

# The Whole Dog Journal™



VOLUME 17 | NO. 12 | \$5.95

*A monthly guide to natural dog care and training*

DECEMBER 2014

## FEATURES

### 3 Feed Me!

*Five things to do to determine how much to feed your dog or puppy.*

### 4 Fear Itself

*Why it's important to learn to recognize and interpret the facial expressions and body language displayed by a fearful or stressed dog.*

### 7 Right Tool, Right Time

*Not every canine behavior has to be changed through training; sometimes, simple management is easier and more effective.*

### 10 Heart of the Matter

*Treating a dog for a heartworm infection is not without risk – but the disease caused by uncontrolled heartworms is far worse. Here are tips for getting a dog through treatment safely.*

### 16 Home Care to Save Teeth

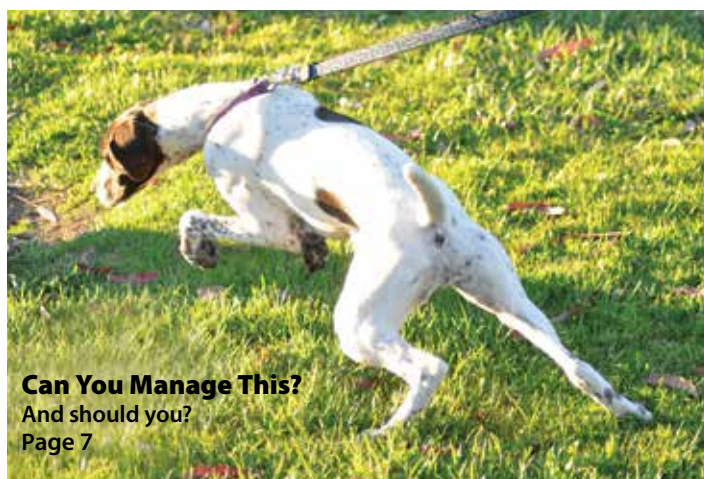
*Her service dog was at risk of losing a whopping 17 teeth. She went to work, and saved all but one (and a bundle of money, too).*

### 20 Spice It Up!

*If your dog suffers from chronic inflammation or stiffness, you may want to try adding tumeric to his diet.*



**I'm Telling You**  
Why you should care if she's scared  
Page 4



**Can You Manage This?**  
And should you?  
Page 7



**Picture of Health**  
Saving teeth and money  
Page 16

## ALSO IN THIS ISSUE

- 2 Editor's Note
- 22 2014 Editorial Index
- 24 Product and Expert Resources



Journal™

EDITOR-IN-CHIEF – Nancy Kerns  
TRAINING EDITOR – Pat Miller  
PUBLISHER – Timothy H. Cole  
CIRCULATION DIRECTOR – Greg King

#### EDITORIAL OFFICE

E-MAIL: [WDJEditor@gmail.com](mailto:WDJEditor@gmail.com)  
ADDRESS: 1655 Robinson Street  
Orville, CA 95965

#### SUBSCRIPTION SERVICES

PHONE: (800) 829-9165  
INTERNET: [whole-dog-journal.com/cs](http://whole-dog-journal.com/cs)  
U.S. MAIL: PO Box 8535  
Big Sandy, TX 75755-8535  
CANADA: Box 7820 STN Main  
London, Ontario N5Y 5W1

#### REPRINTS

For price quote, contact  
Jennifer Jimolka at (203) 857-3144  
Minimum order 1,000

#### NEWSSTAND

Jocelyn Donnellon, (203) 857-3100

#### WHOLE DOG JOURNAL DOES NOT ACCEPT COMMERCIAL ADVERTISING

**B** THE WHOLE DOG JOURNAL (ISSN #1097-5322) is published monthly by Belvoir Media Group, LLC, 535 Connecticut Avenue, Norwalk, CT 06854. Robert Englander, Chairman and CEO; Timothy H. Cole, Executive Vice President, Editorial Director; Philip L. Penny, Chief Operating Officer; Greg King, Executive Vice President, Marketing Director; Ron Goldberg, Chief Financial Officer; Tom Canfield, Vice President, Circulation. Periodicals postage paid at Norwalk, CT and at additional mailing offices. Copyright ©2014, Belvoir Media Group, LLC. All rights reserved. Reproduction in whole or in part is strictly prohibited. Printed in U.S.A. Revenue Canada GST Account #128044658. Canada Publishing Agreement Number #40016479.

THE WHOLE DOG JOURNAL makes every effort to provide information on dog health, care, and treatment that is authoritative, reliable, and practical. It is not intended, however, to replace diagnosis or treatment from a veterinarian or other qualified dog professional. THE WHOLE DOG JOURNAL does not assume any legal responsibility. Readers should always consult qualified healthcare providers for specific diagnosis and treatment.

**Subscriptions:** \$39 annually (12 issues). Bulk rate subscriptions for organizations and educational institutions available upon request.

**Postmaster:** Please send address changes to THE WHOLE DOG JOURNAL, PO Box 8535, Big Sandy, TX 75755-8535

In Canada, send to THE WHOLE DOG JOURNAL, PO Box 39, Norwich, ON, N0J 1P0



# Be Not Afraid

*A trial by heartworm.*

BY NANCY KERNS

**O**kay, readers, it's confession time. I'm about to tell you something that I haven't ever confessed in these pages, not even hinted at it in 17 years: I once was so pig-ignorant about dog care that I allowed my dog – my best friend at the time, my stalwart, beloved Border Collie Rupert, to develop heartworm disease. It's true, and deeply painful to think about now.

In my defense, I grew up in an area without heartworm, and didn't know a darn thing about it when, just out of college, my then-boyfriend purchased the sheep-farm dropout puppy for me. Rupe outlasted that relationship by more than a decade – but only because I took immediate action to treat my dog once I learned he was infected.

You see, when my son turned one (and Rupert was three years old), he became fascinated with toddling – lurching, really, Frankenstein's monster-style, arms outstretched – toward Rupert whenever he spotted the dog. And Rupe, as it turned out, was deeply uncomfortable with toddlers. It took only one air-snap toward my son's peachy cheek for me to decide to send Rupe to live with my parents for a while. By that time, my relationship with Eli's father was already over, and as a single mom working in my own startup business, I was exhausted. I realized I couldn't possibly keep my two boys separated every minute – and Rupe loved it at my parent's home. They lived on 20 acres in the foothills of the Sierra Mountains, not far from a lake . . . Cue the ominous music; today I recognize this as heartworm country.

Rupe stayed with my parents for about two years. After I sold my business and got a job for another magazine, and Eli was old enough to listen to and follow directions concerning the dog, I brought Rupe home to live with me again. It was wonderful having him, and once Eli learned to throw a ball for the typically ball-obsessed Border Collie, their friendship cemented. Everything was good. And then I took Rupe for some vaccinations at a new veterinary clinic.

It was the first time in my life I had ever been asked if I wanted a heartworm test for

my dog. "What's that?" I distinctly remember asking. I had *no clue*.

Long story short: It turned out that where my parents live is a Ground Zero for heartworm-infected mosquitoes, and Rupe had a heavy infection. I spent the few months nursing Rupe through treatment for heartworm disease. But in one tiny way I was lucky: The young vet at the modern clinic I had taken him to was an early adopter of the brand-new heartworm treatment, Immiticide, which was miles and millions of times more effective and less harmful to the dog than the previous treatment. Even so, Rupe had a rough time. The first week after each treatment, he spent coughing, gagging, drooling, and vomiting. He didn't eat and didn't drink. He ended up getting pneumonia, and spending days at the clinic receiving IV fluids, antibiotics, and steroids. It cost a fortune – and was so hard to watch. The heartworms had damaged Rupe's lungs, and he was still intolerant of exercise for about six months *after* he had been cleared by the vet to run and play again; if he tried to chase a ball, sometimes he would suddenly collapse, panting, and I'd burst into tears. What had I done to my dog?

But he *did* recover – and lived to the age of 14. I don't think he would have made it to age six with the heartworm burden he was carrying.

Today, veterinarians know far more about how to mitigate and even prevent the side effects that Rupe suffered in treatment. Prevention is better, of course (and today, I'm an absolute bear about giving my dogs heartworm preventives). But heartworm infection is not a death sentence; its treatment is a life-saving gift. Read about how to do it *right* on page 10.

NK

# Feed Me! . . .

**But not too much! Five things to do to determine how much to feed your dog.**

BY NANCY KERNS

**E**ach and every one of the six people who adopted the puppies I fostered recently asked me the same question: “How much should I feed him?” I was surprised the first time, and cracking up by the last time I heard the inevitable question. “How much to feed” is not something I’ve ever struggled with or worried about. And yet, it must be a problem! Just look at the dogs at your local park or in the waiting room at your vet’s office – most of them are quite frankly obese! So here a few basic guidelines.

**1 USE THE “RECOMMENDED FEEDING AMOUNTS” ON THE LABEL OF YOUR DOG’S FOOD AS A STARTING POINT, NOT A FIXED RULE.** Calorie calculations and recommended amounts to feed are always an estimate, as the caloric needs of individual dogs can vary significantly based on activity level, metabolism, and other factors. The only way to know for sure how much food or how many calories your dog needs is to carefully monitor and keep track of the amount you feed her, watch her weight closely, and adjust the amount you feed as needed to keep her at, or help her reach, her ideal weight.

**2 USE A MEASURING CUP OR SCALE.** If you measure the amount of food you feed in cups, be sure to use a *measuring* cup, not just any cup, which might hold more or less than the regulation 8 fluid ounces. Better yet, get a small kitchen or postal scale and measure the food by weight, which is more accurate. This is especially useful for those of us feeding small dogs; even a few kibbles’ difference – which you can’t really appreciate when they are in even a measuring cup – can make a big difference in the weight of a small dog.

**3 DO A LITTLE MATH (IT WON’T KILL YOU, WE PROMISE).** If you feed a homemade diet and calculate the amount



to feed as a percentage of your dog’s body weight, remember that small dogs eat a larger percentage of their weight than larger dogs do. The amount of fat in the diet will significantly affect the number of calories provided; it’s best to feed only lean meats (no more than 10 percent fat) to most pet (non-athlete) dogs. Dogs fed grains and other starchy carbs will usually eat more food by weight than those fed primarily meat and animal products (which are higher in fat).

**4 ADD UP THE EXTRAS (AND CONSIDER ELIMINATING MOST OF THEM).** If your dog is any fatter than *lean*, he’s getting too many calories. Those of us who feed dry dog food (a nutritionally very dense food) may object when our veterinarian says, “Feed

him less!” – especially when it seems we are feeding him practically nothing at all. But don’t forget to take into account the calories your dog gets from treats, chews, leftovers, and supplements (particularly oils, which provide 40 calories per teaspoon).

Many treats do not show calories on the label, so if you’re concerned, contact the company to find out. Some examples: Greenies have 25 to a whopping 272 calories each (depending on size), while Milk Bone dog biscuits range from 10 to 225 calories. Bully sticks may have about 29 calories *per inch*, while rawhide may have 80 calories per ounce!

If you find you have to feed much less than the amount of food recommended on the label to keep your dog at her proper weight, the odds are she’s getting significant calories from these other sources, which may be limiting the nutrients that she needs. (If that’s not the case, consider asking your vet whether it might be worth testing your dog for hypothyroidism.)

**5 ADD REAL FOOD IF YOU WANT – BUT THE RIGHT FOODS.** When adding “human” foods to a commercial diet, you can generally give as many non-starchy vegetables as you want, including carrots, broccoli, zucchini and other summer squashes, green beans, and all kinds of leafy greens. These foods are low in calories but provide valuable antioxidants and phytonutrients, and may help your dog feel fuller. Remember that vegetables must be either cooked or pureed in order to be digestible by dogs, but there’s no harm in giving whole, raw veggies as a treat, such as carrot sticks, green beans, or zucchini slices.

Other good choices for added foods without a lot of added calories include skinless chicken breast, low-fat or nonfat yogurt and cottage cheese, and sardines packed in water, not oil. Canned pumpkin and sweet potato in small amounts can be good for digestive health.

Remember, studies have shown that thin dogs live significantly longer, and their health and mobility stays good later in life. If you really love your dog, keep her lean! 🐾

*Thanks to WDJ contributor Mary Straus for help with this article.*

# Fear Itself

*The importance of the ability to recognize and interpret the facial expressions and body language displayed by fearful or stressed dogs.*

BY LINDA P. CASE, MS

Recently, on the drive home from our annual vacation in Maine, our 11-year-old Brittany, Vinny, suddenly and inexplicably awoke from a sound sleep, and began to tremble, pant, pace, and obsessively lick at the sides of his travel crate. When I crawled back over the seat to find out what was wrong, I observed that Vinny’s eyes were “squinty,” and he avoided looking at me as he continued to lick and pant.

It’s important for dog owners to recognize and respond to signs of stress and fear in our dogs. If we are sensitive to their emotional states and are accurate in our interpretations, we can respond appropriately to situations in which a dog is uncomfortable, stressed, or frightened. Because nonspecific stress-related behaviors can be the first signs of illness or injury, attending to these promptly may help us deliver medical attention to our dogs before conditions worsen or escalate into an emergency.

It is well known that perceiving and understanding the emotions of others is a basic human social skill – and that studies have shown that these abilities vary tremendously among individuals. It follows that those of us who share our lives with dogs display a similar variability in skills when recognizing and interpreting the emotions of our canine friends.

However, until recently, the accuracy of our perceptions of dogs’ emotional

states had not been studied. Two research studies examined the cues that we use and our levels of accuracy when we perceive fear and stress in our canine companions.

## WHAT DO YOU SEE?

The first of these studies was conducted by researchers in the Department of Psychology at Columbia University in New York<sup>1</sup>. The study team produced a series of video clips of dogs and embedded them in an on-line survey.

Participants viewed the videos and then were asked to classify each dog’s emotional state using one of five possible descriptors (angry, fearful, happy, sad, or neutral). The first four of these are called “primary emotions” and were selected because research has supported the existence of these emotions in dogs and other animals.

Although the study participants had five choices, the videos in the study showed dogs demonstrating one of only two expressions: either happiness or fear. All of the videos had been pre-categorized into the two emotion categories by a panel of dog behavior experts prior to the start of the study.

After identifying each dog’s emotion, participants were asked to describe the specific features of the dog that led them to their conclusion. For example, if a person classified a dog as showing happiness, she might say that the dog’s facial expression, ear set, and wagging tail were important features that conveyed this state to her. Last, the participants were asked to rate the level of difficulty that they experienced while attempting to interpret the emotions of each dog and to provide an estimate of overall confidence in their accuracy.

More than 2,000 people completed the survey and were divided into four categories based upon their dog ownership and professional histories: non-owners, dog owners, dog professionals with fewer than 10 years of

**The majority of people, owners and non-owners alike, recognize signs that a dog is happy. The less experience with dogs they have, however, the less able they are to recognize and accurately interpret the facial expressions and postures of a stressed or fearful dog.**



People who have little experience with dogs tend to use the dog's tail and posture to gauge the dog's emotional state. More experienced dog people include the dog's facial expressions, including eyes, mouth, and ears, in their assessments.

experience, and professionals with more than 10 years of experience.

The vast majority of people who completed the survey – more than 90 percent – correctly identified happy dogs in the video clips, regardless of the person's level of dog experience. This means that most people, even those who have never owned a dog, could look at a happy dog and *see a happy dog!* This is good news.

However, when it came to recognizing fear in dogs, the news was not quite so positive. While more than 70 percent of dog professionals correctly identified the fearful dogs, this proportion dropped to 60 percent of dog owners, and to only 35 percent of non-owners. Put another way, 40 percent of dog owners and 65 percent of non-owners were unable to correctly identify signs of fear and stress in an unfamiliar dog.

Moreover, a substantial number of the non-owners (17 percent, or about one in six people) misclassified a fearful dog as a happy dog!

This latter statistic is especially troubling, given the potential for a dangerous outcome of such mistakes. A person who approaches a fearful dog with the perception that the dog is friendly will, at the very least, increase the dog's fear and distress, and could potentially cause a defensive response in the dog, leading to a snap or bite.

The features of the dogs that participants used to make their decisions also varied with experience level. A person's tendency to focus on a dog's facial features (eyes, mouth, ears) increased significantly along with



experience. Inexperienced participants used primarily the dog's tail and body posture to inform them about the dog's emotional state. Conversely, more experienced people identified both facial expressions and body postures as important features when assessing a dog.

Interestingly, but perhaps not surprisingly, the results of this study are consistent with studies of human abilities to perceive and interpret the expression of emotions in other people. We are generally more sensitive to and more accurate at interpreting happy facial expressions in other humans than we are when experiencing fearful expressions. Moreover, while social experience seems to have little effect upon our responses to happy faces (we show a proficiency to do this at a very young age), having varied and extensive social experience is an important factor in determining our success at perceiving fear and stress in other humans.

This study tells us that dog-related training and experience enhance our

tendency to pay attention to dogs' facial expressions and body postures, and enhances our ability to correctly perceive fear.

## STRESS AND YOUR DOG

While the first study provided a general test of how people perceive fear in unfamiliar dogs, the second examined the ability of dog owners to recognize signs of stress in their own dogs<sup>2</sup>. This Italian study was conducted by researchers at the University of Pisa, with a group of almost 1,200 dog owners recruited through veterinary clinics.

Participants first completed a questionnaire in which they were asked about stress in dogs and its potential health and behavioral consequences. They then identified what they believed to be signs of stress in dogs and estimated the level of stress in their own dog.

More than half of the owners (60 percent) were found to have a clear understanding of what stress is and how it can affect a dog's emotional state and health. However, about 20 percent of owners (one in five) believed that experiencing stress had no negative physical or emotional consequences on dogs. (In other words, while they agreed that it occurred, they thought it was no big deal.)

The behaviors that owners most frequently identified as reflecting stress in their dogs included trembling, whining/crying, excessive barking, and panting. In contrast, very few owners identified more subtle behaviors, such as avoiding

## CITED REFERENCES:

1. Wan M, Bolger N, Champagne FA. (2012) Human perception of fear in dogs varies according to experience with dogs. *PLOS ONE* 7(12): e51775. doi: 10.1371/journal.pone.0051775
2. Mariti C, Gazzano A, Moore JL, Baragli P, Chelli L, Sighieri C. (2012) Perception of dogs' stress by their owners. *Journal of Veterinary Behavior* 7:213-219.

# The Whole Dog



Journal™

## READER SERVICE

### TO VIEW OUR WEBSITE:

Visit us at  
whole-dog-journal.com

### FOR BACK ISSUES, ARTICLES

Visit us at  
whole-dog-journal.com/backissues

### TO CHANGE YOUR MAILING OR E-MAIL ADDRESS, RENEW YOUR SUBSCRIPTION, CHECK PAYMENT STATUS, OR ASK QUESTIONS ABOUT YOUR ACCOUNT:

Visit us at whole-dog-journal.com  
or call (800) 829-9165

To change your address by mail, attach your present mailing label to this form (or a copy of this form), enter your new address below, and mail it to:

THE WHOLE DOG JOURNAL  
P.O. BOX 8535, BIG SANDY, TX 75755

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

E-mail \_\_\_\_\_

To order or renew a subscription, enter your name and address above and check the subscription term you prefer:

2 years (24 issues) – \$54

1 year (12 issues) – \$29

In Canada, 1 year \$39 CDN, 2 years \$72 CDN.

All other countries, 1 year \$47 US, 2 years \$94 US.

Check enclosed       AmEx

MasterCard       Visa

Card # \_\_\_\_\_

Expiration \_\_\_\_\_

Signature \_\_\_\_\_

**YOUR RENEWAL IS JUST A CLICK AWAY!**

whole-dog-journal.com

eye contact, turning away, nose licking, or yawning as signs of canine stress.

Those owners who self-reported as being highly concerned with their dog's stress level were more likely to identify these less obvious signs as important. Overall though, owners tended to miss many of the facial expressions (squinty eyes, avoiding eye contact, changes to ear set, retracted commissures) that most trainers look for when assessing a dog's stress level.

Like the first study, this suggests that it is these more subtle facial cues of stress and fear that may be missed if a person is only paying attention to the more obvious body posture signs.

## TAKE-AWAY POINTS FOR DOG FOLKS

These studies provide complementary information about the behavior cues that people pay attention to when attempting to decipher a dog's emotional state. The first showed that even inexperienced people were able to correctly identify a dog who was feeling happy. However, perceptions of fear were strongly correlated to how much prior experience a person has had with dogs. As experience level increased, people were not only more likely to be correct, but also more likely to pay attention to a dog's facial expressions, compared with people who did not spend much time with dogs. We also learned that dog owners are more likely to focus attention on their dog's body posture, vocalizations, and movements than on the more subtle signs of stress that involve a dog's facial expressions and eyes.

Accurately recognizing fear and stress in dogs is an important skill set to possess. Understanding our own dog's emotional state allows us to respond by helping him out of situations that cause fear and reducing or eliminating triggers of stress when they are under our control.

For trainers and behaviorists, working with owners who are sensitive to their dog's stress response promotes the development of a more effective training and management plan. On a societal level we all benefit from a universal understanding of the behaviors, body postures, and facial expressions that convey happiness versus fear or stress in dogs. Correctly interpreting a dog's behavior is always enhanced by attending to both body posture and facial expressions.

However, interpretation of dogs' facial

expressions may not come naturally to many people. This knowledge emphasizes the importance of teaching the subtleties of canine facial expressions in training classes, behavior-education courses, and bite-prevention programs.

Moreover, the statistic suggesting that one in five owners do not consider the effects of stress in their dogs to be of negative consequence tells us that education is also needed regarding the health and welfare impacts of stress and fear on our dogs' well-being and quality of life.

## QUICK RESPONSE

My husband and I are still uncertain about what caused Vinny's acute stress response during our vacation. As quickly as possible, Mike pulled over to a rest area and we got Vinny out of the car. As soon as he was on the ground and moving about, Vinny relaxed, looked at us calmly, gave each of us a nice Brittany hug, and off we went for a little walk. Perplexed, we thought that maybe he had to eliminate (nope, no urgency there), was feeling carsick (no signs), or had had a bad dream (who knows?). Within less than a minute, our boy was his typical happy self, showing no signs at all of distress. We loaded all of the dogs back into the car and Vinny continued the journey home with no further incident.

Weeks later, Vinny has not had a recurrence and seems healthy and happy, but we continue to monitor him carefully. As Vinny has aged he has become somewhat more sensitive to sounds, which is not unusual in senior dogs. However, even though we responded quickly at the time and he apparently recovered, we did not learn enough from the episode to determine a possible underlying cause. Perhaps we'll never know. Regardless, I do know that paying attention to all of Vinny's signs – body language, facial expressions, and eyes – will help us to understand, care for, and love him as best we can. 🐾

*Linda P. Case, MS, is the owner of AutumnGold Consulting and Dog Training Center in Mahomet, Illinois, where she lives with her four dogs and husband Mike. She is the author of a new book, Dog Food Logic, and many other books and numerous publications on nutrition for dogs and cats. Her blog can be read at thesciencedog.wordpress.com. See "Resources," page 24 for contact and book purchasing information.*

# The Right Tool at the Right Time

*Not every canine behavior needs to be changed through training; sometimes, simple management is more effective.*

BY PAT MILLER, CBCC-KA, CPDT-KA

**F**ew dogs behave in ways that please us all day every day – especially puppies, adolescent dogs, or newly adopted adult dogs who have little experience living closely with humans. “Training” is what we usually call our formal efforts to teach dogs how to behave in ways that please us more – and most frequently, dog owners use that term to describe what is needed to prevent their dogs from causing chaos in or destruction to their homes, or upsetting or harming other members of the household (whether human, canine, feline, or anything else). But when discussing behaviors that we’d like to prevent our dogs from practicing, many trainers would likely say that what’s needed in many of those vexing situations is better canine *management*, not training!

What’s the difference? “Management” generally means using simple tools – such as leashes, fences, doors, and gates – to prevent the dog from practicing behaviors we don’t want him to do (such as wandering away from home, chasing your cat through the house, chewing your sofa cushions, helping himself to food from the kitchen garbage or on the counter, or jumping on visitors).

In contrast, “training” usually refers to situations where we are teaching the dog what *to* do.

Both management and training are highly effective in modifying our dogs’ behavior so that they can share our lives and homes more peacefully and pleasingly – but it’s helpful to be aware of the difference between the approaches, and use each to its best advantage, in order to most effectively and efficiently (and humanely) get our dogs to behave the way we’d like them to.

I’m a trainer, and believe me, I love training, and am fascinated by any pain-

and fear-free method that can be used to teach dogs to perform behaviors that are helpful or just plain enjoyable to us. But there are many instances when training is not the most efficient or effective way to change a dog’s behavior!

“Counter-surfing” is a perfect example. When a dog has learned to help himself to food that’s on the kitchen counter, some people will set up elaborate traps that are meant to scare the dog and teach him not to jump on the counters any more, or spend time teaching him “off” or “leave it.”

However, dogs who are highly motivated by food may find the prospect

---

**Of course, every dog ought to learn to sit calmly inside the door when visitors arrive, but before they do, use a management tool! A baby gate or exercise pen can be placed a few feet inside the doorway to prevent them from jumping on guests – or bolting out the door!**

of finding food so rewarding that they gladly run the risk of whatever traps their owners devise (or learn to identify the traps and detect any time the traps haven’t been “set”). And expecting a dog to perform a behavior in the many hours you are absent is unrealistic; why would you expect him to “leave it” for hours when you would never expect him to, say, hold a “down/stay” for the same period of time?

In this case, managing the dog’s behavior – by preventing him from being able to do it at all, by, say, using a baby gate to keep him out of the kitchen altogether – is a far simpler solution than training.

In contrast, there are also instances when we *can* use a tool to manage the dog’s unwanted behavior, but it would be even more helpful if he learned to do something that we like better. That’s when *training* is indicated.



While she's learning to walk politely on leash, a management tool such as a head halter or front-clip harness can be used to prevent a strong young dog from pulling on potty walks or while trying to meet her exercise needs.

## COMPLEMENTARY TECHNIQUES

Here's an example: If you have a dog who is prone to chasing your cat in the house, you can manage his behavior by keeping him on a tether at all times, or using gates that your cat can jump over, go through, or run under to evade your dog's pursuit. This is a good, first-line-of-defense strategy that will protect your cat, especially when you are not present. But teaching your dog to look at you or come to you when he sees the cat will be a better long-term solution, one that may eventually result in the animals' peaceful co-existence.

I have lived this example for the past 10 years, ever since my husband and I adopted a young Cardigan Welsh Corgi from a shelter. Lucy spent six months' worth of evenings on a leash next to me on the sofa so I could prevent her from leaping after Barney, our black-and-white tuxedo cat, when he bounced into the living room. That was *management*.

But while I managed Lucy's cat-chasing behavior, I also worked to convince her that cats appearing in the living room makes treats appear for her to enjoy. That was *training* – and it pays off to this day, almost 10 years later. Just this evening, as I sat on the living-room sofa, fingers on my laptop keyboard and one eye on the television, I noticed Barney waltz into the room. Next to me, Lucy sparked alert.

I watched and waited. A second later, her head swiveled toward me. Ah! Good girl! I usually reward her with a treat; I almost always have some in a pocket or on a nearby table. Sometimes her reward for a behavior that I like – such as looking at me – is a few moments of petting and praise, or a chance to chase a toy.

## THE RIGHT TIME

When does it make the most sense to manage your dog's unwanted behavior and when should you work to train him to do something you like more? It's almost always most effective to immediately manage the dog's environment to prevent him from practicing (and being



reinforced for) the unwanted behavior. In some cases, that's all that's needed – especially when a simple management tool replaces unrealistic training expectations. For example, if you really don't want your dog to snooze on your sofa while you are at work all day, it would be far easier and more effective to simply block her access to the room with the sofa than it would be to devise, set up, and monitor some sort of remote surveillance and training system to teach her to stay off the sofa when you aren't there.

In other cases, it makes sense to manage the dog's environment (again, to prevent your dog from practicing the unwanted behavior) for just as long as it takes you to teach the dog a new, more appropriate behavior. For example, you may want to use a head halter or front-clip harness to prevent your large dog from pulling you off your feet when you take him on potty walks, while you also take a class or work with a trainer to teach him to walk politely with just a flat collar in slowly increasingly distracting environments. This will set him up for eventual success, while (we hope) preventing him from ever experiencing the thrill of pulling the leash out of your hand in order to bolt after a squirrel on the sidewalk across the street.

## CAVEAT: FAILURE FACTORS

I'm a big fan of management – good management tools and practices can often salvage a previously frustrating dog/owner relationship – but management does have a bad name in some training circles. "Management always fails," some will pontificate, meaning that there may be a high price to pay if you rely solely

on a gate or leash to control your dog's behavior, and someone forgets to latch the gate or the leash breaks. I try to avoid saying "always" or "never" to my clients, though. I prefer to say, "Management has a high likelihood of failure, so if you plan to manage a behavior, be aware of the potential for failure and what the risks are if management fails, and make training and management decisions accordingly." It's not as snappy a sound bite, for sure, but it is far more accurate.

When you do decide to employ management – whether as an alternative or a complement to training – it pays to be thoroughly aware of its potential for failure and the potential risks of any possible failures. What do I mean by this? Let me flesh out one of the examples above. Say you have adopted a large dog who hasn't yet been trained to walk nicely on a leash, and who is reactive to other dogs. You are taking a group class with a good trainer, and working hard to improve his social and on-leash skills, but his behavior is much better if he gets a lot of exercise. So, even though it's challenging to take him on walks, you use a front-clip harness (management tool) to help control him on walks, which you take very early in the morning (management technique, to try to avoid seeing many other dog walkers).

There are many risks of this approach: The harness or leash could break; the dog could pull the leash out of your hand with a strong bolt; he could pull you over (if there is a size/strength disparity between the two of you); or someone else's dog could get loose and come after your dog and you might be unable to pull or summon your dog away. If your dog got



loose in one of these ways, he might run off and get hit by a car, or initiate a fight with another dog.

Then there are the mitigating factors: you bought good equipment; you check it frequently to make sure it's not chewed or frayed and that the leash snap is not cracked and its mechanism is working properly; and you keep your cell phone in your pocket and stay attentive to the appearance of any other dogs on the horizon, so that you are ready to execute a quick turn in the other direction. All of these things will minimize the risk of your temporary management strategies.

## POTENTIAL FOR MANAGEMENT FAILURE AND FAILURE RISK

When considering management, short- or long-term, as an option for dealing with a behavior, it's important that you make a realistic assessment of the potential for and risk of management failure.

Factors that contribute the likelihood that management will fail include but are not limited to:

- Poor-quality equipment (such as frayed or chewed leashes, doors that don't latch properly, inadequately installed gates, fences in poor repair)
- Children in the home
- Lots of activity/traffic in and out of the house
- Multiple residents in the home (especially if some aren't conscientious about management protocols)
- Lack of commitment to or inability to implement management protocols
- Creative, persistent, determined, and/or anxious dogs
- Intensity of behavior
- Predictability of behavior (either extreme)

Consider, too, the potential risks

(to your dog or other family members, or other people or animals) if your management techniques or tools fail. What is the most serious or tragic thing that is likely to happen if your management does fail? Management is not an appropriate option if the likely consequences are very serious, such as someone (a human or animal) being badly bitten or even killed, animal-control action being taken against you, someone filing a lawsuit against you (and possible loss of homeowner's insurance), or significant damage to valuable possessions.

Remember, every behavior and training scenario invites you to make choices about how much to manage and how much to train. Choose wisely – your dog's well-being depends on it. 🐾

*Pat Miller, CBCC-KA, CPDT-KA, 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. See page 24 for information about Pat's classes, books, and courses for trainers.*

## EXAMPLES OF MANAGEMENT/TRAINING SCENARIOS

**BEHAVIOR CHALLENGE:** 10-month-old Yorki-Poo is not housetrained; still having several "accidents" per week.

**FAILURE FACTORS:** Lack of commitment to management protocols; anxious dog.

**RISK FACTORS:** Damage to carpeting and floors; owner losing patience with dog and rehoming or euthanizing.

**MANAGEMENT SOLUTION:** Manage his environment so he doesn't have the opportunity to urinate or defecate in the house. The umbilical cord approach (keeping your dog leashed to you at all times) is very useful. When he's not attached to you, crate him – but never for so long that he's forced to soil his crate. If he must be left crated all day while you are at work, make arrangements for a pet sitter to come midday to take him out.

**TRAINING SOLUTION:** Take your dog out more often than he has to go – initially every hour on the hour. Take him on leash to his designated bathroom spot, and wait quietly there until he goes. When he does, give him a "Yes!" and a treat and then play with him. If he doesn't, no play – take him back inside and crate him or keep him leashed to you, then take him out again in 20 minutes and try again. When you know he's empty he can have 10-20 minutes of house freedom, then leash or crate him again until his next bathroom break. As long as he is successful, gradu-

ally increase the time between potty trips and house freedom time. If he has an accident, proceed more slowly.

**BEHAVIOR CHALLENGE:** Your newly adopted 8-year-old rescue Pomeranian fiercely resource-guards his food bowl.

**FAILURE FACTORS:** Intensity of behavior.

**RISK FACTORS:** Someone could be badly bitten.

**MITIGATING FACTORS:** Despite intensity of behavior, your dog's bites have never broken skin; the behavior is very predictable – it happens only with his food bowl and high-value resources; household consists of two adults, very little activity.

**MANAGEMENT SOLUTION:** Feed him in his own space (such as a laundry room) with the door closed, and leave him alone when he has a high-value resource. If you do need to take something away from him, trade him for a very high-value treat.

**TRAINING SOLUTION:** Implement a behavior-modification protocol if you feel it's necessary, dropping high-value treats as you approach and pass by, to convince him that you are not a threat to his good stuff, but rather that you make more good stuff happen! However, opting for management only in this case, as the risks are low, is a perfectly acceptable solution in this case.



# Heart of the Matter

*It's not without risk, but treatment for heartworm is better than heartworm disease.*

BY DENISE FLAIM

**H**earthworms might more accurately be called heart-and-lung-worms; these life-threatening parasites are almost as frequently found in the lungs of infected dogs as their hearts. But perhaps the term also references the owners of infected dogs, because when we learn our beloved dog has been diagnosed with these horrid parasites, our hearts are very much affected, if only figuratively. Treatment for heartworm can be risky, expensive, and inconvenient – altogether, quite a source of fear and anxiety for dog owners. The more information you have before initiating treatment, though, the better you will be able to support your dog through the process.

Jennifer Dodge of Wichita, Kansas, knows that fearful, anxious feeling all too well. In 2010, she rescued Holly, who had been living on the streets for three years

after her owners abandoned her. Wary of strangers and covered with mange, Holly was underweight and had a disturbingly deep cough.

**If you live or vacation with your dogs in an area where there are mosquitoes, you need to educate yourself about heartworm disease, which is caused by bites from infected mosquitoes.**

When Holly's heartworm test came back positive, Dodge was devastated. "I had never been through this before," she remembers. "And I thought, 'I just lost this poor dog.'"

After canvassing the Internet for as much information as she could find, Dodge started a Facebook page called Heartworm Survivor, where other owners of dogs who had gone through treatment for a heartworm infection could share their experiences and resources. Most people who post there have specific questions about heartworm treatment and potential alternatives. Most significantly, people who come to the page want reassurance that there is a light at the end of the tunnel.

Heartworm experts stress that when it comes to this disease, prevention is the best defense, because no treatment is without risk. But for those who are weighing the pros and cons of different treatment options, it is comforting to know that the choices have gotten better than they used to be.

## KNOW THE ENEMY

According to Dr. Stephen Jones of the American Heartworm Association, at least 1 million American dogs are infected with heartworm at any given time.

Heartworms are transmitted by mosquitos. When a mosquito bites and drinks the blood of a heartworm-infected animal (host species include dogs, coyotes, foxes, wolves, and ferrets), it also inadvertently consumes microscopic larvae. These larvae, called microfilariae, are little more than fertilized eggs that are produced by adult female heartworms after mating with adult male heartworms. The microfilariae circulate in the host animal's blood, but can't develop into adults in that host; they can develop further only in the digestive tract of a mosquito. It takes about two weeks of camping out in the mosquito that consumed them for the microfilariae to develop into their next life-form: infective larvae.

Once they have reached this stage, the larvae can abandon their mosquito host when it bites another animal, swimming out in the mosquito's saliva. Once they have been deposited under the skin of their new and final mammal host, they develop into their next life stages. First, they transform into larvae that burrow through the animal's muscle tissue toward the major blood vessels, a journey that takes about 45 to 60 days. Once there, the larvae develop into immature worms, and make their way through the circulatory system to the major pulmonary arteries. There they continue to mature and grow, reaching reproductive adulthood in about six to seven months.

The heartworm tests used in most veterinary practices detect hormones produced by adult female heartworms. This means it's possible for a dog whose test is "negative" to be infected; if the dog was infected with larvae less than seven months prior to the test, his heartworms won't be mature enough to produce the

adult female hormones that the test is designed to detect. It's also possible (though not common) for a dog to be infected with only male worms, who won't, of course, produce those female hormones that the test looks for.

"There are probably more false negatives than we realize," says Dr. Jones, noting that some dogs carry antibodies to the antigen used in the heartworm test: Though these dogs may indeed be infected, their results will come back as clear. "There are ongoing studies now looking at shelter pets who have negative tests," he says, "and they are finding a large percent of those samples are actually positive."

Geography has always been a key indicator in heartworm prevalence: Those parts of the country where mild temperatures mean an extended, if not perpetual, mosquito season, such as the Gulf Coast, the South, and Hawaii, have long had endemic heartworm problems.

But increasingly, says Dr. Jones – who practices in Moncks Corner, South Carolina, itself a high-risk state for heartworm infestation – the disease has pushed out from those historic boundaries.

"Follow the Mississippi River up through Ohio, go to a big city like Chicago and other parts of the country that you might think would be too cold, and there are practices there seeing 100 cases of heartworm a year," he says. And in locales where the disease is endemic, increased exposure raises the worm load that a dog might be carrying.

In addition to climate, sociodemographics can play a role in the spread of heartworm: Communities whose residents cannot afford monthly heartworm prevention often have reservoirs of infected dogs. Since wild canids can harbor the disease, growing populations in increasing proximity to human residences – in particular, the coyote boom – mean greater risk, too.

## ARSENIC, HOLD THE LACE

Arsenic, that old favorite of surreptitious murderers in mystery novels, is the treatment of choice for heartworms, too. Today, veterinary medicine uses an analog of the notoriously poisonous metalloid: melarsomine dihydrochloride, sold under the brand name Immiticide, which was introduced to the market in 1995.

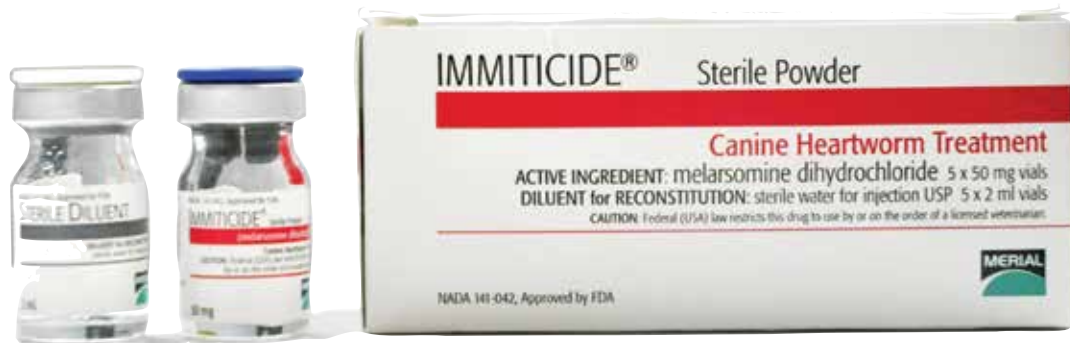
Compared to Caparsolate, the only other drug that has ever been approved to kill adult heartworms, Immiticide is a vast improvement. The use of Caparsolate gave rise to the sentiment that the cure for heartworm was arguably as bad as the disease itself; side effects were common and dramatic, and the drug wasn't even that effective – it killed all the adult heartworms in less than half of the dogs treated with it.

In contrast, when used as directed, Immiticide kills 98 percent of the heartworms present, and is metabolized very quickly. "The dose administered doesn't take long to get out of the body, and it doesn't pose great risk to liver and kidney function," Dr. Jones says. The injection needs to be administered deep in the muscle, and can cause soreness, pain and, sometimes, permanent lumps or abscesses at the injection site.

Typically, for a dog with "severe" disease (referred to as a "Stage 3 infection,") veterinarians administer one injection of Immiticide, and send the dog home for a month, during which the owner is instructed to severely curtail the dog's movements (more about that in a moment). Thirty days after that first dose, another injection is given, usually followed a day later by a third and final injection. Ninety-eight percent of dogs treated in this way (regardless of the state of disease) will be cleared of heartworms.

If the dog has Stage 1 or 2 disease (a mild to moderate infection), the vet may administer a second injection 24 hours

**Today, Immiticide is the only approved drug that kills adult heartworms. It does not kill heartworm larvae that are in the process of developing into adults, so routine heartworm preventives must continue to be administered to your dog to prevent reinfection.**



after the first one. About 90 percent of dogs with Stage 1 or 2 infections will be cleared of adult heartworms by this protocol. A third injection would be indicated if the dog still tests positive four months after treatment. Because of the higher efficacy rate of the three-injection protocol recommended for Stage 3 dogs, many vets use the same protocol for even Stage 1 and 2 dogs.

Some (not all) veterinarians require overnight hospitalization after each injection so the dog can be monitored for adverse effects, especially if the test results indicated that the dog had a heavy worm burden (as indicated by high heartworm antigen levels).

The biggest problem with conventional heartworm treatment is its aftermath: The treatment kills the adult worms – and suddenly, the dog has a bunch of dead and decaying worms in his major blood vessels and lungs. It takes a bit of work for the body to clear out the dead worm corpses, which are protected by a tough cuticle surface. “When you kill a worm, it becomes a limp spaghetti noodle,” Dr. Jones explains. “It crumples into the artery, much like a spaghetti noodle in the sink drain. As the worms decompose, they can trigger blood clots, which can cause more blockage.”

During this time, dogs must be kept as quiet as possible and inactive, ideally in a crate or small pen. Most vets recommend that the dog be taken out to potty only on a leash, and then returned to a crate.

Roughhousing with other dogs, or even a quick romp back into the house after pottyng, can raise the heart rate and increase the risk of embolisms.

All dogs should be maintained on heartworm preventive medications throughout and following treatment, and tested four to six months after treatment, to ensure the infection has been completely cleared.

## DAMAGE DONE

The danger is greater for dogs who have particularly severe heartworm infections (many adult worms) or whose circulatory and respiratory systems have been damaged by a long-term infection. Some of the effects that can result from a severe heartworm infection include:

- All sorts of vascular disease: thickened or damaged pulmonary blood vessels; thrombosis (clotting), nodules on the inside of the blood vessels (granulomas caused by a chemical reaction to the attachment of the worms), inflamed blood vessels.
- Reduced cardiac output with resulting hypertension (high blood pressure), which can lead to heart enlargement and heart failure.
- Fluid accumulation in peritoneal cavity and lungs, cough, shortness of breath, exercise intolerance.

- Caval syndrome – typically associated with large numbers of adult heartworms in the pulmonary arteries, causing pallor, tachycardia, sudden collapse, as well as hemolytic anemia (red blood cells are destroyed and removed from the bloodstream before their normal lifespan is over), hemoglobinemia (excessive amounts of hemoglobin in the blood plasma), and hemoglobinuria (when unusually high concentrations of hemoglobin are found in the urine).

To visualize the damage that heartworms do, Dr. Jones has necropsied more than three dozen dogs who had been successfully treated for heartworm, and all, he said, had noticeable damage in the pulmonary arteries as a result of the infection. “I still found dead pieces of mummified worms, thickening of the arteries caused by nothing other than heartworm,” he says. “I’ve never found a dog that didn’t have long-term disease, scarred lung lobes, vascular disease, or lung tissue damage. The scar tissue doesn’t go away.”

Dr. Jones notes that a dog’s body can do a tremendous amount to compensate for lost lung function. A heartworm-positive dog may appear clinically normal, perhaps only getting winded a bit early after intense physical exertion. “It’s really hard to clinically judge the real function of lungs and arteries in a dog who appears normal,” he says.

## MITIGATING TREATMENTS

Depending on the condition of the dog and the stage of his disease, stabilizing treatments may need to be administered before or concurrently with treatment for the heartworm infection. A dog with serious damage to his circulatory and respiratory systems may require therapy with corticosteroids (to reduce inflammation), diuretics (to reduce the excessive fluid in his lungs or peritoneal cavity and reduce that burden on his circulatory system), vasodilators (to improve blood flow), and/or positive inotropic agents

**For many owners, keeping their dogs quiet for two months is the most difficult part of the entire treatment experience. Help your dog fill the time with lots of training sessions (teaching low-activity behaviors such as targeting). Feed all his meals in food-stuffed toys and hidden-food puzzles, in lieu of a bowl.**



(drugs that strengthen the contractions of the heart, so it can pump more blood with fewer heartbeats).

Dead worms don't just disappear; it's the disposal of their dead bodies, in fact, that causes the major difficulties of heartworm treatment. To understand why, remember how the heart works with the lungs: The gas exchange that enables life takes place in the tiny air sacs (alveoli) in the lungs, where carbon dioxide is released into the lung for exhalation, and oxygen is taken into the blood vessels for distribution throughout the body. The heart provides the driving force for this gas exchange, driving oxygen-rich blood from the alveoli out to the body, as well as driving the "used" blood, now full of carbon dioxide and other waste products from the various tissues of the body, back to the lungs for disposal.

As the heartworms die and lose their attachment to the interior of the dog's heart, lungs, and pulmonary arteries, and as their bodies are released into the bloodstream, the decaying fragments are deposited into the alveoli, where they can plug up the bronchioles and cause tissue death in the lungs. This, in turn, can cause fluid accumulation (as the lungs are overburdened by this new task), coughing, gagging (to the point of causing vomiting), and bacterial infections.

Dogs should be closely monitored and supported through this process. They may feel so weak that they refuse food and water; if they don't drink (especially if they develop a bacterial infection and resulting fever), they can become dehydrated, which can complicate their recovery further. Sometimes supportive fluids (IV or subcutaneous), antibiotics, and/or corticosteroids may be needed to address these secondary symptoms.

In recent years, it's become more common for veterinarians to pre-treat their heartworm patients (especially those dogs with Stage 3 infections) with doxycycline – sometimes, for as long as a month before the conventional Immiticide treatment. This pre-treatment reduces the occurrence of bacterial infections and adverse secondary symptoms once the Immiticide is administered.

## KILLING THEM SOFTLY

Jennifer Dodge says one of the most often asked questions on the Heartworm Survivor Facebook page is whether to consider the so-called "slow kill" method for heartworm infection. In this ap-

## ALTERNATIVE APPROACH

The position of the American Heartworm Association is crystal clear: The group believes that a fast-kill approach using Immiticide is the only medically responsible action for treating the parasite.

Uncomfortable with the idea of using a toxic drug to kill off the heartworms – even the heartworm preventative ivermectin, used in the slow-kill approach described earlier – some owners have sought out an herbal approach to dealing with the infestation.

In 1990, Robin Sockness of Sharpsburg, Georgia, found out that the stray who had followed her home eight years before and became her heart dog, Bandit, was heartworm-positive. Sockness felt that the elderly (10-year-old) Tibetan Spaniel wasn't a prime candidate for the conventional treatment (which, at that time, was Caparsolate, which caused more side effects than Immiticide).

After consulting with a friend who was a doctor of naturopathy, Sockness gave Bandit an herbal regimen that included two species of artemesia (wormwood and mugwort) and black walnut hull, which are all considered to be antiparasitic. To support his immune system, she administered the antioxidant Coq10, as well as an herbal combination called HSII that contains hawthorn berries, capsicum, and garlic to help boost circulation and cleanse the body. Finally, she gave yucca, an anti-inflammatory, as needed to help control his cough.

After a year on the protocol, Bandit was heartworm-free, Sockness says, and he lived to 17½ years old.

Sockness sells the herbs and supplements she used for Bandit's recovery on her website, [banditsbuddies.com](http://banditsbuddies.com), and says the length of time it takes for the herbs to kill off the worms varies widely. "Some dogs with severe cases tested negative in six months, and some mild cases took a year," she says. "It seems to me that it's really depends on the dog and his immune system."

Conventional veterinary practitioners are dead-set against such a regimen, citing the well-documented dangers of heartworm disease – and the not-well-studied risks of using highly toxic herbs. Even many veterinarians who consider themselves "holistic" use a conventional approach with this disease, though others are comfortable taking an alternative approach to treating a heartworm infection. As with any method of treatment, owners need to do their research and be well informed about whatever course of treatment they opt to take.

proach, instead of Immiticide, the dog receives a long-term program of ivermectin (the same drug used as a heartworm preventive drug) and daily doxycycline (an antibiotic).

The ivermectin kills any larvae that have been deposited by mosquitoes (preventing the development of any more adult worms) as well as the microfilariae that the adult worms are producing (which interrupts the reproduction cycle and reduces the chance that the dog will be a reservoir to infect other dogs).

The doxycycline accomplishes two things: First, it kills *Wolbachia*, a symbiotic rickettsial organism living

inside the heartworms (yes, parasitic heartworms have their own parasites!), and the death of the *Wolbachia* seems to weaken the weakest heartworms. The doxycycline also renders the adult female worms unable to reproduce. Eventually, the worms die, but it is a process that can take 18 to 24 months.

Proponents of the slow-kill protocol say that it's kinder on the body, allowing the worms to die gradually so they don't burden the dog's lungs by dying (and decaying) all at once. A 2008 study published in *Veterinary Parasitology* showed that after nine months, dogs treated with ivermectin and doxycycline showed a 79

**Using plain old Heartgard (which contains only ivermectin) rather than Heartgard Plus (which contains ivermectin as well as other agents that kill intestinal parasites) can decrease the amount of toxins used in an ivermectin-intensive, slow-kill approach, without reducing the effectiveness of the protocol against heartworms.**

percent reduction in worms (compared to 100 percent for those treated with Immiticide alone).

Still, many veterinarians, as well as the American Heartworm Association, caution against the approach. “It’s not the first line of treatment for heartworm disease,” says Herb Maisenbacher, VMD, of Veterinary Heart Care in Virginia Beach, Virginia. “Yes, it doesn’t sound good to inject a dog with arsenic, but in most cases the actual outcomes of conventional treatment are usually quite good, with fairly mild and manageable side effects. It really is the only way to kill adult worms in a reasonable amount of time.”

As its name suggests, the slow-kill method can take a year or two to totally eliminate all heartworms, as opposed to a few weeks or at the most months with Immiticide. And that’s precisely the problem, Dr. Maisenbacher says: “In that time, the worms are still there, still causing damage.” Also, some dogs experience serious stomach upset from doxycycline – severe enough to refuse to eat. And production shortages of the formerly inexpensive and abundant antibiotic have resulted in uncertain supplies and radically increased prices.

Dr. Maisenbacher says there are some cases where the slow-kill approach might be valid – for example, the dog is too sick to tolerate the arsenic-based drug, or the owners are unwilling or unable to pay for the conventional treatment, or restrict the dog’s activity. But it’s not his preference, by far; he’s had cases in his practice where dogs who were on the slow-kill method developed worsening heartworm disease in the interim.

Betsy Harrison of Wimberley, Texas, a former veterinarian who decided to pursue a career as a homeopath, did treat some dogs with the “slow kill” method when she was practicing. She points out that the ivermectin stops new worms from infecting the dog, and “eventually the adults that are there will die of their own accord, and they’ll only die one or two at a time,” mitigating the risks of a massive die-off. As for concerns about



permitting heartworms to continue to live in the dog while the long-term kill off takes place, she turns the table to ask: “How much damage is the arsenic doing?” (The counter to this argument is that the Immiticide is cleared rapidly from the body, whereas it could take years for heartworms to die.)

Unlike some holistic-minded practitioners, Harrison does not have a problem with the judicious use of ivermectin, though she notes that care must be taken with those breeds, in particular collies and sheepdogs, that have a genetic sensitivity to the drug. “I don’t think it’s all that toxic,” she says. (Some veterinarians have an altogether different concern about using ivermectin to treat heartworm, arguing that it will lead to resistance to the drug over time.)

Harrison adds that constitutional treatment, to restore and bolster the vital force of the dog, would be the homeopathic approach. “From the homeopathic perspective, the issue is always the health of the overall system,” she explains, adding that a good, biologically appropriate diet is an important starting point. “Worms are kind of like a bacterial infection; they are a reflection of the animal’s state of health more than a disease in and of themselves.”

## **SURGICAL INTERVENTION**

In some advanced cases, surgery can be performed to remove the heartworms while they are still alive, eliminating the need for the body to clear out the debris from heartworm die-off.

In the procedure, similar in approach to an angioplasty in humans, the veterinary surgeon makes an incision over the jugular vein, then uses special grasping forceps to inch her way to the pulmonary arteries, where the worms are extracted.

“You don’t damage the lungs themselves – you stay within the blood vessels,” explains Dr. Maisenbacher, who performed the surgery many times dur-

ing his previous tenure at the College of Veterinary Medicine at the University of Florida in Gainesville. “The benefit is that the body doesn’t have to clean the worms out after they die off. But the downside is that it requires general anesthesia, which is much higher risk,” especially for dogs whose bodies have been compromised by a heavy worm load.

Because the surgery is highly specialized, requiring advanced imaging equipment and extensive post-operative care, veterinarians who perform it will likely be located at veterinary schools and large specialty hospitals. And the price tag is steep, potentially \$2,000 to \$3,000.

In the most advanced heartworm cases, the large number of worms in the pulmonary arteries reduces blood flow, and the dog may cough, be lethargic, and even faint and collapse. Inside the lungs, the worms begin to fall back through the vena cava into the right chamber of the heart, giving this severest form of the disease its name: cava syndrome.

In these cases, worm die-off in the heart cavity is not an option; the worms must be surgically removed before they compromise cardiac function. Though this surgery is slightly less complicated than removing worms from the pulmonary arteries (the veterinarian goes directly into the right atrium of the heart), the prognosis is worse. “In dogs with cava syndrome, the liver, kidneys, and lungs are all compromised, and anesthesia alone can destabilize them,” Dr. Maisenbacher says. “In those cases, the survival rate is 50 percent – not good.”

## **NOT-SO-ACTIVE DUTY**

Pat Collins of Lapeer, Michigan, had two of her English Cocker Spaniels come up positive for heartworm last year after they spent time in Louisiana: 2-year-old Isaac and 3-year-old Jackie.

Collins opted to use the conventional Immiticide treatment, and her anxiety about the treatment centered around the injection itself. “That scared me,” she admits. “Jackie is very soft, and it scared me that she wouldn’t be able to handle the deep muscle injection next to the spine.”

Like any drug, Immiticide can cause allergic reactions, says Wendy Mandese, DVM, a clinical assistant professor at the University of Florida College of Veterinary Medicine. “And like with any caustic substance, sometimes there’s administration error, like the injection being given too close to the surface of

the skin.” Experienced veterinarians scrub the skin surface thoroughly, give the needle a half-turn before removing it to avoid tracking the drug up through the injection site, and hold their finger over the hole, creating pressure so the drug doesn’t travel upward through the needle track.

Collins’ fears turned out to be unfounded: Both dogs returned from the vet’s office with a few days’ worth of pain meds and no major side effects, basically sailing through the medical process.

Keeping her two dogs confined for two months was “extremely difficult for both them and me,” Collins says – in particular for the very active Isaac. While she took both dogs on frequent leash walks, “it was very hard to keep him from running and jumping up on furniture. I let him play with his toys a little bit, but I didn’t want him to get wound up and start panting.”

“We don’t want that heart pumping and blood flowing at a high rate while the worms are dead or dying,” Dr. Mandese explains. “Walking around the house and short, on-leash walks are okay. But you don’t want the dog tearing around.”

Creativity counts in situations such as these, and mental exertion is a must. Owners can use this time to fine-tune training and teach targeting, tricks, or other desired behaviors ... anything that the dog can master, provided the training process doesn’t get him too excited. That old standby, the Kong stuffed with peanut butter, then frozen, can help wile away a few hours. So can puzzle-style toys, like the Buster Cube.

“We have on occasion prescribed sedation, just to take the edge off,” says Dr. Mandese, who has used Acepromazine and even Xanax to send a tough customer off to a dreamier place. Diffusing calming essential oils such as lavender, or pheromone-release products such as the D.A.P. diffuser, may also help.

### FIND YOUR BALANCE

As with all things in life, balance is important. Jogging with a dog undergoing treatment would be clearly dangerous and irresponsible, but, Sockness says, it’s important to remember that “emotionally you can’t shut down a dog, either, because that’s part of their immune system.” While a

dog’s activity needs to be curtailed, “let them enjoy a lifestyle.”

She also cautions against taking a sky-is-falling approach. “If your dog tests positive for heartworm, don’t call 911 and freak out,” she says. “You have options. Heartworm is not a death sentence.”

Dodge – who says the day the results came back proclaiming her dog Holly to be heartworm negative was “the best day of my life” – also recommends taking the long view. “It is not the end of your dog’s life!” she echoes. “Search for facts, especially from your vet, and follow the instructions. Stay calm – if you are scared and nervous, the dogs sense it.”

No matter what your treatment approach you take, tender loving care is compatible with all of them. “Baby your baby, spoil him!” she urges. “Do anything to get both of your minds off what you and your dog are going through.” And, of course, the best cure for what ails them – and you? “Lots of kisses.” 🐾

*Denise Flaim of Revodana Ridgebacks in Long Island, New York, shares her home with three Ridgebacks, 10-year-old triplets, and a very patient husband.*



# DOG DAYS— All Year Long!

For a dog lover, this is the perfect calendar! Not only will you meet a dozen of the most winsome, lively calendar canines we could find, but also, each month you’ll get timely, pertinent guidance for keeping your own dog healthy and happy throughout the year. Each month is introduced with tips for everything from heartworm prevention to the importance of proper ID for your dog.

WDJ’s 2015 Calendar is generously sized to make it easy for you to fill in birthdays, anniversaries, vet appointments, and all the dates you need to remember.

## THE WHOLE DOG JOURNAL 2015 CALENDAR

YES, rush me \_\_\_\_ copies of the 2015 Whole Dog Journal Calendar for just \$9.95 each plus \$2.00 for order handling.

Check enclosed (payable to WDJ) Charge to:  AMEX  Visa  MC

Account No. \_\_\_\_\_ Exp Date \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Mail to: Whole Dog Journal, PO Box 221004, Beachwood, OH 44122-1004

**Get your 2015  
Whole Dog Journal  
calendars NOW!**

Order on-line at:  
[whole-dog-journal.com/calendar](http://whole-dog-journal.com/calendar)

Or complete the coupon to the  
right, or call (800) 571-1555.

# Home Care to Save Teeth

*Her service dog was at risk of losing 17 teeth. She went to work, and saved all but one.*

BY DEBI DAVIS

**C**ooper, my service-dog-in-training, trotted briskly at the side of my power wheelchair as we headed to the veterinary clinic, a mile from home. He was overdue for a routine dental cleaning, and my regular veterinary clinic was not within rolling distance. I decided to take a chance on a new vet, since it was just a standard dental cleaning. I dropped him off and rolled back home, relieved that I was finally able to afford the procedure.

Later that morning, my cell phone rang. The new veterinarian called to let me know that Cooper, a 7-year-old Papillon-mix, had advanced periodontal disease, and needed 11 teeth extracted. Already numb with shock, I shuddered with disbelief when she added that six *more* teeth were starting to get loose, and would need extracting within six months.

Seventeen teeth? It was a death-knoll of hope for a service dog career, since his primary job would be retrieving items for me. With 17 missing teeth, his career was ending just as it was starting.

How could I have not realized his mouth was in such poor condition? His

breath smelled rank, but I thought it was just mild gingivitis. I'd noticed some redness and swelling of his gums, and a small line of tan plaque at the gum line. I had been certain that it was nothing that a professional cleaning wouldn't take care of. I *had* noticed he was no longer interested in playing with his soft toys, and that he was shunned dental chews, but I thought it was just because his gums were sore. The damage, however, had been happening beneath the gum line, where I couldn't see.

## HOW DID WE GET THERE?

I'd let his mouth go without a professional cleaning for a couple of years, because Cooper was the youngest and healthiest of my four dogs. I had three retired elder service dogs living with congestive heart failure, each of whom required expensive medications and



**Cooper's teeth just before his first veterinary cleaning. They didn't look so bad, right? Not great, but not horrible, either. And yet, the plaque under the gum line, where it can't be seen, had caused serious damage.**



**Author and retired service dog trainer Debi Davis had both legs amputated due to vascular disease, and requires a wheelchair for mobility. Her service dogs are a huge help to her – but the potential of her newest dog in training was recently in jeopardy due to problem with his teeth.**

blood work, which had depleted my bank account. My focus was on helping the elder dogs through the last years of their lives. They still were able to do retrievals for me at home.

My time with Cooper was spent training for public access, helping him to be stress-free and comfortable in every possible environment. Cooper enjoyed every training outing, and was quiet, biddable, and reliable in stimulus-rich environments. I'd planned to start his task-training once the elder dogs' lives had ended.

I was finally able to schedule Cooper's dental cleaning after the last of my elder service dogs had passed away. I had also started work on Cooper's task-training. His personality and calm demeanor convinced me he'd be a fine service dog for me.

But my hopes crumbled like a stale cookie as the vet delivered the heart-breaking news that Cooper had advanced periodontal disease. I'd let my dog down in the worst possible way. And that \$150 routine dental cleaning was now estimated at \$1,200, with a recommended followup dental in six months estimated at another \$1,000.

Like many people who'd struggled to



care for multiple dogs in today's tough economic times, I could see no way to stretch my budget any thinner. I told the vet that I could not afford the extractions at that time, and to just do the cleaning, root planing, and polishing. She replied the teeth were not abscessed, just loose from bone loss, and that some teeth would probably fall out on their own in a few months' time. She agreed that Cooper could likely go six more months without being in tremendous pain, but would need to be put on a soft diet.

## SECOND OPINIONS

I had no idea what to do, so I called on a personal friend, a veterinarian in the process of retiring and closing her practice in another state. I explained my dilemma, and she told me to take a deep breath; she would help get me started on trying to save as many of Cooper's teeth as possible.

My friend explained that she had saved many dogs' teeth that other veterinarians had given up on, and that diligent mechanical care in brushing, combined with oral antibiotics, could do wonders, as long as there was enough bone left to hold the teeth in. She said that while the soft alveolar bone that held the teeth in the mouth would not grow back, she'd often seen enough fibrous scar tissue form to hold the teeth in place.

My friend further explained that it would require a twice-daily commitment to a strict home care regimen, but she felt that many, if not most, of the teeth could be saved with dedicated effort on my part.

My relief was palpable. I was willing to devote whatever it took to keep as many teeth as possible in Cooper's mouth.

My veterinarian friend had already explained that an oral antibiotic was critical in helping save the teeth and stop the progression of periodontal disease. The antibiotics would work to keep the infection from restarting down deep in the pockets where the bone had been eaten away, and where a toothbrush could not reach. She also advised giving the antibiotics as "pulse therapy" – in which the antibiotics are given for a week to 10 days, then stopped for three weeks, and this on-and-off again regimen is repeated.

Armed with all this information, and filled with resolve, I contacted the young veterinarian who did Cooper's

dental cleaning. She was not familiar with antibiotic "pulse therapy," and was skeptical about it. She said she normally only used antibiotics when teeth were extracted, but she finally agreed to prescribe Clindamycin, an oral antibiotic routinely used to treat soft tissue, dental, and bone infections, on my veterinarian friend's recommendation.

## MORE RESEARCH

To help me feel comfortable that I was doing the right thing, I began researching canine periodontal disease. I read every website published by board certified veterinary dentists. I studied canine dentition, and learned a whole new vocabulary. Unfortunately, the veterinarian who had performed Cooper's cleaning did not have dental x-ray equipment, so I could not see the extent of the bone loss. I could only go by the chart she had provided that identified each of Cooper's loose teeth. Researching online helped me to see what I was up against.

One expert had a standout website: Dr. Jan Bellows, a board-certified veterinary dentist practicing in Weston, Florida. His website ([dentalvet.com](http://dentalvet.com)) offered the most detailed information about canine dentistry and home care, with photos, illustrations, and x-rays. One page in particular ([dentalvet.com/patients/procare/12steps.htm](http://dentalvet.com/patients/procare/12steps.htm)) provided step-by-step instructions on how to perform the most effective home oral healthcare for pets.

I emailed Dr. Bellows, and he gave me permission to reprint anything on his website, explaining that he felt strongly that home healthcare was a key to a healthy mouth, and the more people who understood how to do thorough oral home care, the happier he'd be. He offered to answer any questions I might have on the information shared on his website. It was clear that he cared about *all* dogs, not just his own clients' dogs, and he encouraged me to share the information.

Dr. Bellows' clients are not just sent home with a pet toothbrush, toothpaste, and rinse after a dental

procedure; instead, each client is given a hands-on lesson on proper brushing techniques with her dog, and how to treat problem areas. The client practices the brushing techniques under supervision before they are sent home with their dog.

Dr. Bellows mirrored much of the advice my friend had given me, and was also an advocate for antibiotic pulse therapy to combat periodontal disease. I was on my way! Maybe I could save most of Cooper's teeth. Maybe I couldn't. But I was committed to the challenge, and I would give it my all.

## GETTING TO WORK

Twice a day, I brushed, irrigated, and rinsed Cooper's teeth. I thought about how I might be able to get down into the pockets between the teeth, where the infection had destroyed the bone. I had used interdental (also called interproximal) brushes on my own teeth, to get into tight spaces to clean between them and under bridgework. Interdental brushes are very narrow spiral bristle brushes, available in several shapes and sizes. I picked up a package of every size, to help get that antibacterial enzymatic rinse down into those hidden infected areas where bacteria multiplies and thrives. Normal dog toothbrushes cannot reach down that deep under the gum line.

Dr. Bellows' website explained that the most critical areas are the upper back teeth on the outside surface, and to concentrate on keeping these areas especially clean.

I read that, "Proper technique in-



This is one type of interproximal brush that Davis used to clean between her dog's teeth, and to enable the antibacterial rinse to reach every surface possible under Cooper's gums.



**Left:** Davis uses an interdental brush between Cooper's teeth, as well as in any exposed furcations (gaps under the teeth, between the tooth roots).

**Right:** These x-rays, taken recently, reveal that Cooper still has some pockets between his teeth and furcations under his teeth. But these gaps are starting to fill in with scar tissue – which doesn't look as white as the alveolar bone does on the x-rays. But Davis can tell it's there; she says she

used to be able to use brushes that are four sizes larger than the only ones that she can fit into those gaps to clean them.

volves applying the bristles at a 45-degree angle to the gingiva (gums). Use small circular motions around the outside of the teeth, being sure to get the bristles under the gum line. It is not as important to brush the inside of the teeth, as dogs do not have the buildup of tartar on the palatal or lingual (tongue) side of their teeth as people do."

Cooper's lower teeth were also a problem, with furcations already visible without probing. A furcation is the area between multi-rooted teeth where the bone has already dissolved, leaving a hollow area between the roots. This becomes an ideal environment for bacteria to thrive and quickly multiply, which rapidly destroys the bone.

Once the dental cleaning was completed, and Cooper's gums were given a few days to heal, I was able to use the interdental brushes to keep these areas clean, allowing the scar tissue to help fill in the hollow areas where the bone had been destroyed.

The furcations and pockets between the teeth where bacteria multiply can be easily seen on the x-ray of a few of Cooper's teeth. The dark areas show the bone loss. I've added a line where the bone should be, showing just how much bone loss is already present.

## KIT AND CABOODLE

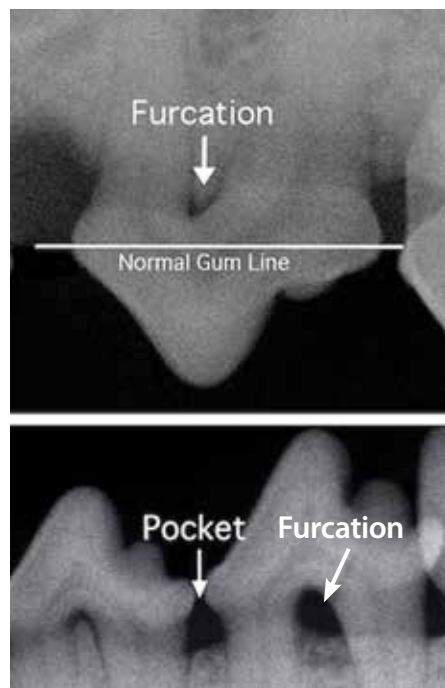
My home-care dental kit includes a long-shanked double-ended toothbrush made for dogs. The long shank helps reach the



**The tools in Davis' do-it-yourself dog dental care kit.**

back teeth easier. I use the wide bristled end for all the teeth except the front incisors. I use the narrow end for cleaning the upper and lower incisors (front teeth).

Cooper likes the taste of poultry- and meat-flavored enzymatic canine toothpastes. Human toothpaste should not be used on dogs, as it contains foaming agents that cause upset stomachs, vomiting, and diarrhea. Human toothpaste is meant to be spit out and the mouth rinsed with water afterwards. Toothpaste made for dogs is made for swallowing. There are many brands available at veterinary offices and pet supply stores.



Saliva is slick, and using fingers to pull back the lips can be difficult. A gauze pad, a small piece of terrycloth or a dental mirror can be used to make it easier to hold the lips away from the teeth so the brush can reach all the way back to the carnassials - the back molars.

I also have a three-sided toothbrush, meant to clean both the inside and outside of the teeth at the same time. It's a U-shaped brush with bristles on the sides and bottom. I use this only once a week, knowing the tongue does a good job keeping the inside areas of the teeth clean.

An antibacterial enzyme rinse made for dogs is also an important part of my dental kit. I pour a bit of the rinse in a small bowl, and dip the toothbrush and interdental brushes into it, once I have finished cleaning the teeth with the toothpaste. I also use a small piece of terrycloth dipped in the rinse to wipe and polish the teeth at the end of the dental routine. Cooper likes the taste of this, and gets to lick the bottom of the bowl as a treat when we're finished.

Finally, I keep a small bottle of 3 percent hydrogen peroxide in my kit to soak the brushes for a few minutes after each cleaning, as advocated by microbiologist Dr. Philip Terno, who also advises this for human toothbrushes.

In the beginning, I spent about 15 minutes twice a day working on Cooper's teeth and gums. Now it takes about five minutes per session, as the scar tissue is filling in, and I don't have to use as many

Cooper's teeth six months after his first veterinary dental cleaning – and six months of assiduous home care, including brushing, interdental cleaning, and the use of antibacterial rinses. Sixteen of the 17 teeth that were loose six months ago are now held in place firmly enough to enable Cooper to retrieve items in his service dog capacity! He can also eat hard food again without pain.

different sizes of interdental brushes, only the thinnest one. I'm also building up more skill and facility at doing a thorough job in a shorter amount of time.

## SUCCESS!

Cooper had a second dental cleaning done six months later by my regular veterinarian, Dr. Bullard, who owns the dental clinic where I normally have my dogs treated. He took a full set of x-rays to give me a "roadmap" of the problem areas. With these x-rays, I can easily see where I need to concentrate my cleaning efforts, and it will also be used to compare the x-rays that will be taken on the next visit, five months from now.

Dr. Ballard called me during the cleaning, and said there was only one tooth (a lower front incisor) that needed to be removed, as about 70 percent of the bone had been lost and the scar tissue was not holding it in firmly. He said the rest of Cooper's teeth were stabilizing fine, and he found no tartar or calculus anywhere. He praised my home-care regimen, and told me I'd done a spectacular job, and that he'd never seen a cleaner set of teeth.

He removed the one very loose incisor, but said everything else looked very good, and he thought most of the teeth could now be saved, as long as I kept up my twice-daily regimen. I beamed with joy, not expecting to hear such great news. Home care was working!

Today, Cooper is again able to eat harder food without pain, and is carrying around soft toys, shaking and playing with them. I have not begun to have him attempt to hold harder objects yet, as I want to give the scar tissue a chance to continue filling in the areas of bone loss, for more comfort and stability.

I won't be able to have him do any tugging using his front teeth, because even though they are stabilizing, there is not enough bone for the front upper and lower incisors to safely be used. Instead, I will train him to tug sideways, from behind the canine teeth on the premolars



and molars. He'll be able to open doors and drawers outfitted with a pull rope by grasping the rope in this crosswise manner.

## DON'T LET IT HAPPEN TO YOUR DOG!

Dr. Bullard said that by the age of two, 80 percent of the dogs he sees already show signs of periodontal disease. Starting a daily tooth brushing regimen can extend the time between professional cleanings, and can prevent periodontal disease when started on puppies.

Teaching a dog to relax, and starting the brushing slowly, a few teeth at a time in short sessions, helps the dog learn to accept cleaning without stress. Behaviorist and trainer Donna Hill has a very helpful video showing how to shape a dog incrementally to accept and enjoy tooth brushing, and includes teaching the dog rest his chin in the palm of her hand. Donna's YouTube video can be seen at [tinyurl.com/donnahillteethbrushingtraining](http://tinyurl.com/donnahillteethbrushingtraining)

If your dog has not had a dental cleaning recently, and you see any signs of swelling on the gum tissue, bleeding, plaque accumulation, or foul breath, then your dog needs a professional cleaning under anesthesia before you start a brushing routine. Without a thorough scaling to remove the hardened plaque (calculus), and polishing so that new plaque finds it harder to form, brushing will be painful to the dog, and could cause the dog undue stress over a daily

procedure that should be painless and pleasant.

If you have multiple dogs, provide each dog with his or her own toothbrush, as contamination of bacteria can be spread from one dog to another.

This routine will pay off greatly in the dog's senior years, when illnesses can prevent the dog from safely undergoing anesthesia. If the teeth are kept clean, senior "trash mouth" can be avoided.

Both my retiring veterinarian friend and Dr. Bullard note that small dogs with misaligned teeth are among those at greatest risk of having periodontal disease early in life, and worsening rapidly. I now realize that, to keep a dog healthy for life, daily tooth brushing is right up there with a healthy diet, exercise, mental stimulation, problem-solving games, walks and sniffs, training, and unconditional love.

The value of daily brushing is threefold: It will save money on dental cleaning bills, extend the time between professional cleanings, and it will save teeth and gums. It's a winning trio. 🐾

*Debi Davis is a retired professional calligrapher and service-dog trainer. She is a former faculty member of Clicker Expo, and has presented at service-dog training seminars and workshops. Debi is an advocate for reward-based training, and enjoys being an informal ambassador of goodwill in the service-dog and disability communities. She currently lives in Las Vegas with her husband and service dog in training.*

# Spice It Up!

*If your dog suffers from chronic inflammation or stiffness, try adding turmeric to his diet.*

BY LISA LYLE WAGGONER, CPDT-KA, PMCT2

**M**aybe you've heard about turmeric? It's all the rage, you know. I've recently been exploring the 4,000-year-old history of human use of this plant product and what it can do for you and your dog. Though I've had turmeric sitting in my spice cabinet for longer than I can remember, it wasn't until February of last year that I found out just how beneficial this plant-based substance can be for people *and* for dogs.

My annual physical last year happened to coincide with a raging bout of tendonitis in my elbows. I could barely lift a pen, much less anything heavier. Thankfully my doctor practices integrative medicine. In discussing a variety of traditional and natural options to treat the tendonitis, she recommended that I add turmeric to my diet. "Turmeric?" I asked. She went on to explain how turmeric's anti-inflammatory properties would likely benefit my arms. She was right. In less than two weeks my tendonitis had disappeared. And those niggly aches and pains of getting older? Yep, they seemed to disappear, too.

My success with turmeric got me thinking about the journey we began in 2012 to help Cody, our then-4-year-old Australian Shepherd, with his chronic lameness. In addition to his lameness, which seemed to move from limb to limb, Cody had pretty severe skin issues, and several bouts of fever of unknown origin – all seemingly unrelated. In an attempt to get to the root of what was happening, we visited 12 veterinarians and veterinary specialists in two years. After Cody was finally diagnosed with

autoimmune disease, we began treating him with both conventional and holistic veterinary medicine.

Cody had been on a daily low dose of prednisone for several months; it had initially caused his limp to disappear, but to our dismay, it had recently returned. We were considering giving Cody an increased dosage of the steroid when the mention of turmeric by my own doctor caused me to remember that at least one of Cody's 12 vets had suggested adding turmeric to his diet.



**This organic turmeric can be purchased by the pound for about \$10.**

I keep a behavior and health journal of Cody's treatments and results, so I know the exact date: we began giving Cody a half-teaspoon of organic powered turmeric twice a day on May 5, 2014. Twelve days later, on May 17, my notes show "Cody's not limping at all today."

Today, six months later, we've been able to cut his prednisone dosage in half and Cody remains agile, active, and limp-free. Because of the other health benefits of turmeric, especially its antioxidant properties, we began adding it to our other dog's diet, too.

## HISTORY OF TURMERIC

Turmeric is derived from the root of the turmeric plant, *Curcumin longa*. It's a perennial in the ginger family, native to south Asia, and has quite a long history of medicinal use. Curcumin is the most active component of turmeric. According to *Herbal Medicine: Biomolecular and Clinical Aspects* (Taylor and Francis Group, 2011), the use of turmeric dates back nearly 4,000 years to the Vedic culture in India, where it was used as a culinary spice. "In 1280, Marco Polo described this spice, marveling at a vegetable that exhibited qualities so similar to that of saffron." It was also used as a dye. The bright color of the powder was traditionally used to color the robes of Buddhist monks.

Turmeric is a yellow-orange powder that has a slightly bitter, but also sweet taste. It's oftentimes referred to as "Indian saffron" and is an ingredient in curry powder. It is also used in manufactured food products, such as mustard, pickles, yellow cakes, ice cream, cake icing, and cereals, among other foods. I frequently use turmeric in rice dishes, sauces, and marinades.

## HUMAN HEALTH BENEFITS

Though anecdotal, my own experience with the use of turmeric certainly made me a believer in turmeric's anti-inflammatory properties. It has been used for treating a wide range of health issues because of its qualities as an antibacterial agent, anticoagulant, analgesic, anti-inflammatory, antioxidant, anticarcinogen, and neuroprotector.

According to the University of Maryland Medical Center, tumeric can be used for indigestion (dyspepsia or upset stomach), ulcerative colitis, heart disease (keeps the LDL, or "bad" cholesterol, from building up in the blood vessels), bacterial and viral infections, and uveitis (inflammation of the iris).

Researchers are looking at tumeric for both the prevention and treatment of cancer. The American Cancer Society has information about some of those studies on its website. Some studies have shown that turmeric can reduce the harmful effects of chemotherapy. Curcumin (the active ingredient in turmeric) has been shown to kill cancer cells in laboratory dishes and slows the growth of the surviving cells. A UCLA Jonsson Comprehensive Cancer Center Study by Marilene Wang, MD, and Eri Srivatsan,

PhD, showed that curcumin can be used to treat human patients with head and neck malignancies and reduce activities that promote cancer growth.

Randy J. Horwitz, PhD, MD, medical director for the Arizona Center for Integrative Medicine, and assistant professor of clinical medicine at the University of Arizona College of Medicine calls turmeric “one of the most potent natural anti-inflammatories available.”

## TURMERIC AND YOUR DOG

With all these amazing health benefits for humans, people were bound to try giving it to their dogs to see if might be equally beneficial for that species. There is abundant positive anecdotal information from pet guardians and veterinarians who give turmeric to dogs for a variety of conditions, but so far, few clinical studies on its use in canines. Those I’ve found have very small sample sizes, though one study worth noting does discuss an oral bioavailability problem – meaning that turmeric isn’t well metabolized when given orally.

According to Demian Dressler, DVM, co-author of *The Dog Cancer Survival Guide* (Maui Media, 2011) and [dogcancerblog.com](http://dogcancerblog.com), the absorption issue can be overcome by mixing turmeric with lecithin and water and making a slurry. Lecithin is very gooey. Dr. Dressler recommends mixing four parts water to one part lecithin to the turmeric; some low sodium bullion can be added to improve the flavor.

Other turmeric advocates suggest mixing the turmeric with coconut oil or olive oil. However, my husband and I don’t do anything other than mix the turmeric powder into our dogs’ food – and our dogs have definitely reaped the intended benefits.

I’m already on the turmeric bandwagon – for my own benefit as well as my dogs’. I know other pet guardians who have used it at the recommendation of their veterinarians for its anti-inflammatory properties. Todd Czarnecki, DVM and Certified

Veterinary Acupuncturist at Hanging Rock Animal Hospital in Roanoke, Virginia, says he recommends turmeric for a variety of situations, but especially for dogs who have inflammation and stiffness that worsens in cold weather, and as an aid to circulation in general. Dr. Czarnecki says these dogs respond very well to the addition of powdered turmeric to their diet. He recommends mixing the turmeric powder into a home-cooked diet. If you feed dry dog food, he suggests softening the kibble with water before mixing in the turmeric powder.

As with any other dietary supplement, it is always wise to check with your veterinarian, especially if your pet has any pre-existing conditions or receives medication daily, but if your dog suffers from an ailment that causes chronic pain or inflammation, turmeric could be beneficial. The recommended dosage for dogs is 15 to 20 mg per pound of body weight.

Our own dogs don’t mind the powder mixed into their home-cooked diet, but some people tell me their dogs dislike its taste. If that’s the case, look for turmeric in tablet form or capsules, which can easily be disguised in a bit of peanut butter or cream cheese.

With healing herbs, we always suggest looking for organic sources. My husband and I use Organic Turmeric Root Powder from Starwest Botanicals. You can find organic powdered turmeric for \$9 to \$15 per pound. Light and heat affects the potency of the powder, so be sure to keep it in a cool, dry, dark location.

## CONTRAINDICATIONS

Some studies suggest that turmeric may aggravate existing liver issues, so consult your veterinarian before giving the supplement if your dog has liver disease. Because turmeric is a binding agent – useful, in fact, for treating loose stools or diarrhea – be sure your dog always has plenty of fresh water available. We add a bit more water to our dogs’ meals to counteract any potential constipation. Turmeric is also an anti-coagulant, so it makes sense to discontinue the use before any surgery. And remember how turmeric was used to color the robes of Buddhist monks? Well, it will color nearly anything it comes into contact with, so be cautious and mix it well into your dog’s food or he will likely be sporting a bright yellow doggie moustache.

From 250 BC to 2014, this brilliant yellow spice has been helping people and animals. It certainly has spiced up the life of our guy, Cody. Seeing him once again streak across our pasture at full speed brings tears of joy to my eyes. Perhaps it’s time for you or your dog to give it a try! 🐾

*A passionate advocate for humane, science-based dog training, Lisa Lyle Waggoner is a CPDT-KA, a Pat Miller Certified Trainer Level 2, a Pat Miller Level 1 Canine Behavior & Training Academy instructor, and a dog\*tec Dog Walking Academy Instructor. The founder of Cold Nose College in Murphy, North Carolina, Lisa provides behavior consulting and training solutions to clients in the tri-state area of North Carolina, Georgia, and Tennessee. See page 24 for contact information.*

---

**The author’s dog, Cody, suffers from autoimmune disease, which causes chronic lameness that moves from limb to limb. Daily turmeric has improved his soundness and enabled a great reduction in the amount of conventional medication he needs to stay active and agile.**



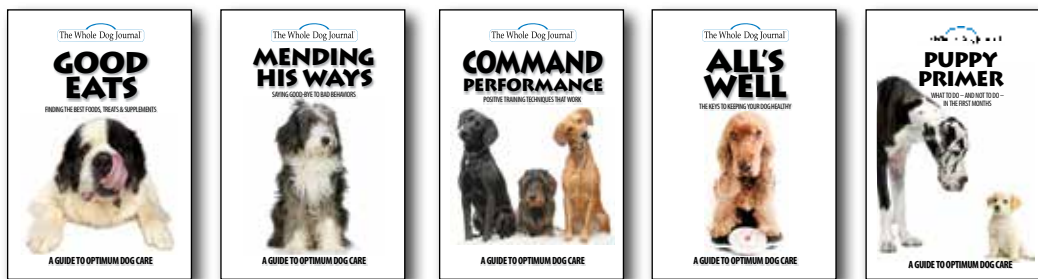
PHOTO BY BONITA ASH,  
ASHFORD STUDIO

| <b>ACTION PLAN</b>  | <b>ISSUE</b> | <b>PG</b> |
|---|--------------|-----------|
| Cue the cues: How to teach a cue                                  | Jan          | 22        |
| It's in the bag: Five common feeding mistakes                     | Feb          | 3         |
| Accidents happening: 5 things to do if a housetrained dog reverts | May          | 3         |
| No go? 5 things to do if your dog won't come to you               | Jun          | 3         |
| Inhospitable? 5 things to do if your dog snaps at a guest         | Jul          | 3         |
| Rest easy: 5 things to do if your dog needs extended cage rest    | Aug          | 3         |
| Helping the helpless: 5 things to do if you witness cruelty       | Oct          | 3         |
| When pup is a pest: 5 things to do to protect your older dogs     | Nov          | 22        |
| How much? 5 things to do to figure out how much to feed           | Dec          | 3         |
| <b>CONSUMER ALERT</b>   |              |           |
| Entitled: What are those letters after some dogs' names?          | Jan          | 18        |
| Training titles: What are the letters after a trainer's name?     | Feb          | 18        |
| Lost causes: Catching a stray dog                                 | Apr          | 16        |
| When dogs fly: Safe air travel                                    | May          | 19        |
| <b>DOGS WITH JOBS</b>   |              |           |
| Diabetic alert dog  | Feb          | 4         |
| Lending a paw: Recruiting a dog to help with physical therapy     | Jul          | 20        |
| Hearing-alert service dog   | Oct          | 11        |
| Labrador in the court: Courthouse dog                             | Nov          | 8         |
| <b>EDITORIAL</b>  | <b>ISSUE</b> | <b>PG</b> |
| Maximum benefit, least harm                                       | Jan          | 2         |
| Food Issues   | Feb          | 2         |
| Puppy shots and titer tests                                       | Mar          | 2         |
| At the gate: a new generation of dog-related issues               | Apr          | 2         |
| Tick-tock: Ticks!   | May          | 2         |
| Must love dogs  | Jun          | 2         |
| Yes power   | Jul          | 2         |
| Fact vs. opinion  | Aug          | 2         |
| Develop your dog's behavioral flexibility                         | Sep          | 2         |
| Emotional rescue  | Oct          | 2         |
| Synchronicity: News you need when you need it                     | Nov          | 2         |
| Be not afraid   | Dec          | 2         |
| <b>HEALTH</b>   |              |           |
| Spot the problem: Flea-control products                           | Jan          | 3         |
| Toss those cookies? Making your dog vomit                         | Jan          | 8         |
| Lean this way: Keeping your dog thin                              | Jan          | 14        |
| Brushing up (your dog's teeth)                                    | Feb          | 16        |
| So long! Trimming toenails  | Mar          | 3         |
| Hack job: Kennel cough  | Mar          | 10        |
| New hope for treating osteosarcoma                                | Apr          | 3         |
| Now ear this: fending off ear infections                          | Apr          | 4         |
| How eye'd do it: Administering eye medicines                      | May          | 4         |
| Lumps and bumps: A vet's view                                     | May          | 16        |
| Drowning on land: Water intoxication                              | Jun          | 4         |
| Vaccine titer tests   | Jun          | 10        |
| When to see a vet, as well as a trainer                           | Jul          | 11        |
| Canine bladder infections   | Jul          | 16        |
| Neutering without a scalpel                                       | Aug          | 3         |
| Mad dogs? A new book explores animal insanity                     | Aug          | 20        |

| The latest flap: Ear hematomas                                | Sep | 16 |
|---|-----|----|
| The healing power of dogs                                     | Oct | 4  |
| Worms in, worms out   | Oct | 7  |
| Waterworks: Washing your dog                                  | Nov | 10 |
| Heartworm treatment   | Dec | 10 |
| Home care to save teeth                                       | Dec | 16 |
| Spice it up with tumeric                                      | Dec | 20 |
| <b>LETTERS TO THE EDITOR</b>                                  |     |    |
| Spots-ons, food review, storing food, no headphones           | Apr | 22 |
| Titer tests, L-tryptophan, paddleboarding, thanks             | Oct | 22 |
| <b>NUTRITION</b>  |     |    |
| Dry dog food review   | Feb | 6  |
| Dog food logic: Book excerpt                                  | May | 12 |
| Labels 101  | Aug | 17 |
| Dehydrated and freeze-dried diets                             | Sep | 3  |
| Canned answers: Canned food review                            | Nov | 3  |
| <b>PRODUCT REVIEWS</b>  |     |    |
| Gear of the year  | Apr | 7  |
| Best carriers for small dogs                                  | May | 23 |
| Keep iCalm: Mobile music player for calming dogs              | Jun | 22 |
| <b>THE SCIENCE DOG</b>  |     |    |
| Talking turkey: Tryptophan                                    | Jul | 8  |
| Placebo power   | Sep | 13 |
| The sniff(th) sense: Can dogs detect cancer in humans?        | Oct | 14 |
| Fear itself: Recognizing signs of fear and stress             | Dec | 4  |
| <b>TRAINING, BEHAVIOR, AND MANAGEMENT</b>                     |     |    |
| Home schooled: Hiring a private trainer                       | Jan | 10 |
| Touching moments: Training your dog to accept touch           | Mar | 6  |
| Jaws too: Surviving "arousal biting"                          | Mar | 14 |
| Walk on! Finding a reliable dog walker                        | Mar | 19 |
| Polite in public  | Apr | 12 |
| Lost causes: Catching a stray dog                             | Apr | 16 |
| Bonding blues: Second thoughts about new dog?                 | Apr | 20 |
| Adopting senior dogs  | May | 8  |
| Find focus: Help your dog control his impulses                | Jun | 7  |
| Awesome adoptions   | Jun | 14 |
| Oops! I did it again! Getting past your mistakes              | Jun | 18 |
| Dock diving   | Jul | 4  |
| What's SUP? Paddleboarding with your dog                      | Aug | 7  |
| Behave! Methods for teaching new behaviors                    | Aug | 12 |
| Mad dogs? A new book explores animal insanity                 | Aug | 20 |
| "Come" have fun: Teaching recalls                             | Sep | 10 |
| On your mark: Urine-marking                                   | Sep | 20 |
| The healing power of dogs                                     | Oct | 4  |
| More dogs please? Considerations of adding a dog to your pack | Oct | 18 |
| Stressed out before birth?                                    | Nov | 14 |
| Make week one a strong one: Socialization                     | Nov | 17 |
| How to crate-train your puppy                                 | Nov | 18 |
| Teen angel? Adolescent dogs                                   | Nov | 20 |
| Right tool, right time: training vs. management               | Dec | 7  |

# Shouldn't you have the answers before the questions arise?

Take the confusion and hesitation out of your dog's care! Be fully ready for anything—and everything! Accept this risk-free invitation and discover...



- 🐾 Positive solutions to your most stubborn training challenges.
- 🐾 Smart decisions for safe, natural, and nutritious feeding.
- 🐾 Meaningful measures to strengthen good health and reinforce resistance to illness.
- 🐾 Essential fundamentals to starting your puppy off right.
- 🐾 Proven techniques to end problem behaviors.

## YOU WANT THE BEST FOR YOUR DOG!

*Five brand-new books from Whole Dog Journal will show you how to provide the vigilant care you want to give—and your dog deserves!*

Because foresight is far better than hindsight when it comes to your dog's health and training, nothing beats having a solid game plan. **Whole Dog Journal's Guides are playbooks for winning and effective dog care.** It is a series everyone who has a dog should own!

### Good Eats: Finding the Best Foods, Treats and Supplements

- Basic Food Selection • Canned Foods • Dry Foods • Weight Control • Treats
- Food Disasters • Diet and the Older Dog • Special Needs Diets • Home-Prepared Diets
- Pica and Coprophagia

### All's Well: The Keys to Keeping Your Dog Healthy

- Exercise and Injury Prevention • Selecting a Holistic Vet • Old dogs • Anesthesia
- Dental Health • Creating a Healthy Home • Vaccinations • NSAIDs • First Aid
- Preventing Heat Stroke

### Command Performance: Positive Training Techniques that Work

- Positive Training Basics • Leash Manners • Getting a Sit • Encouraging Self-Control
- The "Come" Command • Greeting • Tricks and Games • Park Behavior
- Teaching Wait and Stay

### Puppy Primer: What To Do—And Not To Do—In The First Months

- Pre-Puppy Prep • Housetraining • Crate Training • Vaccinations • Grooming
- Bite Inhibition • New Dog Do's and Don'ts • Socialization • Building Good Manners

### Mending His Ways: Saying Good-Bye To Bad Behaviors

- Dealing with Anxious Dogs • Remedial Housetraining • Crating Problems
- Destructive Chewing • Escape Artists • Reactive Behaviors • Growling • Barking
- Multi-Dog Households

**30-Day Risk-Free Examination Privileges for Whole Dog Journal Readers when you order now, your satisfaction is assured with our 100% money-back guarantee. If you are not completely satisfied, you may return your Guides within 30 days for a full and unquestioned refund.**

## A WEALTH OF INFORMATION— AT MONEY SAVING PRICES!

- 🐾 **Save \$5.00 on each Guide!**
- 🐾 **Buy 4 and get the fifth guide free!**

## Three convenient ways to order...

1. Call 1-800-571-1555
2. Online at [www.whole-dog-journal.com/dogcare](http://www.whole-dog-journal.com/dogcare)
3. Mail this coupon

## Whole Dog Journal's GUIDES TO OPTIMUM DOG CARE

### YES send me the following Guides

- Good Eats
- All's Well
- Command Performance
- Puppy Primer
- Mending His Ways

\_\_\_ Guides @ \$14.95 = \$ \_\_\_\_\_  
Add Postage & Handling \$ 2.95  
TOTAL AMOUNT \$ \_\_\_\_\_

- All 5 Guides for \$62.75  
including p&h!

Check enclosed (payable to WDJ)

Postage & Handling \$2.95

Charge to:  Amex  VISA  MC

Account No. \_\_\_\_\_ Exp Date \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Mail to: **Whole Dog Journal Books**  
**PO Box 221004, Beachwood OH 44122-2449**

**Just \$14.95 each—  
\$5 off the cover price!  
Buy 4 Guides  
and get the 5th Guide FREE!**

**BEST VALUE**

 RESOURCES 

**BOOKS AND DVDS**

- ❖ Linda P. Case, MS, is author of *The Dog: Its Behavior, Nutrition, and Health; Canine and Feline Nutrition; Canine and Feline Behavior: A Complete Guide to Understanding Our Two Best Friends*, and the very recently published *Dog Food Logic: Making Smart Decisions for Your Dog in an Age of Too Many Choices*. Her blog can be read at [thesciencedog.wordpress.com](http://thesciencedog.wordpress.com). You can find all of her books at Dogwise, (800) 776-2665; [dogwise.com](http://dogwise.com)
- ❖ WDJ Training Editor Pat Miller is author of *Positive Perspectives; Positive Perspectives 2; Power of Positive Dog Training; Play With Your Dog; Do Over Dogs: Give Your Dog a Second Chance at a First Class Life*; and her newest book, *How to Foster Dogs: From Homeless to Homeward Bound*. Available from [dogwise.com](http://dogwise.com) and [wholedogjournal.com](http://wholedogjournal.com)
- ❖ *Fabulous Focus: Focus & Attention Skills for Both Ends of the Leash*, DVD by Lisa & Brad Waggoner of Cold Nose College, who show you how to get five-star attention from your dog, who will love every minute! Available from [lawzerdog.com](http://lawzerdog.com)

**HOLISTIC VETERINARIANS**

**American Holistic Veterinary Medical Association (AHVMA)**. PO Box 630, Abingdon, MD 21009. Send a self-addressed, stamped envelope for a list of holistic veterinarians in your area, or search [ahvma.org](http://ahvma.org)

**TRAINING AND INSTRUCTION**

- ❖ **Linda P. Case**, MS, AutumnGold Consulting and Dog Training Center, Mahomet, IL. Linda Case is a canine nutritionist, science writer, and companion animal consultant who uses positive reinforcement and shaping techniques to modify behavior in dogs in basic level through advanced classes. (217) 586-4864; [autumngoldconsulting.com](http://autumngoldconsulting.com)
- ❖ **Pat Miller**, CBCC-KA, CPDT-KA, Peaceable Paws Dog and Puppy Training, Fairplay, MD. Group and private training, rally, behavior modification, workshops, intern and apprentice programs. Trainers can become "Pat Miller Certified Trainers" (PMCT) by successfully completing Pat's Level 1 (Basic Dog Training and Behavior) and both Level 2 Academies (Behavior Modification and Instructors Course). (301) 582-9420; [peaceablepaws.com](http://peaceablepaws.com)
- ❖ **Lisa Lyle Waggoner**, CPDT-KA, PMCT2, Cold Nose College, Murphy, NC. Force-free, humane training. Group classes, private in-home training, behavior consulting, nose games, agility for fun, tricks classes, and more. Also offering a variety of weekend workshops, Pat Miller's Level 1 Basic Dog Training and Behavior Academy, and dog\*tec's Professional Dog Walking Academy. Facebook: [LisaLyleWaggoner](https://www.facebook.com/LisaLyleWaggoner); Twitter @ColdNoseCollege; (828) 644-9148; [coldnosecollege.com](http://coldnosecollege.com)

**WHAT'S AHEAD ...**

- ❖ **ELIMINATED**  
*How to construct an elimination diet to help diagnose your dog's allergies or food intolerances.*
- ❖ **CRASH TESTED**  
*Seat belts that can help (not hurt) your dog in a car accident.*
- ❖ **NEED SPACE?**  
*Teach your dog to respect other dogs' and humans' personal space.*
- ❖ **BLOOD TESTS**  
*Which tests does your dog really need at his annual health exam?*
- ❖ **BEST GEAR OF THE YEAR**  
*The most useful and fun dog-care and -training products we've seen this year.*
- ❖ **HEALTHY SKIN, SHINY COAT**  
*Feeding and care tips to improve your dog's appearance – and health!*