revenue to learn the sources of the organization's funds. It's beneficial to have multiple sources of revenue – individual, fundraisers, membership dues, government – to provide options and avoid the limitations and dependency that can occur with only one source of funds.

## ❖ GOVERNANCE, MANAGEMENT, AND DISCLOSURE

Part VI of Form 990 asks about an organization's practices. Look in Section B to see if the organization has established policies on conflict of interest, whistleblowing, and compensation review. Section C will show how the organization will make their required forms available for public inspection.

## Bottom Line

Part I provides an overview of the organization's activities and governance, revenue, and expenses. Compare Total Revenue (Line 12) and Total Expenses (Line 18) with those from previous years. Note increases or decreases over the years; if considerable changes occur, review the supporting details. It's optimal, but not always possible, for organizations to grow at least at the rate of inflation.

zations post their financial information on their websites. If the organization is exempt from income tax, they are required to annually file Form 990 (see side bar) with the Internal Revenue Service. These forms are open to public inspection and must be made available to potential donors upon request. If the organization is not required to file Form 990 – and thus is not a registered 501 (c) (3) non-profit – request copies of their financial reports. A good organization will be able to provide some sort of financial report – an accounting of its income and expenses. If an organization can't or won't share these with you, then don't share your money with them – they can't account for it.

A good guideline to look for among efficient charities is an expenditure of 65-75 percent (or more) directly on a charity's programs and 25-35 percent (or less) on fundraising and administration expenses. While successful organizations should allocate the majority of funds to providing programs and services, re-

member when reviewing salaries that they still need to recruit and retain talented people while attempting to keep administrative costs reasonable. When reviewing fundraising expenses, keep in mind that it costs money to raise money, but this should not be the reason for the existence of the organization.

Examine the details of the fundraising ratio: the amount raised compared to the amount expended. Consider that ratios can be higher than ideal due to special circumstances such as being a new organization (and thus having higher expenses than an established entity) or advancing a new cause. A group with a high fundraising ratio may actually have increased revenue (spends more to make more), which in turn allows it to do more.

Large organizations are sometimes criticized for their lobbying, fundraising, and administrative expenses. They often defend this by saying that because they are large and receive bigger revenues, they can spend a lot of money and as a result can accomplish the large goals

that smaller organizations don't have the resources to tackle. Again, compare your goals to theirs. It's a mismatch if, for example, it's most important to you to increase the adoption of homeless pets, and the organization spends a relatively small amount on its "boots on the ground" programs in favor of legislative reforms.

If possible, review the financials for a minimum of the past three years. Look for organizations that are able to grow their revenue at least at the rate of inflation, continue to invest in programs, and save money for a rainy day.

## MANY GIVING OPTIONS

Donations can be made to anyone or any type of organization you desire: individuals, private organizations, for-profit organizations, or not-for-profits. If you want the donation to be tax deductible, however, verify that the organization has been designated as a 501(c)(3), proving it is organized and operated for charitable purposes. This is the U.S. Internal Revenue Code for tax-exempt status and is



**Remember: Your dogs' needs come first. If you are having trouble affording the costs of his care, don't even open the envelopes from the charities that are asking for help.**

even specific research. Providing for your favorite animal-related charity in your trust or will is another option.

## **DONOR BEWARE**

It's not a good practice to give out your personal information to any organization representative who calls you, comes to your door, or approaches you on the street, soliciting a donation. If it's a cause you're interested in, contact the organization directly. This ensures you are dealing with the organization itself and not a fraudulent entity posing as a charity; and if you do decide to donate, you've eliminated a possible middleman and all of the contribution will go directly to the organization. Do not give cash.

It has become common practice in modern fundraising for charities to share, swap and sell their donor lists. If you don't want your name on these mailing lists, request that your information not be shared.

Research to see if the organization has been mentioned in any news reports that might link them to questionable practices; also research individual executives. The organization itself might not be addressing any of these issues, but negative publicity is difficult to hide in these days of information-sharing.

If you donate over time, be sure to periodically evaluate whether or not the organization is still in line with your interests; missions can shift over time and you may want reconsider. I had to do this when I learned that one of the advisory board members of a charity that I had donated to regularly supported an industry that was in direct opposition to what I thought the organization stood for. I asked a representative of the charity for an explanation of this contradiction, but the rep either couldn't or wouldn't even try to explain. I concluded that the advisory board member probably donated a lot of money to the charity – a lot more than I ever could – and that the group had more interest in him than in small donors like me.

I continued to receive solicitation calls even though I had informed the organization that I would no longer donate to the charity as long as that person was still on the charity's advisory board.

regulated by the U.S. Department of the Treasury through the IRS. It allows for the federal tax exemption of non-profit organizations, specifically those that are considered public charities (receiving most of their income from the public or the government), private foundations (receiving most of their income from investments and endowments and using that money to award grants to other groups), or private operating foundations (donating most of their assets directly to the causes rather than awarding grants to other charities).

To qualify, an entity must be organized and operated exclusively for religious, charitable, scientific, testing for public safety, literary or educational purposes, or to foster national or international amateur sports competition, or for the prevention of cruelty to children or animals.

Be aware that some organizations doing "charitable" work may not have obtained not-for-profit status for any number of reasons; it doesn't necessarily mean that the group doesn't have a worthy cause. Ask the same questions you would of a not-for-profit and then make your decision. Understand, however, that donations made to individuals or to any organization that is not registered as a not-for-profit are not tax-deductible.

Charity Navigator ([charitynavigator.com](http://charitynavigator.com)), GuideStar ([guidestar.com](http://guidestar.com)), and the Better Business Bureau's Wise Giving Alliance ([bbb.org/us/Wise-Giving](http://bbb.org/us/Wise-Giving)) are great resources for helping donors make

informed decisions; they do a lot of the legwork by evaluating and reporting on major charitable programs and often offer downloads of the charities' relevant documents (such as the 990 forms).

Big, national charities may be the most persistent in asking for help, but consider local organizations working to effect change in your own backyard, such as shelters and rescues. These organizations often struggle with small budgets, and can make even small donations go a long way.

What if you want your money to go toward a specific program or even a specific dog? If there's a particular disease that has touched your dog's life, consider donating to university research programs targeting that disease; these programs are often the first to find new treatments and cures.

While the IRS does not allow tax deductions for donations made for a specific person, there are organizations that are set up to help direct funds to individual dogs. One such organization, Magic Bullet Fund, allows for tax-deductible contributions to be made to a specific dog battling cancer that has registered with them. Donations made for a dog's treatment are held in reserve for that dog; the funds are redistributed to the General Fund if they cannot be used.

If you have a substantial amount to give, meet with the organization in person to direct how you want your donation to be used. You may be able to create and fund a specific program or



One phone solicitor told me that I should overlook my concern because of all the good things the organization did. After I politely informed the caller that this incongruency made me suspect the group's true mission, I was removed from all of its solicitation lists. Don't be afraid to ask the hard questions!

Which leads me to charities you may fund inadvertently. I was dismayed to learn that one of the dog product suppliers I used to purchase from gave a portion of their proceeds to an organization that tested on animals (including dogs).

I nicknamed this "stinkwashing" (inspired by the "pinkwashing" term coined by the Breast Action Fund for the hypocrisy of the actions of companies and organizations that claim to care about breast cancer and promote a pink ribbon product but at the same time produce, manufacture, and/or sell products that are linked to the disease). Now I'm always suspicious of generalized statements about "proceeds of this sale will be donated to..." Are these companies in line with your personal values? What is the company doing to ensure that its donations (from the sale of products to you) are not linked to programs that are

**If you can't afford to give money, consider volunteering for a local shelter or rescue; most can use more hands on the animals!**

detrimental to dogs or animals? If you can't tell or don't know what the organization does, reconsider your purchase.

### MORE THAN MONEY

What about the multitude of us that have no funds to spare in these difficult economic times? Don't feel guilt – it has no useful purpose. And don't let a lack of financial resources hinder your generosity. Many organizations need your non-monetary donations as well. Shelters and rescues often have holiday wish lists for items that you may be able to spare without spending a penny. Bedding and towels are common needs, as are "safe dog toys" (ones without parts that can be chewed off), crates, and collars and leashes that can be given to adopters.

And if you've got some time, consider volunteering for your favorite local organization. You could walk or bathe homeless pets, help with a shelter's laundry, or perhaps donate your skills at website design or even something as mundane as data entry. While you might



not get a tax deduction, the benefit to a cash-strapped, understaffed shelter or local rescue can be priceless. 🐾

*Barbara Dobbins is a San Francisco Bay Area dog trainer on hiatus. When she's done paying for her dog's cancer treatments, she will donate to canine cancer research.*



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# Fats' Chance

## *The problems with dietary fat in commercial dog food, and how you can fix them for a smarter and healthier dog.*

BY STEVE BROWN

**A**s soon as a food is manufactured, it begins to undergo a variety of chemical and physical changes. It's a basic law of the universe (the second law of thermodynamics) that everything degrades over time. This includes the proteins and vitamins in dog foods, but it's the fats I worry about the most.

Dogs require fats in their diet. However, fats are among the most chemically fragile nutrients in dog food; they are the limiting factor to the shelf life of most dog foods. Fats that have degraded – gone “rancid” – can cause all sorts of health problems for dogs.

So how can owners make sure their dogs get the healthy fats they need in their diets, without exposing them to rancid fats? The following are my recommendations for how this can be accomplished – but first, let me explain why it's necessary to take extra steps to make sure your dog is helped, and not harmed, by the fat in his commercial diet.

### THE FATS DOGS NEED

Fat is a very important part of a dog's diet – especially when you consider that dogs don't have a biological requirement for carbohydrates at all. Dietary fats provide concentrated forms of energy for the dog, carry the fat-soluble vitamins, and supply the dog with essential fatty acids (fatty acids are the basic building blocks of fats; “essential” fatty acids are those that the dog's body needs but can't manufacture). A variety of fats are needed by the dog for healthy skin, hair, and immune function;

Many companies now add DHA to their puppy foods. DHA helps puppies learn faster and remember more. But it's questionable whether the DHA can survive food production and storage without degradation.

regulation of the inflammation process; and prenatal development. On a molecular level, fatty acids contribute to the physical structure of all the dog's cells.

Fats – and their building blocks, the fatty acids – represent a broad category of nutrients. Just as your dog needs to consume a variety of vitamins and minerals, he needs a variety and balance of fatty acids. Which ones? How much? Well, I'm afraid it depends on who you talk to. In my opinion (and that of many canine nutrition experts), the best answers come from analysis of the dog's ancestral diet and from nutrition science. Using these tools, I've come to believe that most commercial diets leave dogs short of what

they need in terms of dietary fat in two ways:

**1** Commercial diets generally feature an incomplete offering and unbalanced array of fatty acids.

**2** The fat in commercial dog foods is prone to developing rancidity.

These traits pose problems for dogs, but they are easily overcome.

### INCOMPLETE AND UNBLANCED

Before domestication, the dog's diet contained a complete range of fats, because the dog ate many different parts of the prey animal, which contain different types of fat:

- ❖ Muscle meat contains saturated fats (SFAs), monounsaturated fats (MUFAs), and polyunsaturated fats (PUFAs).
- ❖ Storage fat contains primarily SFAs.
- ❖ Bone marrow contains primarily MUFAs.
- ❖ Organ fat contains mostly MUFAs and PUFAs.
- ❖ The fat that protects the organs consists primarily of SFAs.
- ❖ Eyes and brains contain mostly PUFAs, including DHA.



Scientists at the National Research Council (NRC) periodically review all the relevant literature on nutrition (for humans as well as companion and food animals) and issue recommendations for nutrient amounts, maximums, and minimums for each species. In 1985, the NRC recognized just one fatty acid, linoleic acid (LA, an omega-6 fatty acid and a PUFA) as being essential for dogs.

However, by 2006 (the year it released its most recent guidelines, Nutrient Requirements of Dogs and Cats), the NRC had updated its findings and listed four additional PUFAs as essential for dogs: arachidonic acid (AA, another omega-6 fatty acid considered essential for puppies), and three omega-3 fatty acids: alpha linolenic acid (ALA), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). In time, I suspect it will list even more fatty acids as essential for dogs, including gamma linolenic acid (GLA), conjugated linolenic acid (CLA), and probably more.

It's in the PUFAs that we often find a balance of fats problem, primarily an improper ratio of omega-6 to omega-3 fatty acids and the lack of DHA. Most nutrition experts suggest that the ideal ratio of omega-6 to omega-3 fatty acids for the dog is between 2:1 and 6:1. But many chicken-based conventional dog foods are formulated with excessive amounts of omega-6 fatty acids, primarily LA. And since LA is converted in the dog's body into AA, an oversupply of LA results in an excess of AA, which promotes inflammation and exacerbates many health problems, including skin disease, arthritis, and renal problems.

Most dog foods do not contain DHA – which offers so many benefits for dogs! – and those that *do* contain DHA have a higher probability of becoming rancid.

## RANCIDITY

All fats chemically react to and degrade with exposure to oxygen; this is called oxidation. Oxidized fats are said to be rancid; they have degraded from a nutritionally beneficial substance to one that is actually toxic to animals. When fats become rancid, the shape, structure, function, and activity of the fatty acid is profoundly changed. (The bad smell associated with rancid fats is caused by chemical by-products of fat degradation: aldehydes and ketones.)

Rancid fats reduce the nutritive value of the protein, and degrade vitamins and

antioxidants. That bears repeating: rancid fat can so vastly reduce the benefit your dog can get from the proteins and vitamins present in his food, that he can suffer from protein and vitamin deficiencies. Rancid fats can also cause diarrhea, liver and heart problems, macular degeneration, cell damage, cancer, arthritis, and death. It's good policy to avoid feeding rancid fats to our dogs.

All of the omega-3 fats are fragile – they turn rancid quickly – with the long chain omega-3 fats EPA and DHA among the most fragile.

## THE GOAL, AND BARRIERS TO REACHING IT

The scientific evidence is overwhelming: dogs who eat a diet with balanced fats – especially the proper relative amounts of omega-6 and omega-3 fats (including DHA, probably the most important fat for the brain and eyes) – are healthier and more intelligent than dogs who do not consume a proper balance of fats. Every cell, every organ of the dog's body operates more efficiently when fortified with the right fats.

However, pet food regulators have not yet required pet food makers to reflect everything that nutritionists agree on regarding fats. As of 2012, the Association of American Feed Control Officials (AAFCO) has not included DHA in its “Nutrient Requirements for Dogs” – a table that is used as the basis for the legal claim of dietary completeness and balance for all commercial dog foods sold in the U.S. The AAFCO nutrient requirements address only minimum amounts of fat and LA.

Some pet food makers, or at least, some of the nutritionists working for the pet food makers, are cognizant of the benefits of including other fatty acids, even if they are not required in order for a food to be labeled as “complete and balanced.” Some of the most up-to-date companies now include DHA or fish or fish oil (the most common and readily available sources of DHA) in their commercial foods. DHA is especially important for puppies and pregnant dogs, so premium puppy foods today often include fish or fish oil.

I strongly believe that it's important for dogs to receive adequate amounts of DHA (in particular) and a diet that contains a balanced array of saturated, monounsaturated, and polyunsaturated fats. That said, I don't think the ideal fat

balance is best supplied by commercial foods, and here's why: the fats needed to complete and balance a dog's diet are too fragile to survive typical dog food production, handling, and storage.

I suspect that the state feed control officials (the voting members of AAFCO, which establishes the nutrient requirements for “complete and balanced” dog foods) are hesitant to require DHA (as the most compelling fatty acid) in dog foods because, at least with today's technology, this expensive fat is just too fragile to be included in a product meant to be kept on the shelf for up to 12 to 18 months and left open in the kitchen for weeks.

Extrusion (where the food is quickly cooked under high pressure, the way most dog foods are produced) and long-term storage make it likely that any DHA present in the food oxidizes. In discussing fats in pet food, the 2006 NRC's *Nutrient Requirements of Dogs and Cats* stated, “Many of the PUFAs in the diet, such as those from fish, undergo peroxidation during processing and storage before ingestion.” Peroxidation means the fats turn rancid. And rancid DHA is worse for the dog than no DHA at all.

## CHALLENGE FOR COMMERCIAL PRODUCERS

What about all those pet food companies that *do* include DHA in their products? How do they ensure that the DHA (and other fragile fatty acids) don't become rancid before the dogs eat them?

All the studies and nutrient analyses tests I've seen on the DHA content of dog foods were conducted at or very close to the time of manufacturing, when the foods were fresh, or were accelerated studies under laboratory conditions, not under real-world conditions.

For example, most dog foods move from the manufacturer via truck to a warehouse, via a truck to a retailer, and then to a home, where they may be open for 30 or more days before all the food is consumed. The food may be exposed to several temperature cycles, which is stressful for all the polyunsaturated fats (especially DHA), and may be six months old (or older) before it's fed. How much DHA is left under these rough, but not atypical, conditions? How many of the fats are rancid?

For this article I wrote to probably every dog food manufacturer in North America, including all the big companies. I asked them if they had real world

data: “Can you tell me what’s happened to the fats, especially DHA, by the time the dogs eat it?” I received no independent data in reply. Many companies responded but had no data to offer. Others gave me access to their in-house and consultant nutritionists, with whom I had several interesting conversations about long-term testing programs. (These yielded several iterations of one fascinating fact: Dogs can detect rancid fats, through smell, better than any laboratory equipment!)

A few companies provided me with data from accelerated testing – close, but not what I asked for. No company sent me independent test reports showing what happens in real-world conditions to the fragile fats by the time your dog eats the food.

## RECOMMENDATIONS

In light of all of this information, I offer the following recommendations so that dogs who eat a commercial diet can get the fats they need, without being exposed to rancid fats. Dog owners can either:

**1** Give your dog commercial foods that do not contain fish, fish oils, or DHA, and add them yourself; or

**2** Buy recently produced commercial foods with added fish, fish oils, or DHA.

I think the *best* choice is to feed naturally preserved foods that meet freshness guidelines (described in detail below) and that do not contain fish, fish oil, or DHA; then add fresh, high-quality fish or krill oils or sardines yourself.

## THE BEST WAY TO ADD DHA: SARDINES

The best way to add EPA and DHA is to feed sardines to your dog once a week. If you add fish oil to your dog’s food, replace the fish oil with sardines. While many of the studies showing the significant body and brain benefits of consuming DHA were conducted with fish oils, I think sardines are superior for many reasons.

Sardines, a sustainable fish with low mercury loads, are high in protein, and provide a complete range of trace minerals, including natural forms of zinc; a full complement of vitamins including D, B12, E and K; a full range of antioxidants; and other known (and, I’m sure, unknown) nutrients. The triglyceride and phospholipid forms of DHA found in sardines are more absorbable and stable than the ethyl ester forms in most fish oils, and may be more effective for improving brain functions and preventing cancer.

The best canned sardines for dogs are those in water with no salt added. Avoid sardines packed in soy, corn, sunflower, safflower, or other omega-6 rich oils. If



my recommended amounts call for 1¼ cans of sardines, it is okay to feed two cans in one week of the month, and the other weeks feed just one can. Use the entire can of sardines within two days after opening it, and refrigerate the open can, so that the fragile fats do not go rancid.

If your dog doesn’t like sardines, or you don’t like the smell of sardines on your dog’s breath, use fresh, human-grade fish or krill oil gel caps. Don’t overdo it! EPA and DHA, like most nutrients, provide wonderful health benefits in small amounts, and are detrimental in excess amounts or without sufficient antioxidant protection. Feed small amounts (0.2 to 1 gram of high-quality EPA + DHA per day for a 45-pound dog) and you’ll probably make your dog smarter and healthier. Feed much larger amounts and your dog will probably slow down mentally and age at a faster rate.

## GUIDELINES FOR FRESHNESS OF DRY FOODS

These guidelines will help ensure that your dog gets the most nutrition for your money. Most foods that are older than the guidelines but still younger than their “best if used by date” will still be healthy, but they won’t be as nutritious as the same food meeting these guidelines.

### For traditional dry foods (typical protein and fat levels)

- Buy naturally preserved foods *without* fish oils
- Typical plastic / paper bags less than 5 months old
- Foil bags can be up to 12 months old
- Use quickly once opened
  - Dry areas: 20 to 30 days
  - Hot, humid areas (think summer fog on the coast of Maine): 10 days
- Add the fish oils, using fresh, quality sources

### For traditional dry foods that contain DHA

- Typical bags that are less than 3 months old
- Foil bags that are less than 9 months old
- Use within 10 days once opened

- If algal meal is used rather than fish oils, extend a few months

### For high-protein, high-fat foods (for example, super-premium puppy foods and foods such as Evo)

- Buy naturally preserved foods *without* fish oils
- Typical bags less than 3 to 4 months old
- Foil bags up to 9 months old
- Use very quickly once opened
  - Dry areas: 20 days
  - Hot, humid areas: 10 days
- Add the fish oils, using fresh, quality sources

### For high-protein, high-fat foods that contain DHA (foods with the shortest shelf lives)

- Typical bags less than 2 to 3 months old
- Foil bags up to 6 months old
- Use within 10 days once opened
- If algal meal is used rather than fish oils, extend a few months

Here are my sardine recommendations for **adult dogs**. **Feed twice this much to puppies and pregnant or lactating females.**

<b>DOG'S WEIGHT</b>	<b>3.75-OZ CAN SARDINES</b>
5 lbs	¼ can per week
15 lbs	½ can per week
25 lbs	⅝ can per week
50 lbs	1 can per week
100 lbs	1 ¾ cans per week

A 3.75-ounce can of sardines has about 200 calories, so reduce the amount of dry food given on “sardine days” accordingly. Rule of thumb: One can of sardines in water has about the same number of calories as ½ cup of most dog foods.

You can substitute canned wild Alaskan pink salmon (the bones are edible), oysters (a great source of zinc, especially important for pregnant and lactating females), and other fresh, frozen, or canned wild ocean fish for sardines. Pacific oysters are probably better than Gulf of Mexico oysters, especially after the BP oil spill in 2010, and safer than canned oysters from China. Never feed raw salmon or trout, especially Pacific salmon, because it may contain a bacterium that can kill dogs.

## **FURTHER CONSIDERATIONS**

The following are a few more things to think about if you feed dry foods to your dog. Some of the bullet points will help you select healthier, fresher foods for your dog; some will help you keep that food in the best possible condition until your dog has eaten it all. The final point is a warning about supplemental fish oil.

■ **DETERMINING PRODUCED-ON DATE.** A few pet food makers include both a “produced-on” date and a “best by” date on their products; that’s ideal. Most, however, just use a “best by” date as part of the date/code on the label.

To determine how fresh a food is you need to calculate the produced-on date. Ask the manufacturer (almost all of them have toll-free numbers) what the shelf life is for the product you’re curious about. Most dry foods are given 12-month shelf lives, but some foods are given 18 months.

If a food has a best-by date of December 2013, and the manufacturer gives the

food a 12-month shelf life, the food was produced December 2012.

■ **FRESHEST!** For the freshest foods, buy chicken-based foods from retailers who sell lots of that food and get frequent deliveries, and who always rotate. Some imported exotic meats may only be imported once a year, so even freshly made exotic foods may use one-year-old meats.

■ **NATURAL OR SYNTHETIC PRESERVATIVES?** Preservatives are used in dry dog foods to slow down the oxidation of the fats. Natural preservatives such as mixed tocopherols are considered to be less harmful for dogs than artificial preservatives, but they do not prevent oxidation (rancidity) for as long as artificial preservatives do.

If you’re planning on keeping a food toward the latter half of its “best by” date, your dog may be better off with a food that is preserved with a synthetic antioxidant such as ethoxyquin. Personally, I think the dangers of rancid fats are greater than the problems posed by synthetic antioxidants.

■ **BUYING FOODS IN FOIL BAGS.** Typical paper / plastic dog food bags provide excellent moisture and insect barriers, but are only moderate oxygen barriers. Foil bags provide excellent moisture, insect, and oxygen barriers and are best for long-term preservation of nutrients.

Foil bags are expensive and may have much larger environmental impacts than typical bags. I suggest buying foods in foil bags only when you need to store unopened bags of food for long times. If you follow the guidelines above, the extra protection and cost of foil bags won’t be necessary.

■ **FOOD WITH THE LONGEST SHELF-LIFE.** If you want to stock your summer cabin with unopened bags of dog food for a year, low-fat beef foods without fish oils preserved with ethoxyquin and packaged in foil bags will give the longest shelf life. Beef and bison meats contain fewer polyunsaturated fats than do chicken and turkey foods, and therefore they usually have longer shelf lives.

■ **TRUST YOUR NOSE – AND YOUR DOG’S NOSE.** The most sensitive tests for rancid fats are trained human and canine noses. If the food doesn’t smell right to either of you, don’t feed it.

■ **STORING FOOD.** Freezing is the best way to preserve pet food, but it’s not only impractical for most of us, but also unnecessary when following the freshness guidelines (on the facing page). Store in dry, cool locations. If using a food container, keep the food in its original bag and place the bag in the container.

■ **SPECIAL CAUTION.** At dog shows I’ve seen gallon-sized, clear, plastic jugs of fish oil offered for sale. The price per serving might be appealing if you have a lot of large dogs, but these containers scare me. The lightweight plastic provides little barrier to air and transmits light, which causes photo-oxidation. Unless you know the manufacturer and the freshness of the fish oil, and have enough dogs to use the oil very quickly, avoid these products. Remember, no DHA is better than rancid DHA.

## **MANUFACTURERS, PLEASE CHALLENGE ME**

What can the consumer expect is in the food when it’s fed? The state-of-the-art in packaging, natural antioxidants and the stability of forms of DHA keep improving (for example, algal meal provides DHA in more stable forms), but I have yet to see real-world data on the stability of dry foods with fish oils or DHA added.

Accelerated stability tests provide some information, but are not sufficient for me to change my recommendations. Real-world, long-term tests are essential because changes in temperature and physical jostling during distribution add stress to the fats, and mixed tocopherol preservation systems may not be effective under stressful conditions. The best data will include palatability tests as well as chemical tests. Dogs are more sensitive to rancidity than peroxide value and free fatty acids tests. 🐾

*Steve Brown is a dog food formulator, researcher, and author on canine nutrition. In the 1990s he developed one of the leading low-calorie training treats, Charlee Bear® Dog Treats, as well as the first AAFCO-compliant raw dog food. Since 2003 he has focused on research and education. He is the author of two books on canine nutrition (See Spot Live Longer, now in its 8th printing, and Unlocking the Canine Ancestral Diet (Dogwise Publishing, 2010); and a 40-page booklet, See Spot Live Longer the ABC Way. He is also a formulation consultant to several pet food companies.*

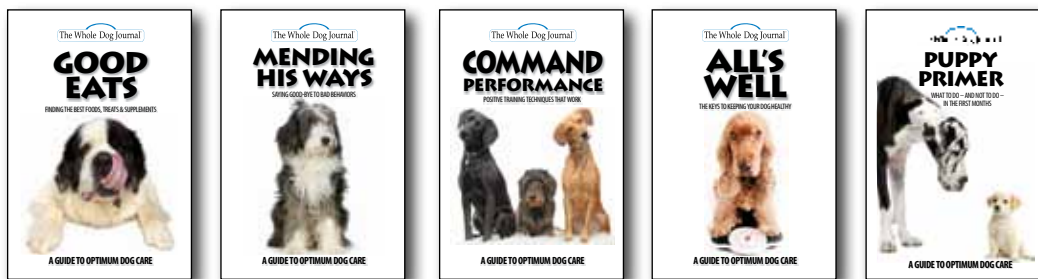
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