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# The Whole



# Dog Journal™

A monthly guide to natural dog care and training

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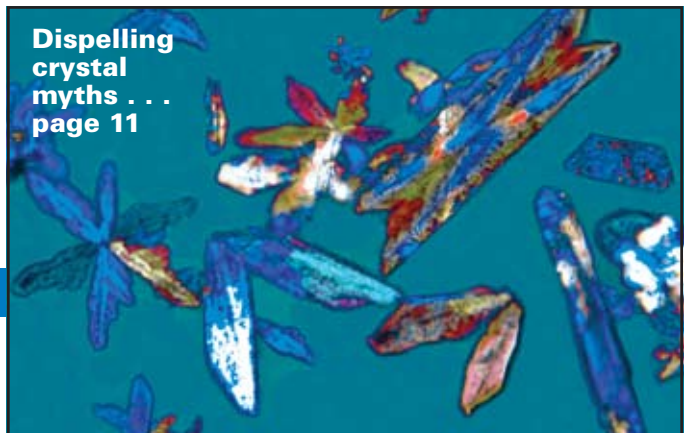


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# It Takes A Lot of Work

*But a healthy, well-behaved dog is so worth it!*

BY NANCY KERNS

A neighborhood acquaintance recently asked me for training advice regarding her year-old mixed-breed dog, whose major sins are pulling on leash and jumping on people. She sounded like she was at the end of her rope with the dog. But after about the first minute of my recommendations, she interrupted me to comment, with dismay, "Oh my, you make it sound like so much work!"

"Argh! Seriously? What I've told you *so far* sounds like a lot of work?" I felt like shouting!

I didn't say that, or shout, of course. I kept a smile on my face and, making a mental note to simplify my future advice, invited her to bring the dog over later in the day. I said I'd give her a training tool that would help with the pulling – either a front-clip harness or head halter – and show her how to fit and use it. And I left it at that.

For the rest of the morning, I stewed a bit about why so many dog owners (my neighbor is far from the first I've known) seem to think that training a dog should be fast and easy. Think about it: We expect an animal of a very different species from our own to live in our society (indeed, our homes) and follow all of our behavioral rules – and usually, without the benefit of a formal school education! We don't even expect our own species to be civilized until about age 30!

Actually, now that I think about it, that sorts of works out, if you use the "seven dog years for each of ours" formula; that would mean a dog could be considered a responsible adult when he's a bit more than four years old.

Ah well, there is simply no point in stewing. I plotted my next visit with my neighbor and her dog to make a maximum impression on them both. Seeing is believing.

Long story short, our next visit/harness fitting/training session went well, and my neighbor was impressed. With very little

talking, and very fast and strategically served tidbits of hot dog, I was able to get the dog to sit attentively while I adjusted a front-clip harness to fit him. My neighbor couldn't believe how calm and well-behaved her dog was for the process – and her disbelief seemed to increase her interest in learning how she could make him behave that way.

She was also *shocked* the first time the dog lunged for something and, with the front-clip harness, she was *easily* able to stop his lunge and turn his shoulders back toward her. Now she was grateful, as well as interested. It made me feel much more hopeful about the dog's prospects in her home.

Dog training isn't magic. While you can teach most dogs to perform some behaviors quickly, and it takes a certain amount of time to produce a reasonably well-behaved dog – and a *serious* commitment of time to develop a *reliably* well-behaved dog. But very few novice dog owners seem to be aware of that concept when they bring their adorable puppies home.

This is one of the reasons I appreciate WDJ's readers *so* much. Owners who care enough about their dogs enough to take the time to actually read and think about training and healthcare and nutrition – do you know how rare you are? I applaud your commitment to your dogs!

For my part, I'll try to remember not to make it sound like so much work to take care of and guide your dog into developing into a *great* companion. My team of dedicated writers and I share a passion for our work; maybe we can get carried away in our excitement to

share what we've learned about collaborating with our own dogs. Let me know if there is anything we can do to make this information more accessible to you and your dogs.



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# Wait for a Good Thing

*Five things to do when your dog gets overexcited before a walk.*

BY PAT MILLER

**Y**ou contemplate taking your dog for a walk with mixed emotions. You love the *idea* of going for a companionable stroll through the neighborhood together, but it's a major hassle to get out the door. When you pick up his leash he becomes the Tasmanian Devil – body slamming you, racing around the foyer, and bouncing off the plate glass door with such intensity you're afraid he'll crash right through it. Here are five suggestions for turning this potential disaster into the enjoyable outing you dream of.

**1 Exercise first.** Spend 15-20 minutes tossing a ball for your dog in the backyard, playing "Run upstairs to get a treat from the Manners Minder," or providing intense mental exercise with a heavy duty shaping session (see "The Shape of Things to Come," WDJ March 2006). You'll take the edge off his excite-

ment, reduce his energy level, and make leashing-up and walking more relaxed and enjoyable for both of you.

**2 Teach him to "Say please."** Reinforce your dog's "sit" behavior so thoroughly that "sit" becomes his default behavior – the behavior he chooses to offer when he doesn't know what else to do. Then wait for him to sit (say "please") to make all good things happen: sit for his dinner bowl; sit to be petted; sit for you to throw his ball; *sit to have his leash put on*; and sit to make the door open.

**3 Pick up his leash throughout the day.** He gets amped up when you touch his leash because it *always* means the two of you are going for a walk. Of course he gets excited! If you pick up his leash numerous times throughout the day, sometimes draping it over your neck and wearing it for a while, sometimes

carrying it from room to room, sometimes picking it up and putting it back down, sometimes clipping it on his collar and then unclipping it, the leash will no longer be a reliable predictor of walks, and he won't have any reason to get all excited about it. Note: This will take a while. Hope springs eternal in the canine heart.

**4 Use negative punishment.** No, that's not a bonk on the head. It means setting up the situation so that doing the behavior you *don't* want causes a good thing to go away. Here's how it would work in this case: If, when you pick up the leash, he goes bonkers (the behavior you don't want), say "Oops!" in a cheerful tone of voice (what's known as a "no reward marker," it simply tells him no reward is forthcoming), set the leash down, and walk away.

When he settles down, pick the leash up again. If he sits (say please!), proceed with attaching the leash and going for a walk. If he winds up again, do another "Oops!" and set the leash down. You're teaching him that getting excited makes the opportunity for a walk go away; staying calm makes walks happen.

**5 Reduce the significance of other "walk cues."** Other things you do as part of your walk preparation routine can also feed his energy – getting out treats, putting on your jacket, grabbing your cell phone and keys . . . The more you randomize your ritual, the less these steps contribute to his growing excitement over the pending event, and the calmer he'll stay as you leash him and walk out the door. For example, put your keys and cell phone in your jacket pocket before you eat breakfast.

Happy walking! 🐾



Good things come to those who wait – and they come even sooner to those who help! You'd never guess from this photo that this young dog is active and obsessed with tennis balls. She's learned well that in order to go out and play, she must remain absolutely calm while her harness is put on.

Pat Miller, CPDT, is WDJ's Training Editor. See "Resources" on page 24 for more information.

## Shortage of Immiticide for Heartworm Treatment

### If you can't get Immiticide, what can you do for heartworm-positive dogs, instead?

On December 1, 2009, Merial published an open letter to veterinarians, announcing a shortage of Immiticide (melarsomine dihydrochloride), the only drug licensed for use in treating heartworm infestations in dogs. The shortage is due to a manufacturing site transfer. The company expressed hope that the shortage will not persist beyond the first quarter of this year.

An apparently unrelated problem is responsible for Merial's announced shortage of Heartgard (ivermectin) tablets, which may be unavailable until 2011. Heartgard prevents canine heartworm disease by eliminating the "tissue stage" of heartworm larvae for a month after infection.

Fortunately, Heartgard chewables and other ivermectin products (including products made by other manufacturers) remain available, so a shortage of the tablets is not cause for concern. The Immiticide shortage, however, has alarmed veterinarians and shelters (who see a lot of heartworm-positive dogs) across the country.

To repeat: Immiticide is the only drug licensed or used to treat adult heartworms in dogs, and Merial is the only company who makes this product. Because of the shortage, veterinarians can no longer order Immiticide from distributors, in order to prevent stockpiling.

Instead, veterinarians who have a heartworm-positive patient must contact Merial directly and provide details of their patient's case. For now, Merial is selling the drug on a case-by-case basis, providing the drug only to the more severe cases, those dogs with clinical signs of heartworm disease. Dogs who test positive but have no clinical sign of disease will have to wait.

### Safe, effective alternative

Fortunately, there is an alternative treatment for heartworm. As we discussed in "Update on Doxycycline and Heartworm Disease" (WDJ August 2009), a combination of ivermectin (the active ingredient in Heartgard) and doxycycline (an antibiotic), weakens and sterilizes adult heartworms, eventually killing them. The time this takes depends on the age of the worms; the older the worms, the longer they take to die.

In addition, giving doxycycline and

ivermectin prior to treatment with Immiticide lowers the risk of adverse reaction to worm death, making the treatment much safer. It also lessens the negative effects of the worms themselves, primarily due to doxycycline's effect on *Wolbachia*, a parasite of heartworms (see "Parasites within Parasites," WDJ August 2006).

The American Heartworm Society (AHS) recently updated its guidelines for treatment of heartworm infection in dogs. It says, "Studies have shown that heartworm-positive dogs pretreated with ivermectin and doxycycline prior to receiving melarsomine (Immiticide) injections had less pulmonary pathology associated with the death of the heartworms. If doxycycline is incorporated into a heartworm treatment protocol it should be given before administration of melarsomine so the *Wolbachia* organisms and their metabolites are reduced or absent when the worms die and fragment. Doxycycline administered at 10mg/kg BID for four weeks has been shown to eliminate more than 90 percent of the *Wolbachia* organisms and the levels remain low for three to four months."

For dogs who are not treated with Immiticide, the guidelines say, "the use of a monthly ivermectin-based heartworm preventive along with doxycycline could be considered. It has been reported that ivermectin and doxycycline administered periodically over 36 weeks resulted in a 78 percent reduction in adult worm numbers. Moreover, microfilariae from dogs treated with doxycycline that were ingested by mosquitoes developed into third-stage larvae that appeared to be normal in appearance and motility, but these larvae were not able to develop into adult worms, thus negating the risk of selecting for resistant strains. The administration of doxycycline at 10 mg/kg BID for a four-week period every three to four months should eliminate most *Wolbachia* organisms and not allow them to repopulate."

While the AHS still recommends

monthly use of heartworm preventatives in combination with doxycycline during treatment for heartworms, the studies reported above used standard heartworm preventative doses of ivermectin given *weekly* during the 36-week treatment period. They also pulsed doxycycline throughout the treatment period rather than just giving it every three to four months.

Based on the above, it may be best to give Heartgard (not Heartgard Plus) weekly until treatment with Immiticide is begun, or until the dog no longer tests positive for heartworms, if Immiticide treatment is not used. Giving Heartgard weekly (rather than monthly or every two weeks) is less important for dogs who will be treated with Immiticide than those relying on ivermectin and doxycycline alone to get rid of heartworms. (Note that weekly Heartgard is not recommended for dogs with the MDR1 gene mutation that causes sensitivity to ivermectin.)

Doxycycline should be given at the dosage level listed above for four weeks prior to starting Immiticide treatment. If treatment has not been completed within three to four months, doxycycline should be given again for four weeks. If Immiticide treatment is not done, treatment with doxycycline should be repeated every three to four months until the dog no longer tests positive for heartworms.

Ivermectin and doxycycline may seem a safer (though slower) alternative to Immiticide, even when the shortage is over. But heartworms cause damage as long as they are in the dog's body, and the danger from the dying worms, while reduced by the use of doxycycline, exists as long as the worms are present. Immiticide following one month of treatment with doxycycline and ivermectin is still the treatment of choice for most dogs with heartworm disease. If Immiticide treatment is not available, or if you have a dog with early-stage heartworm disease, then long-term use of ivermectin with doxycycline is a reasonable alternative. — *Mary Straus*

#### For more information:

Merial Customer Service, [merial.com](http://merial.com), (888) 637-4251 (option 1)  
[heartwormsociety.org/veterinary-resources/guidelines-Can-HW-Disease.pdf](http://heartwormsociety.org/veterinary-resources/guidelines-Can-HW-Disease.pdf)

# HSUS Now Selling Vegetarian Dog Food

## We don't think vegetarian diets are a good idea for dogs (and especially not this one)

In February, the Humane Society of the United States (HSUS) entered the pet food market with its "Humane Choice" brand of organic vegetarian dog food. According to the product's marketing materials, the impetus for the move was "to give pet guardians an option to feed their dogs a complete and balanced food that is also sustainably grown and helps us in our work to combat inhumane factory farm practices." Those are some great (and disparate) goals – but is this a good choice for your dog?

We don't think so, for a number of reasons. We're skeptical about vegetarian diets for dogs; they are anything but biologically appropriate for carnivores. Yes, dogs are carnivores, not herbivores or omnivores, like humans. While they are not *obligate* carnivores (as cats are), their bodies are designed to process and thrive on *animal* protein.

It's true that dogs have versatile digestive systems that are capable of utilizing plant proteins – but it's also a fact that scientists are still making discoveries about the nutrients that dogs need. For example, it was only in 1997 that veterinary researchers began to realize that a deficiency of taurine, an amino acid found only in animal products such as meat and fish, is linked to dilated cardiomyopathy (DCM). This is a form of heart disease that causes the heart to enlarge and the muscle to become thin and flabby, leading to heart failure and death. Taurine deficiency has also been linked to retinal degeneration in both dogs and cats.

Because dogs are capable of synthesizing taurine from other amino acids (cystine and methionine), it had been assumed that they do not require taurine in their diets. Researchers at the University of Georgia, College of Veterinary Medicine, however, found that dogs can develop taurine deficiency leading to DCM despite the diet including adequate amounts of these taurine precursors. Certain breeds of dogs, including Newfoundlands, Cocker Spaniels, and Golden Retrievers, appear to be more susceptible to the effects of low taurine.

HSUS says that its food "has been formulated to meet the nutritional needs of adult dogs as established by the Association of American Feed Control Officials (AAFCO)." In our opinion, this is *not* a guarantee that all of your dog's nutritional needs are being met. Apparently convinced by the taurine studies they've seen, many pet food makers have begun supplementing their dog foods with taurine, even though AAFCO has yet to designate taurine an essential amino acid for dogs (as it is for cats).



A study published in the *Journal of the American Veterinary Medical Association* in 2003 linked dilated cardiomyopathy caused by taurine deficiency in 12 dogs to lamb and rice dog foods that were low in taurine, despite meeting AAFCO requirements (many manufacturers of lamb and rice dog foods now voluntarily add taurine to their foods as a result).

Another study done in 2003 found that dogs fed diets containing rice, rice bran, or barley had lower levels of taurine in their blood. Dr. Quinton Rogers of the University of California at Davis, School of Veterinary Medicine says, "During the past few years, our clinic has seen an increasing number of dogs with low plasma

taurine concentrations and clinical signs of cardiomyopathy. The common factor in all cases was their diet history." According to Dr. Robert Prošek, "pets may develop DCM on taurine deficient diets, such as vegetarian diets."

L-carnitine is another amino acid found primarily in animal products. It is not considered essential in dogs because they can manufacture their own, yet low levels of carnitine have also been linked to DCM, particularly in Boxers. And DCM is just one of the problems that can be caused by the nutritional deficiencies of a vegetarian diet. A survey done in 1994 of 300 dogs fed a vegetarian diet found a number of health problems, including several deaths. Some of these problems, including heart disease, increased the longer the dogs were fed a vegetarian diet.

We asked the HSUS for a complete nutrient analysis for Humane Choice, and admitted our special interest in the product's amino acid profile. Had they paid any attention to the issue of taurine and L-carnitine? Unfortunately, we were told that this information is "proprietary" and could not be disclosed. Neither taurine nor L-carnitine is listed among Humane Choice's ingredients.

In addition to the major issue of the appropriateness of a vegan food for dogs, we have other problems with the product's concept. We agree that many factory farming practices in this country are outrageous and cruel, and we'd happily throw our support behind any pet food maker who offered a product that contained only certified cruelty-free animal proteins. But the claim that a product that is imported from Uruguay, is sold in small bags, and costs almost \$3 a pound is "sustainable" is outrageous. For that price, you could feed your dog healthy *local* food, including meat from sustainable family farms and ranches, that will truly fulfill your dog's nutritional needs. – *Mary Straus*

### For more information:

Humane Choice, [thehumanechoice.com](http://thehumanechoice.com); (760) 842-1073



# When Packmates Fight

*The challenge of defusing intra-pack aggression.*

BY PAT MILLER

**K**nowledgeable dog people are quite aware that not all dogs get along with each other, despite the fact that *canis lupus familiaris* (domestic dog) is a social species. Hey, we humans are a social species, and we certainly don't all get along! Dog-dog aggression is unhappily common in our world. As a professional behavior consultant who works with aggression cases, I probably see more than my fair share of it. By far the most difficult and most distressing presentations of dog-dog aggression are intra-pack aggression cases: dogs in the same family who aren't getting along with each other.

I've had a spate of these clients in recent weeks. Even our own Lucy and Missy, a Cardigan Corgi and Australian Shepherd who don't always get along seamlessly, seem to have experienced an increase in relationship tensions this winter. I can't give you a tidy explanation as to why, but I'm beginning to put more stock in the explanation jokingly offered by my

colleague, Jennifer Swiggart, CPDT-KA, PMCT, at Loudon County Animal Care and Control, when she called it "snow aggression."

## Stress happens

We do know that aggression is caused by stress. With the very rare exception of *idiopathic aggression* – at one time called "rage syndrome," "Cocker rage," or "Springer rage" and grossly overdiagnosed in the 1960s and '70s – aggression is the result of a stress load that pushes a dog over his bite threshold.

You can compare it to incidents of "road rage" in humans. When you read about the man who pulls out his .38 revolver because someone cut him off on the freeway and blows away the unfortunate offending driver, you can bet there was more going on for him than just a simple traffic violation. This is the guy who was likely laid off his job, lost his retirement investments to Bernie Madoff, had his wife tell him this morning that she was leaving him, and

## What you can do . . .

- Manage your dogs' environment so they don't have the opportunity to continue aggressing with each other.
- Identify your dogs' stressors and eliminate as many as possible to keep them further from their bite threshold while you modify behavior.
- Seek help from a qualified positive behavior professional sooner rather than later if you're out of your depth. Aggression is a serious matter!



PHOTO BY SARAH RICHARDSON, THE CANINE CONNECTION

**This is the picture that most of us have in our heads when we choose to adopt multiple dogs – a big, happy pack of dogs who get along. When, instead, we get one who doesn't like another, it can disrupt the entire family and cause heartbreak.**

just got notice in the mail that the bank is foreclosing on his home. Getting cut off on the freeway is simply the last straw – the final stressor that pushes him over his "bite threshold."

So it is for dogs. When tensions increase between Missy and Lucy, I need to look for possible added stressors in their environment that are pushing them closer to, and yes, sometimes over, their bite threshold. From that perspective, "snow aggression" is a real possibility: with recent record snowfalls reaching a total of 50 inches here, the resulting decrease in exercise opportunities as well as higher stress levels of human family members who aren't fond of snow (guilty!) can be stressors for the canine family members.

To resolve aggression issues between your own dogs, you'll want to identify not only the immediate trigger for the aggression – fighting over a meaty bone, for example – but also *everything* in your

dog's life that may be stressful to him. The more stressors you can remove from his world, the less likely it is that he will use his teeth – the canine equivalent of pulling out a .38 revolver.

## Triggers

It's often relatively easy to identify the immediate trigger for your dogs' mutual aggression. It's usually whatever happened just before the appearance of the hard stare, posturing, growls, and sometimes the actual fight.

Tension over resources is a common trigger. Dog #1 is lying on his bed, happily chewing his deer antler, when Dog #2 approaches. Dog #1 tenses, signaling to #2 Dog, "This is mine and I'm not sharing."

In the best of worlds, #2 defers by looking away, saying in canine speak, "Oh, no worries, I was just passing through." When things go wrong, however, a fight breaks out. Dog #2's approach was the trigger for #1, even if #2 had no interest in the chew item. Perhaps Dog #2 failed to notice or failed to heed #1's warning.

Remember that resources include more than just food; a guardable resource can also be a high-value human, a coveted spot on the sofa, or access to a doorway. The stressor in these cases is obvious: the dog is anxious over the possibility of losing or having to share his treasured possession.

Other triggers may be less obvious. If a dog is in pain, but not showing it, the mere proximity of a packmate who has inadvertently bumped her in the past could be a trigger. Dogs can be notoriously stoic about pain, especially slowly developing arthritis, or unilateral pain (where you may not see a limp). The undiagnosed arthritic dog may become defensively aggressive in anticipation of being hurt by a livelier canine pal, trying to forestall painful contact in what looks to the owner like "unprovoked" aggression.

"Status-related aggression" can result when neither of two dogs in the same family is willing to defer to the other. Note that this type of aggression is more about *deference* (or lack thereof) than it is about *dominance*. A truly high-ranking member of the social group, like our Scottish Terrier, Dubhy, doesn't engage in scuffles – he doesn't have to!

When you have identified your dogs' triggers, you can manage their environment to reduce trigger incidents and minimize outright conflict. This is critically important to a successful modification program. The

## Veterinary Checkup Required

A complete medical workup, including a full thyroid panel (see "Help for Hypothyroidism," WDJ June 2005), is indicated for any significant behavior problem, and *especially* for aggression.

Any medical condition that causes your dog to feel out of sorts is a massive contributor to stress. Trying to modify aggression while your dog suffers from an untreated medical condition is akin to pushing a behavioral boulder uphill.

You must rule out or identify and treat any medical contributors to your dogs' behavior in order for your dog to fully benefit from your modification efforts.



more often the dogs fight, the more tension there is between them; the more practiced they become at the undesirable behaviors, the better they get at fighting and the harder it will be to make it go away. And this is to say nothing of the increased likelihood that sooner or later someone – dog or human – will be badly injured.

## Stressors

Stressors, in contrast, can happen anytime and be anywhere. Remember that it's the sum total of a dog's stressors that push him over his bite threshold, so the more of these you can identify *and get rid of*, the more you'll ease tensions between your canine family members.

When I sit down with a client for an aggression consult we create a list of all the stressors we can think of for the dog or dogs in question. (See "Sample List of Stressors and Strategies," page 9.) Then we discuss possible strategies, assigning one or more strategies to each of the listed stressors. These strategies are:

- Change the dog's opinion of the stressor through the use of counter-conditioning and desensitization.
- Teach the dog a new behavioral response using operant conditioning.
- Manage the dog's environment to minimize exposure to the stressor.
- Get rid of the stressor.
- Live with it (most appropriate for low-level stressors).

Next, I help the client make a management plan that will go into place immediately, to help defuse the tension until she is able to start work on behavior modification. Then we create action plans for two or three of the stressors on the list, starting with the one the client is most concerned about – in this case, the dog-dog aggression.

## First option: Aggression modification

My first choice with most clients is the first strategy listed above: changing the dogs' opinion of each other through counter-conditioning and desensitization (CC&D).

CC&D for intra-pack aggression involves changing your dogs' association with each other from negative to positive. The easiest way to give most dogs a positive association is with very high-value, really yummy treats. I like to use chicken – canned, baked, or boiled, since most dogs love chicken and it's a low-fat, low-calorie food.

Here's how the CC&D process works:

1. Determine the distance at which your dogs can be in each other's presence and be alert or wary but not extremely fearful or aroused. This is called the *threshold distance*. If one dog has a greater threshold distance than the other (often the case), work at the greater distance.
2. With you holding Dog A on leash, have your helper appear with Dog B at threshold distance "X." The instant your dog sees the other, start feeding bits of chicken, non-

stop. Your helper will feed chicken to her dog, too, the instant he notices your dog.

3. After several seconds, have the helper step out of sight with Dog B, and you both stop feeding chicken.

4. Keep repeating steps 1-3 until the sight of the other dog at distance “X” consistently causes both dogs to look at their handlers with a happy smile and a “Yay! Where’s my chicken?” expression. This is the physical presentation of the dogs’ *conditioned emotional response* (CER); each dog’s association with the other at threshold distance “X” is now positive, so they can deliberately look at you to get their chicken, rather than staying intensely focused on each other.

5. Now you need to increase the intensity of the stimulus by increasing the length of time Dog B stays in sight. Continue to feed chicken when they are in view of each, occasionally pausing to let them look at each other again, and immediately feeding chicken when they do.

6. When length of time seems to make no difference to either dog – you’re getting a consistent “Yay, where’s my chicken?” response regardless of how long Dog B stays in view, increase the intensity again, this time by increasing Dog B’s *movement*. Have the handler walk back and forth with her dog, still at distance “X,” slowly at first, then with more energy, even adding in some other behaviors such as sit, down, and roll over.

7. Now you’re ready to starting decreasing distance by moving Dog A a *little* closer to the location where the Dog B will appear. When you obtain consistent CERs from *both dogs* at each new distance you can decrease the distance a little more, until both dogs are happy to be very near each other.

8. Then return to your original threshold distance and increase intensity stimulus by having Dog B move around more and more, as you gradually decrease distance and obtain CERs from both dogs along the way, until they are delighted to be near each other.

9. Now go back to your starting distance and increase intensity again, by having *both* dogs move more naturally as the

distance decreases, offering CERs at each new distance before you come any closer, until they can be within six feet of each other, moving around, still relaxed and happy about chicken.

10. Finally, find ways for your dogs to engage separately in mutually enjoyable activities together. If they both enjoy car rides, take them for a drive, but be sure they are seat-belted or crated far enough apart to avoid any tension. If they love hiking, take them on “parallel” walks, one with you, one with your training partner, with humans between them at first, and eventually with dogs between humans when you’re sure their emotions are appropriate. Parallel swims, for dogs who love the water, can work well too.

When you feel the dogs are ready to finally interact with each other again, be careful not to undo all your hard work. You might first let them greet through a barrier, such as a baby gate or exercise pen.

It’s useful to desensitize both dogs to a muzzle over the period you’re desensitizing them to each other (in separate sessions), so the first time you’re ready for them to actually interact together you can muzzle them and be confident they can’t hurt each other. (For instructions on how to desensitize your dog to wearing a muzzle, go to [abronline.org/videos.php](http://abronline.org/videos.php) and click on “Jean Donaldson, Conditioning an Emotional Response.”)

The more intense the relationship between the two dogs, the more challenging it is to modify their behavior. The more negative interactions they’ve had, the more injuries, the longer the tension has been going on, and the stronger their emotions, the longer it will take to reprogram their responses to each other. If they were good friends at one time, it’s likely to be easier than if they’ve always been aggressive with each other.

Remember to seek the help of a qualified positive behavior professional if you don’t feel competent and confident about working with your dogs on your own.

## Second option: Operant strategies

The second option is to teach your dogs a new *operant* behavior in response to each other, using the “Constructional Aggression Treatment” (CAT) procedure developed by Dr. Jesus Rosales-Ruiz and Kellie Snider at the University of North Texas.

(See “Build Better Behavior,” May 2008, and “Revisiting CAT,” December 2009.)

In daily life, dogs learn to offer aggressive “distance increasing” signals in order to make other dogs go away. Every time this works, the “go away” behavior is reinforced. The CAT procedure teaches the dog that *calm* behavior can make the other dog go away, and as a result, the aggressive dog can ultimately become friendly and happy about the other dog’s presence.

A variation on the operant approach is the “Behavioral Adjustment Training” procedure (BAT) created by trainer Grisha Stewart, MA, CPDT-KA, CPT, at Ahimsa Dog Training in Seattle, Washington. BAT is similar to CAT, but uses a variety of environmental reinforcers rather than the location and movement of the other dog exclusively.

As in CAT, the BAT procedure reinforces behaviors other than aggression in the presence of the other dog. In this case, however, your repertoire of reinforcers is larger, including the use of food reinforcers and having the “subject” dog (the aggressive one) move away instead of the other dog. (For more information about BAT, see [ahimsadogtraining.com/blog/bat/](http://ahimsadogtraining.com/blog/bat/).)

If one or both of the dogs are ready to do battle on sight, they must be strictly managed and kept separate from each other *except* when you’re doing your controlled modification procedure with them. If the aggression is more predictable and situational, the dogs can be together as long as you can manage and prevent the trigger(s) from causing conflict.

## Third option: Management

What does it mean to “manage your dogs’ environment to minimize exposure to his stressors”? Simply put, it means making changes to your dog’s environment in order to keep your dogs away from the stimuli that stress them.

If the dogs are stressed by each other, of course, the first task is to keep them separated, through the assiduous use of doors, fences, baby gates, crates, and tethers. Smart positioning can help; locate the dogs’ crates or tethering area out of the other dogs’ sightline. Take them outdoors to potty separately, and separate them well before feeding time, to reduce tensions that arise when everyone is jostling to be fed first.

Next, try to minimize your dogs’ exposure to other stressful stimuli. For example: Say one of your dogs goes over



threshold when she sees the mailman approaching your house through the living room window, and her barking display of aggression seems to agitate your other dog. Installing shutters on the window might work (to block your dogs' view), but closing the door to the front room (to keep the dogs as far away from the sight and sound of the mailman) would be even better. Or you could move your mailbox toward the sidewalk, instead of next to the front door – the farther from the house, the better. Be creative!

### More management tools: Stress-reducing strategies

There are a host of other things you can do to lower general stress in your dogs' environment.

Exercise can be immensely helpful in minimizing overall tension. Physical activity uses up excess energy that might otherwise feed your dogs' aggressive behaviors, (a tired dog is a well-behaved dog). Exercise also causes your dog's body to release various chemicals, including endorphins and norepinephrine, helping to generate a feeling of well-being; an exercised dog is a happy dog! Happy dogs are simply less likely to fight.

Even the food you feed your dog can have an impact on his behavior. Poor quality protein can interfere with a dog's ability to make use of the serotonin that occurs naturally in his system. Serotonin is a neurotransmitter that helps regulate mood and sleep, and also affects memory and learning. Foods containing high-

quality protein can contribute to your dogs' behavioral health *and* physical health.

Basic training enables you and your dog to communicate more easily with each other (which is less stressful for *both* of you), and helps your dog understand how his world works, which reduces his stress. A good training program emphasizes structure and consistency, both of which make a dog's world more predictable. Predictability equals less stress; unpredictably is stressful.

If you've ever had a massage, you know how calming touch can be. Dogs aren't that different from us; you can calm and soothe your dog with physical touch, both through canine massage and TTouch. Combine your calming touch sessions with aromatherapy, by using a

## Sample List of Stressors and Strategies

Here are some examples of things that might be on your dogs' stressor lists, along with the strategies that are most appropriate for each one (in parentheses). There are many other possi-

bilities; my clients usually list between 10 and 20 identified stressors. Be sure to include even those things that may cause *mild* stress; the more stressors you can remove, the better.

STRESSOR	STRATEGY
The other dog	Change dog's opinion of the stressor through the use of counter-conditioning and desensitization (CC&D)
People passing by outside the living room window	Change dog's opinion of the stressor through the use of CC&D; manage the dog's environment to minimize exposure to the stressor (i.e., block your dog's access to that window)
Threats to his resources	Change dog's opinion of the stressor through the use of CC&D; teach the dog a new behavioral response using operant conditioning
Doorbell ringing	Change dog's opinion of the stressor through the use of CC&D; teach the dog a new behavioral response using operant conditioning
Car rides	Change dog's opinion of the stressor through the use of CC&D; live with it (most appropriate for low-level stressors)
Trips to the vet hospital	Change dog's opinion of the stressor through the use of CC&D; live with it (most appropriate for low-level stressors)
Nail trimming	Change dog's opinion of the stressor through the use of CC&D; teach the dog a new behavioral response using operant conditioning; teach him to scrape his nails on an abrasive surface
Thunder	Change dog's opinion of the stressor through the use of CC&D; manage the dog's environment to minimize exposure to the stressor; live with it (most appropriate for low-level stressors); possible use of appropriate anti-anxiety medication
Fireworks	Change dog's opinion of the stressor through the use of CC&D; manage the dog's environment to minimize exposure to the stressor; live with it (most appropriate for low-level stressors); possible use of appropriate anti-anxiety medication
Arthritis	Manage the dog's environment to minimize exposure to the stressor; ask your vet whether pain-reducing medication is indicated
Recurring ear infections	Get rid of the stressor; explore medical treatment and diet – may result from dietary allergies
Underground shock fence	Get rid of the stressor
Prong collar	Get rid of the stressor
Use of physical and harsh verbal corrections (punishment)	Get rid of the stressor
Owner stress	Manage the dog's environment to minimize exposure to the stressor; get rid of the stressor

therapeutic-quality lavender essential oil in an electric nebulizing diffuser in the room while you massage your dog. Then you can build your dog's "ahhh" association with the lavender scent to help him be calm in more stressful environments, by putting a few drops of essential oil on a bandana that you tie around his neck or on the bedding in his crate.

Other environmental stress reducers include:

■ **Comfort Zone™** (also known as Dog Appeasing Pheromone, or DAP). This is a synthetic substance that is supposed to mimic the pheromones emitted by a mother dog when she's nursing puppies. Available through pet supply stores and catalogs.

■ **Through a Dog's Ear.** This set of audio CDs consists of bio-acoustically engineered soothing classical piano music, which has been shown to reduce dogs' heart rates. Available from [throughadogsear.com](http://throughadogsear.com) or (800) 788-0949.

■ **Anxiety Wrap.™** This product helps dogs (and cats) overcome their fears and anxieties using the gentle technique of "maintained pressure" – similar to the effect of swaddling for a human infant. Available from [anxietywrap.com](http://anxietywrap.com) or (877) 652-1266.

## Options four and five

Sometimes you're lucky: it's easy to either get rid of your dogs' stressors or just live with them. Stressors you could get rid of easily include choke, prong, or shock collars (even those used for electronic containment systems); physical or harsh verbal corrections (punishment), and treatable medical conditions. Without these present in their environment, the dogs' stress level will decrease.

We all have some stress in our lives, and it's pretty near impossible to get rid of all of it. Just because you've identified a stressor for your dog doesn't mean you *have* to make it go away. You probably don't have enough time in your schedule to address every single thing on your list. As you look at your dogs' list of stressors, the ones they can probably live with are those that don't happen frequently, that cause only a mild stress response, and don't appear to escalate over time. You can also refrain from eliminating your dog's "fun" stressors, such as squirrel-chasing sessions. If you make your way through the rest of

your list and still have time on your hands, you can always address the "live with it" items later.

## If all else fails

Intra-pack aggression can feel overwhelming. In fact, it can be dangerous, if fights erupt regularly and you try to intervene. Many an owner has been bitten trying to break up fights between her own dogs. The stress that the constant tension generates can damage the quality of your own life, as well as your dogs' lives.

When a situation feels beyond your ability to cope, your first best option is to find a qualified positive behavior consultant in your area who can help you implement appropriate management and modification procedures, to keep everyone safe and to start making change happen in your dogs' mutual relationships.

A consultation with a veterinarian who is well-educated in behavior, or even a veterinary behaviorist, should also be on your list, not only for that all-important medical workup, but also for the consideration of psychotropic behavior modification drugs, if and when appropriate, to help your dog's brain be more receptive to your modification efforts.

If you feel you're done your best and peace isn't in the cards for your pack, it's okay to admit that some dogs will never get along, and you have had the misfortune to adopt two who don't. If that's the case, your options are:

- A lifetime (not just a temporary measure) of scrupulous management
- Rehoming one of the dogs
- Euthanasia

Some trainers say, "Management *always* fails." In truth, management does have a high risk of failure, perhaps with potentially dire consequences. The risk is even higher if there are children in the home – not only because they're more likely to forget to close doors and latch gates, but also because they are at greater risk of injury themselves if they are in the vicinity when a fight happens. Still, I know of several dog owners who have successfully implemented lifetime management protocols for dogs who didn't get along, and felt that their own quality of life, as well as that of their dogs, was above reproach.



**Chronic stress and unrelenting tension reduce the quality of life for your whole family; sometimes rehoming is kinder.**

Rehoming *can* be a reasonable option, especially if the dog being considered for placement has no other significant inappropriate behaviors, and if he can be rehomed to an "only dog" home, or one with dogs he's known to get along well with. Of course, it can be challenging to find an experienced, appropriate home for a dog with a known aggression behavior problem, but it may be possible, particularly if he's otherwise wonderful.

No one wants to think of euthanizing an otherwise healthy member of their canine family. Still, if you've done all you can reasonably do given the limits of your abilities and resources, and you've not been able to create a safe environment for your family and one of the dogs can't be rehomed, then euthanasia is not an inappropriate decision. It will be terribly painful for you, and you may always feel guilt and regret about not finding the solution to the problem, although perhaps not as much guilt and regret as you would if one of your dogs badly injured or killed the other, or worse, a person.

It's now 43 degrees outside, and for the first time in many weeks the snow has melted enough I can actually take my dogs for a long hike around the farm. I'd best finish this sentence, turn off my computer, and take our dogs out to stretch their legs so we can all enjoy a very peaceful, aggression-free evening. 🐾

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# Is Your Dog Stoned?

## Part One: Preventing and treating struvite crystals and stones.

BY CJ PUOTINEN AND MARY STRAUS

**H**umans aren't the only ones who get kidney and bladder stones. Our dogs develop these painful and dangerous conditions, too. But much of what is said and done about canine urinary tract stone disease (also known as bladder stones, urolithiasis, urinary stones, ureteral stones, urinary calculi, ureteral calculi, or urinary calculus disease), including its causes and treatment, is either incorrect, ineffective, or potentially harmful. Here's the information you need in order to make informed decisions on behalf of your best friend.

Most canine uroliths, or bladder stones, fall into six categories, depending on their mineral composition:

- Magnesium ammonium phosphate (also called struvites)
- Calcium oxalate
- Ammonium urate or uric acid
- Cystine
- Calcium phosphate
- Silica

There are also compound or mixed stones consisting of a core mineral surrounded by smaller amounts of another mineral, most commonly a struvite core surrounded by calcium phosphate. In veterinary reports, the terms stone, urolith, and calculus (its plural is calculi) are used synonymously.

Because different stones require entirely different treatment – and often completely *opposite* treatment – it's critical to identify the type of stone accurately. Without removing a stone there is no way to know for sure, but a good guess can be made based on urinary pH; the dog's age, breed, and sex; type of crystals, if present; radiographic density (how well

the stones can be seen on x-ray); whether infection is present; and certain blood test abnormalities.

Between 1981 and 2007, the Minnesota Urolith Center at the University of Minnesota's College of Veterinary Medicine analyzed 350,803 canine uroliths. The highest percentage came from mixed breeds (25 percent), Miniature Schnauzers (12 percent), Shih Tzus (9 percent), Bichons Frises (7 percent), Cocker Spaniels (5 percent), and Lhasa Apsos (4 percent). The remaining 38 percent were collected from 154 different breeds.

Veterinary studies conducted around the world on millions of urinary stones show similar demographics. Although kidney and bladder stones can afflict dogs of both sexes, all breeds, and all ages, those at greatest risk are small, female, between the ages of 4 and 8, and prone to bladder infections. Although male dogs develop fewer stones, the condition is more dangerous to them because of their anatomy. Stones are more likely to cause blockages in the male's longer, narrower urethra.

In 1981, 78 percent of all uroliths tested at the Minnesota Urolith Center were struvites and only 5 percent were calcium oxalate stones, but by 2006 the struvite occurrence had fallen to 39 percent while the incidence of calcium oxalate stones rose to 41 percent. Researchers investigating the trend have not discovered a reason for the change but are exploring demographic risk factors such as breed, age, gender anatomy, and genetic predisposition along with environmental risk factors such as sources of food, water, exposure to certain drugs, and living conditions.

### Bladder stones

When bladder stones form, their minerals precipitate out in the urine as microscopic crystals. If the crystals unite, they form small grains of sand-like material. Once grains develop, additional precipitation can lead the crystals to adhere together,

### What you can do . . .

- Become familiar with the symptoms of urinary stones and respond quickly if you see them.
- Request a urine culture and sensitivity test to check for infection even if your veterinarian doesn't think it's necessary.
- Encourage your dog to drink extra water and give her frequent opportunities to urinate.
- Don't expect a low-protein diet to cure or prevent struvite stones.
- Learn how to test your dog's pH to check for recurring urinary tract infections.



creating stones. Some stones measure up to 3 or 4 inches in diameter. Problems develop when stones interfere with urination.

Some dogs with stones never develop symptoms and their stones are never diagnosed or are discovered during routine physical exams when the abdomen is palpated. X-rays, which can be used to confirm the diagnosis, reveal stones as obvious white circles unless they are radiolucent (invisible to X-rays), in which case a dye injected into the bladder makes them visible.

Symptoms of stones can include blood in the urine (hematuria), the frequent passing of small amounts of urine, straining to produce urine while holding the position much longer than usual, licking the genital area more than usual, painful urination (the



dog yelps from discomfort), cloudy and foul-smelling urine that may contain blood or pus, tenderness in the bladder area, pain in the lower back, fever, and lethargy. If a stone blocks the flow of urine, its complications can be fatal.

When surgery is necessary, uroliths are removed by a cystotomy, a procedure that opens the bladder. Stones lodged in the urethra can be flushed into the bladder and removed. Stones that are small enough to pass in the urine can be removed in a nonsurgical procedure called urohydropropulsion. A catheter is used to fill the sedated dog's bladder with a saline solution and the bladder is squeezed to expel the stones through the urethra. Other procedures are used for more complicated cases.

All dogs who have formed a urolith are considered at increased risk for a recurrence. According to Dennis J. Chew, in a paper delivered at the 2004 Small Animal Proceedings Symposium of the American College of Veterinary Surgeons, "Water may be the most important nutrient to prevent recurrence of uroliths. Increased water intake is the cornerstone of therapy for urolithiasis in both human and veterinary

medicine. Increasing water intake to dilute urine and increase frequency of urination is an important part of treatment. Decreasing the concentration of potential stone-forming minerals in urine and increasing the frequency of voiding are the key elements of therapy to reduce the risk of formation of a new urolith."

It's easy to interest most dogs in drinking more fluids by making sure that plain water is available at all times, adding broth and other flavor enhancers to water in an additional bowl, and adding water or broth to food. Just as important is the opportunity to urinate several times a day. Stones and crystals form in supersaturated urine, which can occur when dogs have to hold their urine for long periods.

This month, we'll discuss struvite uroliths. Calcium oxalate uroliths will be discussed in the next issue.

### Struvite stones

Struvite uroliths belong to the magnesium ammonium phosphate (MAP) category. Struvites are also known as triple phosphate uroliths, a term dating from an old, incorrect assumption that the struvite

crystal's phosphate ion was bound to three positive ions instead of just magnesium and ammonium. Although struvites can develop in the kidneys, where they are called nephroliths, the vast majority are bladder stones. About 85 percent of all struvite stones are found in female dogs and only 15 percent are found in males.

Struvite stones usually form when large amounts of crystals are present in combination with a urinary tract infection from urease-producing bacteria such as *Staphylococcus* or *Proteus*. Urease is an enzyme that catalyzes the hydrolysis of urea, forming ammonia and carbon dioxide. It contributes to struvite stone formation as well as alkaline (high-pH) urine.

Caregivers and veterinarians obviously want to prevent and treat struvites as effectively as possible. But what works and what doesn't is a topic of confusion.

### Fact or fiction?

All of the following statements are believed by many veterinarians and their clients. **Yet none of them are true.** Which have you heard before?

1. Urinary struvite crystals represent disease and require treatment.
2. Struvite crystals require a change in diet, usually to a prescription diet like c/d, u/d, or s/d.
3. Dogs prone to forming struvite stones should be kept on a special diet for life.
4. The most important treatment for dogs with a history of struvite stones is a low-protein diet.

Here's why these common beliefs are misconceptions.

1. The presence of urinary struvite crystals alone *does not* represent disease and *does not* require treatment. These crystals can be found in the urine of an estimated 40 to 44 percent of all healthy dogs and are not a cause for concern *unless* accompanied by signs of a urinary tract infection. According to the *Merck Veterinary Manual* (2005), "Struvite crystals are commonly observed in canine and feline urine. Struvite crystaluria in dogs is not a problem unless there is a concurrent bacterial urinary tract infection with a urease-producing microbe. *Without an infection, struvite crystals in dogs will not be associated with struvite urolith formation.*" (Our emphasis.)

## "Sterile Struvites"

Not all struvite stones are caused by *Staphylococcus*, *Proteus*, or other bacteria. Between 1 and 2 percent of struvites are called sterile because they do not involve an infection. They are also known as metabolic struvites.

These stones are treated in much the same way as infection-induced struvites, and they tend to dissolve more quickly. Urinary acidifiers can be used to help dissolve sterile struvites, and feeding a low-protein diet may help speed their dissolution.

Several reports in the veterinary literature describe the spontaneous dissolution of sterile struvite uroliths within two to five months in dogs fed a maintenance diet, demonstrating that these stones can disappear within a short time without the use of a calculolytic diet.

To prevent the formation of future sterile struvites, the most effective methods appear to be urinary acidification and increased fluid intake. The amino acid dl-methionine, which is available in tablet form, is commonly used when needed to keep the urine acidic. *It will not help and should not be given to dogs who form infection-induced struvites.*

The conventional recommendation for treatment and prevention of sterile struvites is to feed a diet with reduced phosphorus and magnesium content, but it's questionable whether that's needed as long as the urine is kept slightly acidic (at a pH below 7.0) and the dog is encouraged to drink more and has ample opportunity to eliminate in order to avoid supersaturated urine.

Even though a meat-based diet is high in phosphorus, meat has an acidifying effect on the urine and may therefore be beneficial for the prevention of sterile struvites as well as providing more complete nutrition in a form that the dog most enjoys.

Dietary starch and fiber potentially stimulate the formation of struvite crystals, so reducing dietary carbohydrates helps prevent struvite urolith formation.

Whether your struvite-crystal dog has a urinary tract infection is the key question. Researchers estimate that more than 98 percent of all struvite stones are associated with infection. Failing to eradicate the original infection and prevent new bacterial infections is the main reason struvite uroliths recur. A recurrence rate of 21 percent was recorded in one study, but the risk can be significantly reduced through increased surveillance and appropriate antimicrobial treatment. In one study, dogs were infected with an experimental *Staphylococcal* urinary tract infection, and their infection-induced struvites grew large enough to be seen on X-rays within two to eight weeks.

2. Struvite crystals *do not* require a change in diet. Because struvite crystals do not pose a problem unless the dog has a urinary tract infection, there is no required treatment for crystals, including dietary changes. If the dog *does* have a urinary tract infection, a prescription dog food will not cure it.

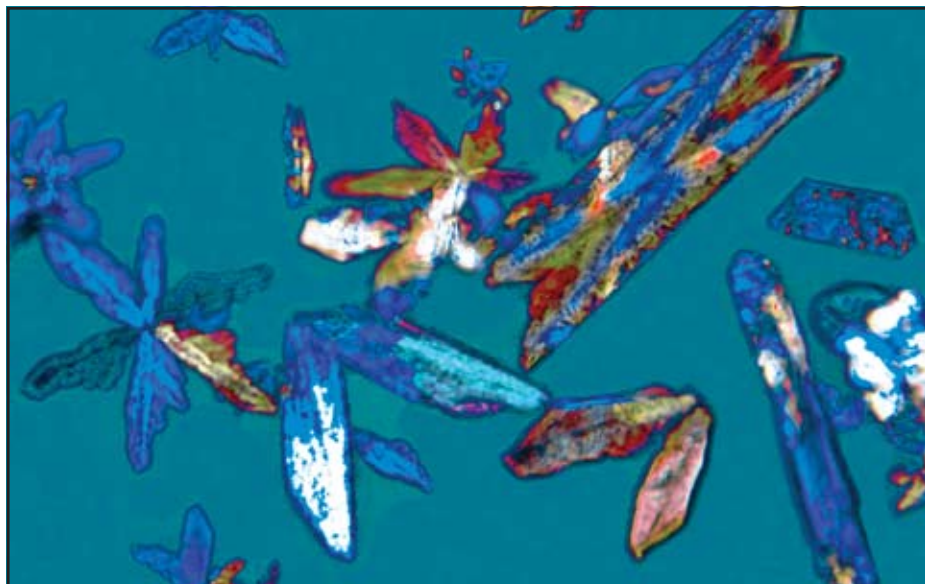
If your veterinarian finds struvite crystals in the urine and suggests a diet change, you'd be well advised to find a new vet. You have to wonder how many other things he or she is misinformed about. It isn't just a case of not keeping up with newer research; this recommendation is just plain wrong.

3. Dogs prone to forming struvite stones should *not* be kept on a special diet for life. Struvites almost always form because of infections, for which dogs with a history of stones should be closely monitored and properly treated. No long-term dietary change is required, nor will a special diet prevent the formation of infection-induced struvites. However, *short-term* changes may help speed the dissolution of stones.

4. Low-protein diets do *not* prevent stone formation. A low-protein diet can speed the dissolution of struvite stones – when accompanied by appropriate antibiotic treatment – but it is not necessary for the prevention of struvite formation in dogs who are prone to this problem. For almost all dogs, controlling infections will prevent more stones from forming.

### The lowdown on low-protein

Several prescription dog foods are marketed as a treatment for struvite crystals and struvite stones. These are called calculolytic



**Struvite (magnesium ammonium phosphate or “triple phosphate”) crystals in polarized light (total magnification 112x). Struvite crystals are common in dogs and don’t cause problems until they unite to form stones that interfere with urination; generally, this happens only when the dog has a urinary tract infection.**

foods or diets, and nearly all of them are severely protein-restricted, phosphate-restricted, magnesium-restricted, highly acidifying, and supplemented with salt to increase the patient’s thirst and fluid consumption.

While a low-protein diet is not required to dissolve struvite stones, it can speed their dissolution (when accompanied by appropriate antibiotic treatment). Protein provides urea, which bacteria convert or “hydrolyze” into ammonia, one of the struvite building blocks. However, this approach is not a long-term solution and will not prevent the formation of infection-induced stones. Feeding a low-protein diet to an adult dog to help dissolve stones is acceptable for short periods. Because they are not nutritionally complete, however, low-protein foods are harmful to adult dogs if used for more than a few months, and they should never be fed to puppies.

If stones are not present, there is no reason to feed a low-protein diet. According to Dr. Chew, “No studies exist to show that a specific diet is helpful for the prevention of infection-related stone development.”

In general, the benefits of a meat-based diet far outweigh the risks posed by protein’s ammonia generation. Plus, by feeding your dog a home-prepared diet of fresh ingredients, you can provide food that is higher in quality and much more to your dog’s liking than diets that come out of cans or packages.

Other prescription pet food strategies

– such as keeping the diet low in fiber so that fluids are not lost through the intestines, using highly digestible ingredients for the same reason, and increasing the dog’s fluid intake by adding salt to the diet – can be better accomplished with a home-prepared diet and management techniques that encourage the dog to drink more water. The more concentrated the urine, the more saturated it becomes with minerals that can precipitate out, so extra fluids, which dilute the urine, reduce the risk.

Urinary acidifiers are not used to dissolve or prevent stones caused by urinary tract infections, since acidification does not help while an infection is present.

### The importance of testing

It’s important to know that urinalysis can’t always detect a bladder infection; urinalysis may appear normal as frequently as 20 percent of the time when a urinary tract infection *is* present.

For this reason, if your dog shows possible signs of infection, you need to request a “urinary culture and sensitivity test.” This will verify the diagnosis (in some cases the problem is something other than an infection) and, if it is an infection, it will reveal which antibiotic will be most effective for treatment. Using an ineffective antibiotic not only harms the patient by delaying proper treatment, but also contributes to the spread of drug-resistant bacteria. Antibiotic therapy must be continued as long as struvite stones are present, since the





**Monitoring the pH of your dog's urine can alert you to a recurrence of a urinary tract infection. Collecting a sample to test is not difficult; use a clean paper cup and a pair of tongs or a "pick up" tool. Or, just slide a clean dish under your dog as she urinates! You need to catch only a few drops to test.**

stones harbor bacteria that are released as the stones dissolve.

Dogs who are prone to frequent infections may need longer antibiotic therapy – of at least four to six weeks – to completely eradicate the infection. Some dogs need continuous or “pulsed” antibiotic therapy to prevent recurring infections. A few may need surgery to correct structural defects that make them prone to infection, such as a recessed vulva. This condition usually corrects itself following first heat but may continue to cause problems for females who are spayed prior to their first heat.

Ureaplasma bacteria, which can cause struvite stones, will not show up on a regular urine culture, but you can request a special culture to look for this type of bacteria. This should be done before one assumes that the patient's struvites are sterile (see “Sterile Struvites,” page 13) rather than infection-induced.

Follow-up tests will show whether the therapy your dog received, such as antibiotics from a conventional veterinarian or an alternative infection-fighting treatment from a holistic vet, was effective. You want to be sure that the treatment worked and that the infection isn't coming back. For dogs with a history of forming struvite stones, or who suffer from multiple urinary tract infections, cultures should be repeated

a few days after treatment ends and then periodically, such as monthly for a while and then at longer intervals, to be sure the infection is completely cleared.

### At-home prevention

To keep your dog healthy, it's important to prevent the conditions – especially, urinary tract infections – that can lead to stone formation.

Monitoring your dog's urinary pH at home will alert you to any recurring bladder infection. (Sources for pH test strips that cover the range needed are listed on the next page.) The numbers refer to acidity and alkalinity, with 7 considered neutral (neither acid nor alkaline). Numbers less than 7 indicate acidity, and the lower the number, the more acid the substance. Numbers greater than 7 indicate alkalinity, and the higher the number, the more alkaline the substance. Most healthy dogs have a neutral to slightly acid urinary pH between 5.5 and 7.0.

Because urinary pH varies throughout the day, test your dog's urine at the same time each day to determine her “normal” pH. The best time to do this is first thing in the morning, before she eats. Urine should be tested before it hits the ground. You can collect some in a paper cup or simply hold a pH test strip in the stream. An advantage to paper cup collection is that you can also

check the urine for blood, cloudiness, and other indications of infection.

The urinary tract infections that cause struvite crystals to become uroliths have an alkalizing effect, raising urinary pH to as much as 8.0 or 8.5. If your dog's urinary pH jumps from acid to alkaline, contact your veterinarian.

Other preventive measures include giving your dog cranberry capsules, probiotics, and vitamin C.

Cranberry doesn't cure existing infections, but it mechanically prevents bacteria from adhering to the tissue that lines the bladder and urinary tract. Because they are continuously washed out of the system, bacteria don't have an opportunity to create new infections. Cranberry capsules are easier to use and more effective than juice, since they are far more concentrated. On product labels, the terms cranberry, cranberry juice, cranberry extract, and cranberry concentrate tend to be used interchangeably.

If your cranberry capsules are a veterinary product, follow label directions. If they're designed for humans, adjust the dosage for your dog's weight by assuming that the label dose applies to a human weighing 100-120 pounds. Giving cranberry in divided doses, such as twice or three times during the day, will make this preventive treatment more effective.

Probiotics are the body's first line of defense against infection, and the more beneficial bacteria in your dog's digestive tract, the better. Probiotics are routinely used by a growing number of medical doctors and veterinarians to treat urinary tract and vaginal infections in women and pets.

Several brands of probiotics are made especially for dogs. Because antibiotics destroy beneficial as well as harmful bacteria, the use of probiotic supplements after treatment with antibiotics helps restore the body's population of beneficial bacteria. (See “Probing Probiotics,” WDJ August 2006 for more information.)

Many veterinarians recommend vitamin C for dogs who are prone to bladder infections and struvite stones because of its anti-inflammatory effects. Dogs (unlike humans) manufacture their own vitamin C, but the amount they produce may not meet their needs if they are under stress or fighting infection.

The ascorbate form of vitamin C is most often recommended for dogs, as it may be better absorbed and is less prone



to causing gastrointestinal upset. Calcium ascorbate and sodium ascorbate are available in generic forms as a powder, but the most popular form is a product called Ester-C, which contains calcium ascorbate and vitamin C metabolites.

Veterinary recommendations range from 250 mg twice per day for every 15 to 30 pounds of body weight up to a maximum of 1,000 mg twice a day for large dogs. Because vitamin C can cause diarrhea, start with small doses and increase gradually. The maximum amount your dog can tolerate without the diarrhea side effect is called her "bowel tolerance" dose.

The herb uva ursi (*Arctostaphylos uva-ursi*) is used in many herbal blends for bladder infections because of its antibacterial properties. Uva ursi is best used for short periods rather than for months at a time as it can irritate the kidneys. The dosage for this herb depends on the individual blend and how it was prepared. Follow label directions for products formulated for dogs; adjust the dosage of products meant for humans by weight, assuming the human's weight at 100 to 120 pounds.

While adding salt to your dog's food is an effective way to encourage drinking more fluids for dogs who don't tend to drink enough, consider switching from refined table salt to unrefined sea salt, which is sold in natural food markets and contains dozens of minerals and trace elements that are not present in refined salt.

Since most homemade diets are low in salt compared to commercial foods, the amount of salt to add will depend on the diet you feed. Start by adding a pinch

of salt (small for a small dog, larger for a large dog) to your dog's food and watch to see if it makes her more thirsty. Increase the amount by a pinch at a time until she is drinking more than usual.

Traditional broth or stock is easy to make at home by simmering chicken, beef, or other bones in water overnight or for 24 to 36 hours. If desired, add carrots and other vegetables. Replace evaporating water as needed. The longer the simmer, the more nutritionally dense the broth and the more interesting it is likely to be to your dog. Broth can be used as a flavor enhancer when



**Urinary tract infections that cause struvite crystals to become uroliths can raise urinary pH to 8.0 or 8.5. Contact your vet if your dog's urinary pH jumps from acid to alkaline.**

strained and added to food or given in addition to water. Be sure to provide plain drinking water at all times.

Struvite stones can make any dog miserable, but by understanding how and why they occur and by taking the preventive measures described here, you can be sure that your dog lives a happy, stone-free life. 🐾

*Next month: Calcium oxalate uroliths, America's most common canine urinary stones.*

*CJ Puotinen is the author of The Encyclopedia of Natural Pet Care and other holistic health books. She lives in Montana, and is a frequent contributor to WDJ.*

*San Francisco Bay Area resident Mary Straus has spent more than a decade investigating and writing about canine health and nutrition topics for her website, DogAware.com.*

## Resources Mentioned in This Issue

**Minnesota Urolith Center** at the University of Minnesota College of Veterinary Medicine, [cvm.umn.edu/depts/minnesotaurolithcenter](http://cvm.umn.edu/depts/minnesotaurolithcenter)

**pH test strips** from Solid Gold Natural Health for Pets, [solidgoldhealth.com](http://solidgoldhealth.com); (800) 364-4863

**pH test strips** from Micro Essential Laboratory, [microessentiallab.com](http://microessentiallab.com); (718) 338-3618

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# Join the Herd

*LOTS of training is required to compete in herding – but the result should be a very well-trained and happy dog.*

BY TERRY LONG

**F**etch. Drive. Flank. Come-bye. Go-bye. Way to me. Outruns. Flight zones. Pressure point. That'll do! The sport of herding has a unique vocabulary that distinguishes it from all the other canine sports. In addition to basic obedience cues such as sit, down, stay, and come, dogs are trained to respond to cues that tell them when to start moving livestock, in which direction to move them, when to stop moving them, when and how to move them into pens, and how to use their physical presence to pressure the stock to move but not to scare them into running or stampeding. There is dirt, there is dust, there is livestock that can break bones and bruise a body, and there is livestock poop. And herding teams love it all.

## History

Working collies were imported into the United States in the 1800s, which coincided with the arrival of the Cotswold, Leicester, and Merino sheep breeds. U.S. President Thomas Jefferson wrote in personal correspondence that the French herding dogs he imported from France, similar to modern-day Briards, proved to be excellent herders for his Merino and Barbary sheep.

Today, herding competitions offer a wide variety of “courses” to test a herding dog’s ability to move livestock in specific directions over varying distances depending upon the competition venue and level of competition. According to Carolyn Wilki, who runs Raspberry Ridge Sheep Farm in Bangor, Pennsylvania, “Courses can take place in an open field or a small arena and involve hundreds of yards or hundreds of feet, three to 100 sheep, and each run on a course can take anywhere from 10 to 45 minutes.” Wilki, a full-time dog trainer, herding instructor, and shepherd, has helped her students attain more than 100 herding titles with their dogs.

There are a number of different groups that organize competition and titles in herding activities; see the list on the next page. The rules, and even the type of livestock used in competitions, vary depending on the organization and the specific trial. Sheep, ducks, and cattle are common, and geese, turkeys, and goats are also used.

Types of herding competition include:

■ **Fetching and driving livestock through a course** – The dog must “pick up” or gather livestock from a starting point and, under the handler’s direction, move them through a course into a pen. As the level of competition increases, the courses get longer, include a greater variety of turns in direction, and require the dog to work at a greater distance from the handler.

■ **Ranch courses** – These take place in larger areas, outside the standard competi-

tion arena. Dogs must select specific sheep from a group and move them to specific locations. The number of livestock can range from just a few to large flocks.

■ **Tending courses** – The dog must move the sheep from one location to another for grazing and keep them there by acting as a “living fence.”

Each group requires demonstration of different skills and has unique rules. For example, the Australian Shepherd Club of America (ASCA) offers “driving” courses rather than “fetching” courses and requires two qualifying legs for each title before moving up to the next level. ASCA’s rules are more lenient than others when dogs make contact with the livestock while other organizations penalize teams whose dogs grip the livestock. ASCA also allows any breed

## SNAPSHOT OF THE SPORT:



■ **What is this sport?** In herding competitions, cued by his handler, a dog uses his physical presence to move livestock to specific locations.

■ **Prior training required?** Moderate. A candidate should possess good self-control skills and above-average performance at basic obedience tasks.

■ **Physical demands?** On the dog: High. On the handler: Moderate.

■ **Best-suited structure?** This is a physically strenuous sport. Dogs should be very fit.

■ **Best-suited temperament?** Dogs with natural herding instincts, but many breeds enjoy herding.

■ **Cost?** Moderate to high. ■ **Training complexity?** Moderate to high.

■ **Mental stimulation?** High. ■ **Physical stimulation?** High.

■ **Recreational opportunities?** Depends on where you live.

■ **Competition opportunities and venues?** Moderate.

to compete; others restrict which breeds can compete.

Border Collie trials involve huge outruns to compete successfully while others may only require distances of 15-25 feet at the beginning levels. Each organization specifies the distance of outruns as well as many other rules.

Competition points are assigned to different elements involved in running a course. For example, a sample point schedule for an American Herding Breed Association (AHBA) course includes the following elements: Outrun: 20; Fetch: 20; Wear/drive through first panel: 15; Wear/drive through second panel: 15; Weave/drive to pen: 10; Pen: 10; Hold: 10.

## Positive challenge

If herding piques your interest, be aware of two challenges you will face in getting started. The first is perhaps the easiest to overcome. Is there an instructor or school within a reasonable driving distance? The availability of herding training and competition varies widely depending on where you live. Clearly, there will not be as much

opportunity to find large pieces of land and livestock in urban areas.

The second challenge can be more daunting. Many herding instructors use training techniques that include verbal and physical corrections. Yelling, hitting with hands and poles, and harsh physical handling have long played a role in some shepherds' training. These techniques stem from the belief that herding dogs' "drives" or instincts make it impossible to control them any other way in order to protect livestock and get the dog trained quickly.

Sound familiar? The belief is not exclusive to herding. It is, unfortunately, an entrenched belief in other dog activities or sports, too. You might hear it in relation to big, physical breeds. In some sports you might hear about the need to "proof" training by setting the dog up to fail in a particular exercise and then correcting him, in the belief that corrections are the only way to get reliable behavior. WDJ and its contributors eschew this belief. See "We're Positive," January 2007, for WDJ's stance on the benefits of force- and fear-free training.

The trainers interviewed for this article use positive reinforcement (see "Herding without physical corrections? Yes!" next page). Your challenge will be to find a trainer in your area who is committed to using positive reinforcement or who is at least willing to listen to your needs and adapt his/her training to match those.

## Training

Many people's first introduction to herding is an "instinct test" offered at local dog events. This is an opportunity to put your dog in with a small group of goats or sheep and an experienced trainer who is able to evaluate your dog's potential. Carolyn Wilki has conducted thousands of instinct tests.

"The phrase 'instinct test' is sort of a misnomer because the dog brings the sum of his experience to a herding instinct test, not just his 'instinct.' However, it is a shorthand way to refer to the naïve dog's first exposure to herding livestock and what happens in a more or less standardized setting.

"It gives me a snapshot of what a dog wants to do with livestock that day. If the dog 'flunks' – shows insufficient interest or over-the-top aggression – it could mean he has other issues that impede the expression of his herding behaviors *that day*. It does not mean that the dog has no herding instinct. There is a saying among wise shepherds that you don't know what the true herding instinct is in the dog until after you have finished training him/her."

Wilki says that most herding instinct tests involve the use of a stick, rake, lunge whip, or livestock paddle to protect the livestock from an out-of-control dog. People might also yell at your dog in a strong voice or run at your dog or throw a hat or other object.

"I do none of these when I test dogs," says Wilki. "These things are used on your dog as aversive consequences, i.e., punishments for out-of-control chasing behavior. If the use of the aversive objects bothers you, have a discussion with the instinct tester before you enter the test. Some might allow you to work your dog outside the livestock fence. Others might allow you to handle your own dog or handle your own line. But have that discussion. There are gentler ways of doing things; but herding trainers can only do what they know how to do."

Instinct testing can tell the instructor more about the dog's current level of train-

## Further Information Resources

Many excellent websites do not provide phone numbers to contact them for more information, preferring to field inquiries by e-mail. We provided numbers when they were available.

### SANCTIONING ORGANIZATIONS

**American Herding Breed Association (AHBA).** [ahba-herding.org](http://ahba-herding.org)

**American Kennel Club (AKC).** (919) 816-3904; [akc.com/events/herding](http://akc.com/events/herding)

**Australian Shepherd Club of America (ASCA).** [asca.org](http://asca.org)

**Canadian Kennel Club (CKC).** (416) 675-5511; [ckc.ca/en](http://ckc.ca/en)

**Northeast Border Collie Association (NEBCA).** (413) 773-5232; [nebca.net](http://nebca.net)

**United States Border Collie Handler's Association (USBCHA).** (601) 928-7551; [usbcha.com](http://usbcha.com)

### BOOKS

**Herding Dogs: Progressive Training,** by Vergil Holland

### ADDITIONAL RESOURCES

These sites have good general information about herding, including how to start, a glossary of terms, training information, and video clips.

[Stockdog.com](http://Stockdog.com)

[Teecreek.com/herding/html](http://Teecreek.com/herding/html)

[raspberryridgesheepfarm.com/rrsfapp/VideosPage](http://raspberryridgesheepfarm.com/rrsfapp/VideosPage)

[YouTube.com](http://YouTube.com) (enter "herding competition" into the search line)



ing and relationship with the owner than about long-term predictions about successful herding training. That is because much more goes into herding training than just an innate interest in livestock.

To the casual observer watching her first herding team work together, it can look deceptively like a dog simply chasing livestock around a pen. In actuality, herding is about controlled movement under “stimulus control” (the cues of the handler). Although many herding instructors start lessons with dogs working immediately with livestock, Kathy Warner of TeeCreek Dog Training Center in Welland, Ontario, prefers to start dogs with “groundwork.”

At their working farm and training center, Warner and her partner Dave Harris train a variety of dogs for a variety of dog sports. But herding is Warner’s passion.

“There is a lot of training and teamwork that goes into herding,” says Warner. “Dogs are expected to know what direction to flank around the sheep, when to slow down, when to stop, when to look back for escaped stock, how close to get to the

stock, how much pressure to put on the stock to get it to move, how to cut out one animal from the flock, and much more. Groundwork is where I use the clicker and food or toy as the reward.”

Common groundwork includes:

- Motivation to work for food or toys
- Circle in both directions around the toy or food (flanking)
- Walk a straight line to the toy or food (walkup)
- Out (turn away from toy or food and walk)
- Stop (stand)
- That’ll do (leave what he is doing and come to you)
- There (turn into the toy or food and face it)
- Down (instantaneous response from a distance and stay until released)

Another important element in Warner’s beginning herding training is called “dry

work” during which she practices the dog’s training without livestock. For example, she practices the dog’s understanding of “visual pressure” so that he knows to move into or away from the livestock. She uses a rake, presenting this visual object to cue the dog where to move.

Warner will also use a clicker in the ring with the handler, dog, and livestock when she needs it to precisely identify correct behaviors from either the handler or dog. “Dogs who do not have a great interest in stock or have too much attention on the owner benefit from the clicker. The clicker can capture that exact instant the dog looks at the stock. It also can capture the exact instant the handler pays attention to the stock instead of her dog!”

Like many dog sports, herding training can reap benefits far beyond the sport itself. Wilki works with many dogs with challenging behavioral problems. “Herding training can be helpful in teaching a dog to respect the owner, people, dogs, and other animals; and for teaching the dog how to control his basic canine impulses to chase, to run away, to bite, etc. It’s also good for

## Herding Without Physical Corrections? Yes!

Herding has a long history of using harsh training methods to teach dogs not to injure the stock while doing their job of moving the stock from place to place. Although there are many trainers who train with positive reinforcement and negative punishment (such as a timeout from the prized activity), there are just as many who still use training techniques that include hitting the dog with poles, heavy-handed handling, and other harsh corrections.

With every sport, but perhaps this one in particular, we recommend that you ask about the trainer’s philosophy regarding positive training and corrections, to make sure that it is congruent with your own. Also, be sure to watch several classes with an instructor before enrolling.

The trainers interviewed for this article are both experienced and accomplished shepherds, trainers, and instructors committed to using positive reinforcement. Here are their comments on the subject of using positive reinforcement in herding.

### Carolyn Wilki

#### Raspberry Ridge Sheep Farm, Bangor, Pennsylvania

One must be careful about the way the herding training is done. The shepherds I learned from believed that you could not punish a dog without consequence, and that the dog should always be set up for success in training, not failure.

The herders who influenced me the most used minimal punishment. They might remove an out-of-control dog or not let a dog herd if he looked out of control before herding. They might step on a leash or use a longline to slow the dog down.

If the dog made a mistake, these trainers would never blame the dog. They would blame themselves for not being clear enough to their dogs; then they would try to think of future training setups to convey that training message with more clarity. They never used harsh physical punishment or correction. Instead, they tried to show the dog what to do, not what *not* to do.

I have seen dogs who were trained with compulsion and correction develop issues that did not exist before the herding training, including (but not limited to) person aggression, dog aggression, sheep aggression, noise phobias; and leash, stick, hand, voice, and human sensitivities and shyness.

### Kathy Warner

#### TeeCreek Dog Training Center, Welland, Ontario

A person who has done her groundwork will not need to make many adjustments to the dog’s position. You will not see how a skilled trainer uses subtle body movements to adjust the dog’s position. A slight lean by the trainer toward a specific spot on the dog’s body will convey volumes of information to a dog who has been trained to respond to body cues during groundwork training. For these dogs, placing the rake between the stock and the dog becomes an effective “barrier” to the dog that he will not move beyond.

People tend to expect the animals they are working with to understand them; instead, they need to learn to understand animals. Herding is a predator and prey situation and handlers need to educate themselves on this before starting herding.

teaching the dog to listen and calm and focus in extremely tense, demanding situations. Herding training can help the dog become more tolerant of the usual bumps and bruises in life, and it can help to boost his confidence. If a dog can handle difficult herding situations, there is not much else in life the dog cannot handle.”

## What it takes

Herding is “an equal opportunity sport” according to Kathy Warner. “We have people of all ages and walks of life herding with us. Some grew up on farms and some grew up in cities. We have had several physically challenged handlers as well.”

This sport requires a lot of room and

livestock. Although you can practice the groundwork skills at home, this is a sport that requires at least a flock of ducks, if not goats and sheep.

In addition to livestock costs, herding lessons are expensive. They range from \$40 to \$120 per 30-minute private lesson and \$20 to \$40 for group lessons. Depending on the individual instructor, group lessons may allow you several times with the livestock and trainer or as few as two to three times, waiting your turn as in most group classes.

Entry fees and travel will be your second biggest expenses. Depending upon the competition venue, entry fees run between \$35 to \$65 per entry.

Even if you don’t want to compete, herding is a great outlet for dogs with a lot of energy and a desire to move livestock. Warner believes it is one of the best sports for both people and dogs. “I think the most important thing is that it builds a strong bond between the dog and owner. If nothing else, it sure brings out your shortcomings in your relationship with animals! Herding teaches you more about yourself than you would ever think possible.” 🐾

*Terry Long, CPDT, is a writer, agility instructor, and behavior counselor in Long Beach, CA. She lives with four dogs and a cat and is addicted to agility and animal behavior. See page 24 for contact info.*

## Realizing a Dream of Herding

As long as she could remember, Sharon Arthur has loved dogs, doting on a variety of mixed-breeds her family adopted from a shelter in her medium-sized city in Ontario, Canada. When she was six years old she saw a working Border Collie on a relative’s farm, and her fascination with Border Collies began. She was enthralled by how the farm hand appeared to just slowly move around and the dog brought the sheep to him.

As a young adult, the first thing Sharon did when she moved from an apartment to a house with a yard was to fulfill her dream. A good friend had found a local breeder who bred working collies on his farm. Together, they went to look at a litter, watched the parents work, met the puppies, and came home with an eight-week-old red and white male pup she named Maddie, called Maddie for short.

Maddie was typical of his breed: he was precocious, active, and smart. Arthur had researched the breed and looked forward to the training she knew it would take to get him ready for her dream of herding. Even so, she wasn’t quite prepared for a puppy who quickly grew into a “single-minded intellect inside and an overactive and single-minded four-legged body.” A basic obedience class she took when Maddie was six months old was frustrating. “It was quickly clear that the instructor may have understood how to teach obedience to most breeds, but had no understanding of the herding breeds. Maddie had trouble handling all the movement around him. The trainer just kept telling me that herding breeds were no good for obedience as they lacked focus.” Arthur didn’t give up and worked hard to train a basic recall, sit, and down. She also began to search in earnest for a trainer who could help her.

Arthur’s search took her to TeeCreek Dog Training Center and Kathy Warner and Dave Harris in Welland, Ontario, about 10 minutes north of Niagra Falls, New York. “Kathy’s inexplicable connection and ability to translate Maddie’s behavior and our relationship led us to move out of the herding ring to find a means to harness and focus his energies while teaching me my role in this team.”

Under Kathy’s tutelage, Arthur took up clicker training, tricks, basic pet manners, and flyball. “Flyball is a game of



**Sharon Arthur is living out her sheepherding dreams with her Border Collie, Maddie.**

send and teamwork. You train your dog to go away from you, travel the hurdle path, retrieve the ball from a target, and return to you for the reward – tug, food, whatever works. Training the small pieces to

complete the whole relay race taught me patience, my role in team leadership, and trust in Maddie’s role in the team. It taught him that it was alright to be sent away from me.”

Finding a trainer who understood the bigger training picture was essential for Arthur to hold onto her dream of herding with Maddie. “Kathy knew that all this other training could translate into a dog and handler who had a better understanding of each other and trust in their abilities to work as a team. Our herding sessions became more fluid and less fear-based. I relaxed and so did he. I began to listen to the lessons he could teach me about herding and realized I needed to learn more about the livestock so I could understand what he was trying to tell me.

“After lots of hard work, fun, and frustration, a year later I realized my lifelong dream: I stood with tears streaming down my face while my boy and I were handed the score sheet qualifying us for our first leg on an AHBA herding title in our very first trial.”

Since then, Arthur and Maddie have earned more flyball titles, learned more tricks, and completed their first AHBA Ranch Dog title. Arthur has also added one of Maddie’s sons and a Corgi to her pack.

Arthur says herding has given her more than just an outlet for her dog’s high energy and genetics. “I know how important the smallest success and the lessons learned from the worst failure are both positive human motivators, and I will never tire of witnessing the power of animals as companions, teachers, and healers in our lives. As the TeeCreek motto says, ‘We do not stop playing because we grow old. We grow old because we stop playing.’”

# Scraping Bottom

*The lowdown on problematic canine anal sacs.*

BY STEPHANIE COLMAN

It's the stuff nightmares are made of. You're relaxing on the sofa after a long day of work. The dogs have been walked, fed, and played with, and as you reach for the remote or your favorite book, out of the corner of your eye you spot one of your dog's innocently dragging his bum across your bearskin rug! You have just been sacked by anal sacs.

Anal sacs are located on either side of your dog's anus, between the external and internal sphincter muscles. Depending on the dog, they range in size from that of pea to a lima bean. Sebaceous glands within the lining secrete a foul-smelling liquid.

Under normal circumstances, the sacs empty on their own during bowel movements via a pair of ducts. This natural, routine emptying serves as a means of olfactory communication and establishing territory. Each dog possesses his own unique scent, which is why ritualized dog-to-dog greetings include copious rear-end sniffing. When a dog presents his rear for information gathering, the muscle move-

ments involved in raising the tail apply pressure to the sac, prompting the release of additional scent.

Anal sac scent marking is also what makes dogs so interested in each others' feces. A good whiff of anal sac intel can reveal a lot about the name, rank, and serial number of the depositor.

Under normal circumstances, dogs successfully manage their anal sacs all on their own to the extent that many owners never even realize they exist. When problems develop, however, they are difficult, if not impossible to ignore (did we mention the strong smell?), and can quickly go from bad to worse, so it's important to know what to look for and how best to respond to signs of trouble.

## Location, location, location!

Knowing where to look is the first step in identifying potential trouble. It's more challenging to examine the "business end" of a long-coated breed, but don't let the added difficulty deter you. Raise the dog's



The contents of each dog's anal sacs have a scent unique to that individual, which is why dogs often greet each other by sniffing each other's rear ends.

## What you can do . . .

- To help prevent problems, feed a healthy diet and be sure your dog gets plenty of exercise on a regular basis.
- Routinely inspect your dog's anal area for redness, swelling, infection or other problems. Teach your dog to be tolerant of this type of handling.
- Learn how to express anal glands yourself, but avoid overdoing manual expression of otherwise healthy, functional glands.
- Don't wait for a minor problem to become a major one! Make an appointment for your dog as soon as possible if you observe signs of infection.



tail and examine the anal area. If the anus was a clock, the sacs would be located just below the opening at the five and seven o'clock positions.

Not seeing anything suspicious is a good sign. You generally won't see the sacs of healthy, problem-free dogs. In contrast, redness, irritation, heat, or obvious signs that the dog has been chewing at his backside are all signs of trouble. In extreme cases of anal sac abscess, the swollen, infected gland may be visible underneath the skin and is prone to rupturing. When signs of trouble exist, a trip to the vet is in order.

As with all routine pet care, it's a good idea to practice often and reward with calm praise and a tasty tidbit. Routinely handling



all parts of your dog will help make necessary inspections like this one less stressful for all involved.

## Scooting

When good glands go bad, anal sac problems generally present as impaction, infection, or abscess. Impaction is the most common problem and is the result of an accumulation of secretions in the anal sac that the dog is unable to express on his own. This is typically caused by a thickening of the secretions or because the ducts from which the secretions exit the body have become temporarily clogged.

The most noticeable symptom of impacted anal glands is the “scooting” behavior where the dog drags his rear-end along the ground in an attempt to facilitate relief. Once they are impacted to the point that you see signs of your dog’s discomfort, the sacs need to be manually expressed by the skilled hands of a veterinarian, groomer, or brave dog owner who has been properly taught how to correctly do the deed.

Impacted glands are most often caused by consistently soft stool or after a short bout with diarrhea. When the stool is too soft, the sphincter muscle doesn’t apply

enough pressure to empty the sacs as the dog expels feces.

Lack of proper exercise, excess body fat, poor muscle tone, and diet-related allergies are also contributing factors, according to Dody Tyneway, DVM, of Holistic Veterinary Center in Calabasas, California. Dr. Tyneway sees a high number of dogs who suffer from ear and skin issues along with repeated anal gland problems and says that, in the case of “itchy ears and rears,” it’s a good idea to look at a potential food allergy as the underlying source of trouble.

Diet is considered by many to play a critical role in managing and treating impacted anal glands. Once the problem sacs have been manually emptied, you can help your dog maintain her comfort by adding fiber to her diet; this will help bulk up the stool enough for muscle contractions to naturally move secretions along as the dog defecates.

You can add fiber to a dog’s diet via a bulk-forming laxative. Suggested sources of fiber include unprocessed wheat bran (1 to 5 tablespoons per day, depending on the size of your dog), Metamucil (1 to 5 teaspoons per day) or plain canned pumpkin (1 teaspoon to ½ cup). Your

veterinarian may also recommend a high fiber prescription diet.

Dried fruit such as apricots, prunes, or figs; raw flax seeds; wheat cereal; fresh vegetables such as green beans, peas, or carrots; shredded coconut; wheat bran, and powdered psyllium husks have all been anecdotally linked to better anal sac management in dogs. When experimenting with food additives, start small. It’s recommended that fiber additives be soaked in water prior to consumption to help prevent possible intestinal blockage. Keep in mind that adding bulk-forming laxatives not only will increase the size of your dog’s stool, but also will promote more frequent elimination, so be sure to provide plenty of bathroom breaks.

Additionally, Dr. Tyneway recommends adding a solid source of probiotics; she likes those in the supplements offered by RX Vitamins (rxvitamins.com) or Sedona Labs (sedonalabs.com). Probiotics help maintain normal levels of healthy intestinal micro-flora and can be beneficial in normalizing bowel functions. She adds that while probiotics are also found in yogurt, they don’t exist in a quantity thought to be beneficial, so it’s best to use a supplement that has been independently tested to assure potency.

Additional dietary fiber to bulk up the stool and increased exercise to promote good gastrointestinal motility is all that’s needed to help most dogs regain the ability to “express themselves” on a regular basis. Nobody knows for sure why some dogs develop problems while others don’t.

“There seems to be an individual predisposition to develop anal sac problems or not,” says Lore I. Haug, DVM, DACVB, CPDT-KA, CABC, of Texas Veterinary Behavior Sciences in Sugar Land, Texas. Some dogs may always require a periodic assist. According to Dr. Haug, an occasional need (3-4 times per year) to have the sacs expressed is considered normal; if the dog requires this procedure monthly, it’s a sign of a bigger problem and the dog should be seen by the vet for a thorough rectal exam.

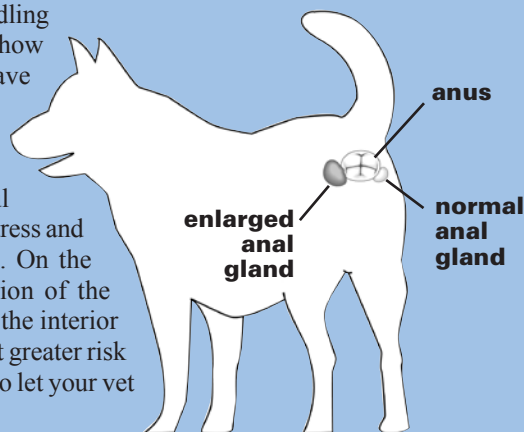
Prevention is really the name of the game, because when impactions worsen, the sacs can become infected. Anal sacculitis is recognized by the presence of blood or pus in the secretions; and/or inflammation, swelling, and heat around the anal area. The dog may continue to scoot, lick, and bite at his rear; be reluctant to let you investigate the area; and display signs of

## Express Yourself

If you find your dog scooting or biting at his backside, he may need assistance in expressing his anal sacs. It’s wise to have a vet or groomer show you how, since aggressive over-handling of the perianal area can sometimes do more harm than good. If you notice signs of infection, be sure to have the sacs evaluated by a veterinarian.

When attempting to express the sacs yourself, begin by lifting your dog’s tail and locating the sacs at the five and seven o’clock positions. When full, the sacs will feel firm. Grasp the skin surrounding the sac between your thumb and forefinger and squeeze upward in a milking fashion. If done correctly you’ll see a brown, liquid discharge. You’ll definitely *smell* the discharge, so be ready to wash off the dog’s backside. If the secretions are yellowish, bloody, or pus-like, a vet visit is in order to address infection.

There are pros and cons to handling anal sacs on your own. Knowing how to properly express the sacs can save money and allow you to provide your dog with immediate relief without needing to wait for a vet appointment. It can also be helpful for fearful dogs who experience stress and anxiety while at the vet’s office. On the other hand, incorrect manipulation of the area can cause irritation or crush the interior mucosa lining, putting your dog at greater risk of developing infection. It’s best to let your vet or groomer teach you how.



discomfort when sitting or attempting to defecate. Depending on the severity of the infection, treatments can range from herbal and homeopathic remedies to antibiotics, given orally and/or injected directly into the sacs.

In extreme cases, the sacs can abscess, resulting in the signs of anal sac infection, along with fever, extreme swelling, and discoloration that usually transitions from red to a deep purple. Once the sacs have abscessed, they cannot be manually drained in an effort to produce relief and the abscess must rupture through the adjacent skin to create a drainage tract. If the abscess does not rupture naturally, it must be lanced by a veterinarian. Often, infected or abscessed sacs are so painful that the dog must be anesthetized in order to be treated.

## Recipes for relief

When problems first present themselves, there are several at-home remedies owners can try, keeping in mind that signs of infection indicate the need for professional veterinary care. Richard Pitcairn, DVM, author of *The Complete Guide to Natural Health for Dogs and Cats*, recommends treating impacted anal glands with a hot fomentation of either marigold flower (*Calendula officinalis*) or red clover (*Trifolium pratense*) blossoms, to soften the contents of the sacs.

Stir a heaping tablespoon of the herbs into a quart of boiling water. Soak a washcloth in the solution until it's just cool enough to handle. Apply the wet washcloth to the affected area, re-warming as necessary. Warming the area increases blood flow, softens the tissue, and can make expressing impacted sacs much easier.

Owners wishing to try a ready-to-

use product might consider Anal Glandz by Native Remedies. This concentrated tincture is an herbal remedy consisting of annual nettle, dandelion, German chamomile, yarrow, and silica and is applied as a warm compress. The product is said to ease expression of impacted anal sacs while cleansing the anal area and helping prevent abscess.

Veterinarians who use homeopathy regard that modality as effective for anal sac abscesses. Dr. Tyneway adds that acupuncture or chiropractic treatments put an end to recurrent anal sac problems. In any case, a thorough rectal exam performed by a veterinarian is needed to rule out other problems such as tumors.

## Hit the road, sac!

In extreme cases, vets sometimes recommend that the anal sacs be surgically removed. The decision to have your dog undergo this surgery should not be taken lightly, as it is not without risks, mainly that of trauma to the sphincter muscle resulting in poor muscle tone and fecal incontinence. Still, for some dogs and their owners, it can be the most humane, efficient, and cost-effective option available.

For the Ruhr family of Moorpark, California, choosing to have their Golden Retriever/Lab-mix's anal sacs removed was a decision that came after nearly a full year of battling exceptionally problematic anal sacs. The scooting began when Hailey was six months old. Suspecting, as many dog owners do, that Hailey might have parasites, Wendi Ruhr took the dog to the vet, who discovered that the dog's sacs were impacted. The sacs were expressed and Ruhr thought the problem was solved.

For the next year, if Ruhr didn't take Hailey to the vet to have her sacs expressed

every three to four weeks, she'd come home to discover that the dog had, in her words, "exploded" inside her crate. While normal anal sac secretions are minimal, Hailey produced and secreted far too much fluid. At her vet's suggestion, Ruhr tried adding pumpkin to Hailey's diet, changing kibble brands, and adding dietary supplements, all to no avail. Although there were never any signs of infection or abscess, they even tried a round of antibiotics injected directly into the sacs.

When nothing seemed to work, Ruhr met with a veterinary surgeon to discuss having the anal sacs removed and the decision was made. The surgery went well. Recovery required a difficult two weeks of antibiotics, stool softener, and pain medication, and required a great deal of effort to encourage Hailey to defecate, a behavior that was obviously painful in the days immediately following surgery.

Today, six months following the procedure, the family is pleased. Hailey has fully recovered, leads a normal life, and the only side effect seen by the Ruhr family is that she dislikes other dogs sniffing at her backside, a behavioral issue they are addressing with the help of a trainer.

Despite the potential for unpleasant complications, anal sacs are a normal part of your dog's anatomy and should be treated as such. In most dogs, problems can be prevented by implementing general good health practices such as providing a healthy diet and regular exercise; maintaining your dog's recommended body weight; making sure your dog always has a source of fresh, clean drinking water; and providing adequate opportunities and space for proper elimination.

Experts agree with the adage, "If it ain't broke, don't fix it," advising against routine manual expression of otherwise healthy, problem-free anal sacs. At the same time, knowing what to look for can help you provide your dog with relief and proper medical care if and when problems present themselves in the (rear) end! 🐾

*See "Resources," page 24, for information on products and experts mentioned above.*

*Stephanie Colman is a writer and dog trainer in Los Angeles. She also provides twice-weekly training tips for the local NBC affiliate's morning show, "Today in L.A." She shares her life with two dogs and actively competes in obedience and agility. See page 24 for contact information.*

## Older Dog Alert

In addition to routine anal sac issues, several other potential health problems such as fistulas, polyps, and even cancers can affect the perianal area. Anal sac adenocarcinoma is reported to represent 2 percent of all skin tumors and 17 percent of perianal tumors in dogs. Historically, older females were thought to be at the greatest risk; however, newer findings show a more balanced distribution between spayed females and neutered males. The average age of dogs at diagnosis is 10.5 years.

Initial symptoms can mirror that of impacted anal sacs, including scooting, excessive licking, swelling, and discomfort. This is often accompanied by excessive thirst and urination resulting from tumor-induced hypercalcemia. For this reason, and because early diagnosis and treatment is essential to the management of this type of cancer, owners are encouraged to request that a thorough rectal exam be performed as part of their dog's annual vet visit, especially for older dogs.

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## RESOURCES

### HOLISTIC VETERINARIANS

**American Holistic Veterinary Medical Association (AHVMA)**, 2214 Old Emmorton Road, Bel Air, MD 21015. (410) 569-0795. Send a self-addressed, stamped envelope for a list of holistic vets in your area, or search [ahvma.org](http://ahvma.org)

### BOOKS

WDJ Training Editor Pat Miller is author of *The Power of Positive Dog Training; Positive Perspectives: Love Your Dog, Train Your Dog; Positive Perspectives II: Know Your Dog, Train Your Dog*; and *Play with Your Dog*. All of these books are available from DogWise, (800) 776-2665 or [dogwise.com](http://dogwise.com)

*The Encyclopedia of Natural Pet Care* and *Natural Remedies for Dogs and Cats*, by WDJ contributor CJ Puotinen, are available from DogWise, (800) 776-2665 or [dogwise.com](http://dogwise.com). Puotinen is also author of several books about human health including *Natural Relief from Aches and Pains*, available from your favorite bookseller.

### TRAINING AND INSTRUCTION

**Stephanie Colman**, Caninestein Dog Training, Los Angeles, CA. Stephanie teaches private lessons and group classes, and provides twice-weekly training tips for the NBC affiliate's morning show, "Today in LA." (818) 989-7996; [caninsteintaining.com](http://caninsteintaining.com)

**Terry Long**, CPDT, DogPACT, Long Beach, CA. Terry is a writer, agility instructor, and behavior counselor. She provides pre-adoption counseling, behavior modification, and group classes in pet manners and agility. (562) 423-0793; [dogpact.com](http://dogpact.com)

**Pat Miller**, CPDT, Peaceable Paws Dog and Puppy Training, Fairplay, MD. Train with modern, dog-friendly positive methods. Group and private training, rally, behavior modification, workshops, intern and apprentice programs. (301) 582-9420; [peaceablepaws.com](http://peaceablepaws.com)

### ANAL SAC RESOURCES

*Dog Owner's Home Veterinary Handbook*, by Debra M. Eldredge, DVM, Liisa D. Carlson, DVM, Delbert G. Carlson, DVM, and James M. Giffin, MD. Wiley Publishing, Inc. 4th edition, 2007

*Dr. Pitcairn's Complete Guide to Natural Health for Dogs & Cats*, by Richard H. Pitcairn, DVM, Ph.D. and Susan Hubble Pitcairn. Rodale Books, 3rd edition, 2005

*Identifying and Treating Anal Sac Adenocarcinomas in Dogs*, by Meredith Gauthier, DVM, DACVIM, Lisa G. Barger, DVM, DACVIM, and Kristine E. Burgess, MS, DVM, DACVIM. [dvm360.com](http://dvm360.com), Feb 1, 2009

**Lore I. Haug**, DVM, DACVB, CPDT-KA, CABC Texas Veterinary Behavior Sciences, Sugar Land, TX. (281) 980-3737; [texasvetbehavior.com](http://texasvetbehavior.com)

**Dody Tyneway**, DVM, Holistic Veterinary Center, Calabasas, CA. (818) 880-0838; [holistic-vet-center.com](http://holistic-vet-center.com)

**Anal Glandz**, an herbal remedy by Native Remedies. (877) 289-1235; [nativeremedies.com](http://nativeremedies.com)



## WHAT'S AHEAD

### After Your Loss

*Planning ahead, caregiver support, and burial/memorial options.*

### Is Smaller Better?

*It may seem that training small dogs is easier, because their bad behavior is pint-sized. But training tiny dogs poses some special challenges.*

### Alphabet Soup

*What are all those letters after some trainers' names? Do they make someone a better dog trainer? What should you look for in a trainer?*

### Predatory Behavior

*It may be as minor as a squirrel obsession or as serious as a cat murder. Either way, predatory behavior can be managed, if you're committed.*