

Your complete guide to natural dog care and training

# Whole Dog Journal™



**On page 8. Reinforce this** beautiful eye contact frequently and consistently to build soft, attentive on-leash behavior. Both of you will enjoy your walks together much more than before!



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Minimum order 1,000

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**Whole Dog Journal** (ISSN #1097-5322) is published monthly by Belvoir Media Group, LLC, 535 Connecticut Avenue, Norwalk, CT 06854. Robert Englander, Chairman and CEO; Timothy H. Cole, Executive Vice President, Editorial Director; Philip L. Penny, Chief Operating Officer; Greg King, Executive Vice President, Marketing Director; Ron Goldberg, Chief Financial Officer; Tom Canfield, Vice President, Circulation. Periodicals postage paid at Norwalk, CT and at additional mailing offices. Copyright ©2017, Belvoir Media Group, LLC. All rights reserved. Reproduction in whole or in part is strictly prohibited. Printed in U.S.A. Revenue Canada GST Account #128044658. Canada Publishing Agreement Number #40016479.

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

Postmaster: Please send address changes to

**Whole Dog Journal,**

PO Box 8535, Big Sandy, TX 75755-8535

In Canada, send address changes to

**Whole Dog Journal,**

PO Box 39, Norwich, ON, N0J 1P0



# A Good Time

*We love it when information or products arrive when needed most!*

It's amazing to me how many times I've assigned an article to one of WDJ's regular contributors, or one of them has approached me about writing an article, and within days of receiving that article, I'm suddenly faced with the subject of the article in person – so to speak.

For example, I asked Cynthia Foley, who lives in upstate New York, if she could write something for us on *Giardia* and *Coccidia*, parasites that I've had to deal with several times while fostering puppies for my local shelter. I received the article, started tinkering with it – and within a week, I had heard from three different friends whose combined five dogs had diarrhea, who called me wanting to know what I knew about these protozoan pests. Thank goodness I had an article I could refer to!

It turned out that the three dogs who lived together all tested positive for *Giardia*, another friend's dog tested negative, and the owner of the fifth dog reported that the dog's diarrhea had stopped, and she was going to delay testing unless it returned. All that talk made me start fretting about my dog Woody's occasional diarrhea, and given that he's romped with every litter of parasite-infested puppies I've fostered in the past year, I submitted a stool sample to his veterinarian. Negative! Whew!

It happened again with Pat Miller's article on front-clip harnesses. When my shelter had to evacuate about 80 dogs in February (go ahead and Google "Oroville Dam" – my shelter and I are both located just downstream) – I was miraculously able to put a wealth of harnesses into use on dogs who had never been taught not to pull. Great timing!

I've actually been immersed in this latter topic for a few months. Pat gave me a list of 15 or 16 products that had been recommended by fellow force-free trainers and clients, and I narrowed down the candidates that we would test to an even dozen. I wanted our readers to see how the harnesses all looked on the same dog, and resolved to use Woody as a model. My fuzzy guy, Otto (pictured with me above), is actually a far superior model; he'll stand quietly for any amount of time and look noble on cue (the secret is the phrase, "Where's the cat?"), whereas Woody, like the adolescent he is, starts to look bored and morose within minutes (as you can observe on the opposite page). But you just can't see training gear on Otto; his fuzz is too profuse!

I carefully measured Woody again and again, since all the harness manufacturers use different dimensions to size their products. Even so, four of them had to be returned for a product in a different size, and then all of them had to get photographed and sent to Pat for her tests. At last it's all done, the results are in – we hope you enjoy our recommendations! And the products are being sent home with dogs who are about Woody's size who have been adopted from my shelter.



NK



PRODUCT  
REVIEW

# Harness the Power

*Front-clip harnesses can help you manage a strong-pulling dog while you work to improve his on-leash behavior. We've reviewed and rated a dozen products for safety, comfort, and effectiveness.*

For dogs who pull on leash, I have long preferred harnesses over choke chains, prong collars, shock collars, and even flat collars and head halters. When the first dedicated front-clip no-pull harness (the SENSE-ation Harness) arrived on the market over a decade ago, I was an instant fan of a leash-attachment ring on the harness strap that goes across the front of the dog's chest. With a properly fitted harness and gentle pressure on the leash (clipped to a ring on the dog's chest), even a physically challenged handler could turn a pulling dog's front end back toward her – and reinforce the dog for slacking the leash in this way – helping the dog learn not to pull.

Many other force-free trainers also embraced the new design as a huge improvement over head halters, which were clearly aversive to many dogs. In contrast, most dogs seem to accept the front-clip harness instantly, with only a very small population who seem to find the harness aversive. In my experience, most dogs who object to the harness are sensitive to touch and/or handling, and it's the process of putting the harness on, rather than wearing the harness, that they object to.

In the years since the SENSE-ation Harness made its debut, an overwhelming number of additional front-clip harnesses have been introduced and an ever-increasing number of people now use these products.

Some owners of dogs who tend to pull on-leash use these harnesses to prevent potential harm from excessive pressure on their dogs' tracheas. Many others seek out these harnesses primarily for use as management tools that lend a mechanical advantage, allowing a small or physically challenged person to safely walk a hard-pulling dog.

As a dog trainer, I'd strongly prefer for



owners to learn how to teach their dogs not to pull – but I'm also cognizant that unless an owner feels secure in her ability to control the dog, she will tend to avoid taking the dog out on walks for training. No-pull harnesses provide, in my experience, the least harmful way to give many owners the window of opportunity to reinforce – and thereby train – polite leash walking.

## FRONT-CLIP CRITICISM – AND FIXES

However, given their popularity, and a prevalent lack of attention to proper fit and adjustment, it's now common to see dogs in obvious discomfort in poorly fit front-clip harnesses that interfere with their movement, even when they are walking without pulling. And some veterinarians and veterinary physical therapists say they have seen an increase in dogs who have suffered injuries or chronic pain from these harnesses.

Fortunately, a number of front-clip harnesses have been developed specifically to address the concerns about the potential physical effects of undue pressure from a

*The "Perfect Fit" harness lives up to its name. Each of the three component pieces that make up the harness can be purchased in a different size, ensuring comfort to dogs of any dimensions.*

harness on a dog's shoulders, possibly interfering with gait and physical development. With so many new products on the market, we figured it was about time for WDJ to review the broad range of front-clip harnesses currently available. We asked our own clients, fellow trainers, and their clients to recommend their favorite products, and selected the most-recommended dozen to review.

### GENERAL REMARKS

All the harnesses we reviewed work reasonably well to mitigate pulling by putting tension on the front of the dog's chest; many also offer back-clip options. These products can be used with a leash that has clips at both ends; the handler can use pressure on the back attachment point to guide the dog when she's not pulling, and control her pressure on the front attachment point if she begins to pull.

All of the harnesses slipped sideways to some degree when pressure was applied, but some slipped significantly more than others, increasing discomfort and chafing for the dog.

In addition, the front straps on some of the products sagged significantly; we found this to be particularly true of the models with straps that cross the dog's chest horizontally. Reportedly, straps that sag (or are fitted too low) are

a major source of injuries to dogs' forelimb tendons, due to interference with the dog's natural gait. Sagging chest straps can be reduced to some degree by clipping the leash to the dog's collar as well as the front ring, but this remedy can reduce the effectiveness of the harness to mitigate the strength of the dog's pulling.

The harnesses with straps across the shoulders generally do a better job of reducing pulling, but we acknowledge that this advantage may not be enough to offset the concern for physical damage to the dog.

### TOP-RATED (4 PAWS) PRODUCTS

Our top-rated harnesses all fit well, with minimal sagging, sideways slipping, or gapping of the front strap. These strengths are due to the fact that all three are designed with a Y-shaped chest piece rather than a horizontal strap across the shoulder (the kind that reportedly causes discomfort and injury). All three are easy to put on the dog and are effective in reducing pulling. Despite some marketing claims, none of them "fixed" pulling in "just minutes" – *all* harnesses require some training in the process in order to truly teach a dog to walk politely on the leash.

Our three top-rated harnesses are presented in alphabetical order:



To put it on the dog, you put the "collar" section over the dog's head, pass the lower straps through the dog's front legs, and snap them on both sides to the top strap (which is easy to identify and position, given its contrasting color). It's super easy.

**PROS:** Good-quality materials, simple design. Very minimal sideways shifting of chest ring when leash pressure is applied. Girth strap can be adjusted far enough back to be well clear of armpits to avoid chafing.

**CONS:** Seriously, we were hard-pressed to find anything to criticize one this harness; none.

### WDJ's Product Ratings

*The product has no redeeming value that we can appreciate.*

*🐾 We are including the product only because of its potential for improvement.*

*🐾🐾 The product has some value, as well as some serious flaws. Some of its features may be useful in certain applications.*

*🐾🐾🐾 A good product, with one or two significant flaws.*

*🐾🐾🐾🐾 As good as it gets. We strongly endorse the product.*

#### Balance Harness

We like this well-designed, well-made harness a *lot*. Made by Blue-9 Pet Products, it offers two nice, large rings as attachment points, one in the front and one on the back, and adjusts in *six* places – more than any of the other products we reviewed. Every single strap that connects one piece of hardware to another adjusts individually: the left and right sides of the neck, the left and right sides of the chest, as well as the straps that connect the "collar" of the harness to the "girth" (one on the back of the dog's neck and one that goes between his front legs); this enables an owner to get the fit *just right*.

#### Front Range Harness

Like all of Ruffwear's products, their Front Range Harness is very attractive and well made, with heavy-duty hardware and double stitching throughout. It offers two leash-attachments points (front and back) and adjusts in four locations. It's very easy to put on; just slip the collar section over the dog's head, draw the straps between his front legs, and click the two long straps into the plastic buckles on either side.

The nylon straps are actually a bit thin, but because so much of the harness is well padded, this should not present a chafing issue.

We love the two places where a



Front Range Harness

**Perfect Fit Modular Fleece Harness**

This harness is the most expensive one we reviewed, but is also one of the best made, best-fitting, and most comfortable harnesses we found.

The Perfect Fit is constructed from three pieces that are chosen individually, based on your dog’s unique measurements. The top, front, and girth pieces clip together to make a complete harness with two connection points, front and back, and five places where the straps can be adjusted. Even “tripod” dogs (those who are missing a front limb) can be successfully fitted with this harness.

The harness straps are available in three different widths, from 15 millimeters (a smidge more than half an inch) to 40 millimeters (a little more than 1½ inches) wide. The bigger the dog you are fitting, the wider the straps you will select. All three pieces that you select for your dog’s harness must be the same width. The top piece is easy to differentiate from the chest piece, as the top is always the colored one. (The black top piece has reflective stitching, so it can’t be confused with a black front piece.)

The Perfect Fit is easy to put on the dog. Just slide the collar section over his head, draw the straps between his front legs, and clip the plastic buckles on each side of his



Perfect Fit Harness

dog’s identifying information can be located: there is a pocket for the dog’s ID tag, and a write-on spot on the inside of the chest piece.

**PROS:** No straps across the shoulders. Straps adjust easily. Nicely padded for uber-comfort, including padded tabs that insulate the dog’s skin from the plastic buckles to reduce chafing.

**CONS:** The front ring is small, and looks like a possible weak point; it looks vulnerable to failing due to pressure from a strong-pulling dog.

body to the top piece. The harness adjusts easily; the fifth adjustment location, on the strap that connects the “collar” of the harness to the “girth,” helps ensure that the girth can be positioned well behind to elbow to prevent chafing in the armpit.

**PROS:** Almost the entire harness is lined with soft fleece – not likely to chafe! The modular system allows for custom fitting for dogs of any size.

**CONS:** Fleece may collect dirt and/or burrs, and may wear easily. At the high end of harness price range.

**WDJ’S TOP-RATED FRONT-CLIP HARNESSSES**

Rating	PRODUCT Company information	Price	Sizes	Colors	Fit	Function
	<b>BALANCE HARNESS</b> Blue-9 Pet Products, Maquoketa, IA (563) 293-5999 blue-9.com	\$38 to \$40	Five sizes, XS to L	Five color choices for back strap (the rest is black).	Easy to put on over the head – colored strap goes on the top.	Six adjustment points, no shoulder restriction. Works very well to reduce pulling, with almost no slippage or gapping.
	<b>FRONT RANGE HARNESS</b> Ruffwear, Bend, OR (888) 783-3932 ruffwear.com	\$40	Five sizes, from XXS to L/XL.	Six color choices.	Four adjustment points, very easy to put on over the head.	This harness worked well to control pulling, and the attachment point moved only slightly off-center with use, moving promptly back to center when pulling ceased.
	<b>PERFECT FIT MODULAR FLEECE HARNESS</b> Clean Run Productions, South Hadley, MA (800) 311-6503 cleanrun.com	\$45 - \$70	Straps come in three different widths, with four sizes offered in each width.	Six color choices for the top piece (the rest is black).	The best fit potential of all products reviewed. Five adjustment points. Easy to put on over the head – colored strap goes on the top.	The front connection point sits lower than in some other brands, helping this harness function better to control pulling than several of the other brands. It also gaps less.

### THREE-PAW PRODUCTS

The harnesses that we rated with three paws also fit and functioned well, but either the quality of the materials used in these products was not as high or there were some challenges with straps twisting, making it more difficult to put the harnesses on.

#### Freedom Harness

This is the highest-rated product with a strap that crosses the dog's chest and shoulders horizontally. The Freedom Harness has two points of attachment (front and back) and adjusts in four places. Full disclosure: I have been using this harness at my



Freedom Harness

training center for quite some time; it is my favorite of the across-the-shoulder harnesses for fit and quality.

**PROS:** Made with soft nylon, cross-stitched everywhere, and sturdy hardware. Straps adjust easily. Straps

that go under the dog's "armpits" are velveteen, to prevent chafing. Martingale loop at back leash attachment helps keep harness tight and reduces slipping and gapping.

**CONS:** Straps go across shoulders. Design allows straps to twist; it can be challenging to untwist.

#### Walk In Sync Harness

This well-made harness has two leash attachment points and adjusts in five places for a secure fit.

**PROS:** We like the reflectors on the harness and leash, and the two padded grips on the leash are terrific!

**CONS:** All one color, along with

## THE REST OF THE FRONT-CLIP HARNESSES

Rating	PRODUCT Company information	Price	Sizes	Colors	Fit	Function
🐾🐾 🐾	<b>FREEDOM HARNESS</b> Freedom No Pull Harness, Tuxedo Park, NY (248) 321-5538 freedomnopullharness.com	\$30	Six sizes, from XSM to 2XLG.	18 color choices.	Four adjustment points. Easy to put on over the head – colored strap goes on the top.	Works well to control pulling, with mild sagging and gapping.
🐾🐾 🐾	<b>WALK IN SYNC</b> Walk in Sync, Inc., Basalt, CO (970) 948-5418 dogwalkinsync.com	\$60, includes harness and leash	Six sizes, from XS to Large.	Four color choices.	Five adjustment points. No straps across shoulders. Sits farther behind armpits, so less chance of rubbing.	Works well to control pulling. Very little slipping, no gapping. Leash is made with two padded grips that remind handler to keep her hands in a position that promotes loose-leash walking.
🐾🐾	<b>SENSE-ATION HARNESS</b> Softouch Concepts, Union City, CA (866) 305-6145 softouchconcepts.com	\$25 - \$31	Nine sizes, from Mini to XLarge.	Six color choices for the top and front pieces (the rest is black).	Four adjustment points. Easy to put on over the head – colored straps go on the top and in front.	Works well to control pulling, but with moderate sagging and gapping.
🐾🐾	<b>SURE-FIT HARNESS</b> PetSafe (Radio Systems), Knoxville, TN (866) 738-4379 petsafe.net	\$16 - \$21	Four sizes, from extra small to large.	Five color choices.	Five adjustment points.	Works reasonably well to control pulling. No sagging and less gapping than several other brands. Can be confusing to put on.
🐾🐾	<b>TTOUCH HARMONY HARNESS</b> Tellington TTouch Training, Santa Fe, NM (866) 488-6824 ttouch.com	\$24	Six sizes, from XXS to XL.	Five color choices.	Five adjustment points. Single color makes it harder to determine top/bottom. Easy to slip over head or snap around neck.	This harness worked reasonably well to control pulling. The attachment point moved off-center easily with use, moved back to center when pulling ceased.
🐾🐾	<b>WONDER WALKER BODY HALTER</b> Dolan's Dog Doodads, Seattle, WA (206) 257-4518 wonderwalkerbodyhalter.com	\$26	Seven sizes, from tiny to extra large.	Nineteen color choices for the top piece (the rest is black).	Five adjustment points. Easy to put on over the head – colored strap goes on the top.	Rides higher than some across-the-shoulder brands but still creates some shoulder pressure. Works reasonably well to control pulling, but leash-pressure causes significant gapping in the front, and lack of pressure causes sagging.
🐾	<b>DT UNIVERSAL NO-PULL PLUS</b> dtdogcollars.com	\$38 - \$45	Four sizes, from XS to XL.	Black only.	Only two adjustment points. Very bulky.	Works reasonably well to control pulling. Straps bunch under pressure.
🐾	<b>EASY WALK HARNESS</b> petsafe.net	\$27	Eight sizes.	Seven color choices.	Four adjustment points. One leash attachment.	Works reasonably well to control pulling. Worst sagging we experienced.
🐾	<b>WALK YOUR DOG WITH LOVE</b> walkyourdogwithlove.com	\$30	Seven sizes.	Eight color choices.	Three adjustment points. One leash attachment.	Works reasonably well to control pulling. Significant sagging and gapping.



Walk In Sync Harness

significant tendency for twisting straps, can make it challenging to put on properly.

**TWO-PAW PRODUCTS**

The following harnesses use cheaper materials and/or have more significant design and/or function flaws.

**SENSE-ation Harness**

Kudos to Softouch, the company that invented this, the original front-clip harness.

**PROS:** Simple design, quality materials. Girth strap is a softer (polyester) material for comfort. Straps adjust easily.

**CONS:** Strap across shoulders. Product literature claims it doesn't put pressure on the shoulders, but it seems to us that it does. Buckle tends to end up in armpit and rub.



SENSE-ation Harness

**Sure-Fit Harness**

Although not marketed as a front-clip harness, the ring located at the chest of this harness can be used as one of two leash attachment points.

**PROS:** Made with quality materials.

**CONS:** The fact that this harness is made by a shock collar company (Radio Systems) prevents us from buying and using it. Also, straps twist easily, and solid color, multi-strap design

can make it confusing to put on. Fits snugly under armpits and causes the skin to bunch up – could chafe.



Sure-Fit Harness

**TTouch Harmony Harness**

There are five places to adjust this harness, and four leash attachment points: one in front and three on the back (two of the latter are sort of a mystery – what are they used for?).

**PROS:** Lightweight, not bulky. No shoulder strap. Double stitching.

**CONS:** Straps can easily twist when not on the dog, which can make putting the harness on difficult. Single stitching at non-connection points.



TTouch Harmony Harness

**Wonder Walker Body Halter**

Two leash-attachment points and four adjustment points. Better quality material than some of the shoulder-pressure models, but with significant gapping and sagging.

**PROS:** Medium-weight, soft nylon straps, double-stitched, heavy duty hardware. Straps adjust easily.



Wonder Walker

**CONS:** Straps go across shoulders, although higher than some harness brands.

**LOWEST RATED**

We've run out of room to discuss the harnesses we've rated the lowest. We'll offer more detail on these in the online version of this article on our website (wholedogjournal.com). Briefly, we would not recommend these due to significant design flaws.

**DT Universal No-Pull Plus**



**Easy Walk Harness**



**Walk Your Dog With Love**



**FINAL NOTES**

You may have different priorities and preferences and might make difference choices than we did. Most of the harness companies have useful videos and usage instructions on their websites. Check out the companies' websites for more information before you buy. 🐾

Author Pat Miller, CBCC-KA, CPDT-KA, is WDJ's Training Editor. See page 24 for more information.



# Look! A Loose Leash!

*Last month, we explained how to teach your dog to “check in” – to glance at you for guidance and direction. Now, learn how to take it to the next step: walking on leash, for a loose-leash walk.*



*The way to teach your dog to “check in” with you frequently is to heavily and frequently reinforce this behavior – first, at home, and, increasingly, out in the world. You’ll find that not only does your dog enjoy walks more, but also, your enjoyment of these walks will increase exponentially as your dog pulls less and pays more attention to you.*

**A**s a trainer I can honestly declare that the most common behavior issue I am contacted to help resolve is pulling while walking on leash. Being able to walk with our dogs on leash is a basic, necessary skill, yet it can seem like the most difficult one to achieve.

No one enjoys walking with a dog who constantly pulls. It’s terribly unpleasant and in some cases can be downright dangerous. Dog owners often end up avoiding walking with their dog altogether, which inadvertently can make the problem worse – the less often the dog gets to go for a walk, the more excited he becomes when he eventually does get to go, the faster he walks, and the stronger he pulls! It’s a vicious circle.

Walking with a dog on leash can look like many different things: dog on the left in a traditional “heeling” position, dog on the right, dog in the front, dog zig-zagging with his nose to the ground . . . for the purposes

of this article, all are correct, as long as there is no tension in the leash. The goal is walking harmoniously with your dog – and “checking in” is the key ingredient to creating the type of relationship that is conducive to harmonious walks. You can help your dog develop the habit of frequently checking in with you simply by reinforcing the behavior.

If your dog already pulls on leash, you’ll want to begin training the “check-in” behavior in a location with low distractions. In other words, start where your dog is most likely to succeed at looking at you. If he’s very excited about being out for a walk, he’ll probably be too distracted to start learning a new behavior in

that context, so avoid starting the training while actually out walking.

Last month, in the article “Checking In,” we covered how to start getting your dog in the habit of checking in with you in situations with low distractions. Once your dog has acquired those skills, it will be much easier to begin working on loose-leash walking out in the real world.

Granted, there are lots of different reward-based methods to teach loose-leash walking, and success is often the result of a combination of several positive techniques. “Checking in” is just one ingredient in a training recipe, yet it’s an important one and is a useful part of any loose-leash walking training program.

## A FEW RULES

There are a few fundamental elements to loose-leash walking that will make the activity much more enjoyable for everyone





*Start reinforcing your dog for keeping the leash loose and checking in with you immediately! It helps him understand what behavior will be rewarded on this walk, and sets him up for success.*



*As long as he doesn't lunge and drag you toward something he's interested in, it's ok to allow your dog to take a moment now and again to sniff; it vastly increases his enjoyment of the walk.*

involved. If you follow these basic rules, you will be more likely to succeed:

- **Be present!** You've probably heard this before, but it's worth repeating: Being present means putting your phone away during walks. You're asking your dog to curb his enthusiasm for *his* version of social media – the kind he “reads” with his nose – in order to be more connected to you during your walk. The least you can do is be available to respond to his “check-ins” by paying attention. This

also applies to times when you walk your dog with a friend. Chatting is lots of fun, but keep an eye on your dog and make him a priority – at least during the training period.

- **Carry rewards.** Never underestimate the usefulness of a treat pouch filled with at least a handful of yummy bits of food! My dog Chili already walks politely on leash and she has the check-in behavior down pat, but guess what? I still carry treats with me on every single walk we take. I continue to randomly capture and reward behaviors I like, and once in a while I'll play a game of “find it” with Chili while we walk by tossing treats on the ground and letting her sniff around to find them.

- **Let your dog sniff.** Few dogs get adequate daily physical exercise from an on-leash walk. We humans move much too slowly for that (unless you're running with your dog, of course). That doesn't mean that the walk isn't an important part of your dog's day – it's a crucial information-gathering activity! Allow your dog to follow his nose. Let him investigate the scents he picks up, even if that means pausing for a moment while he inspects a blade of grass.

Keeping these important elements

in mind, it's time to starting using the check-in behavior to teach your dog to walk politely on leash.

### “CHECKS” IN MOTION

By now you will have already heavily reinforced the check-in behavior that your dog has been offering you in low-distraction scenarios. It's time to increase the difficulty a notch or two by taking the behavior on the road – literally.

Ideally, take your dog to a relatively quiet spot to walk. I drive to walking paths that offer quiet space for me and my dog to connect more easily. If this isn't an option for you, work with what you've got. Practicing in an area with lots of distractions might require extra patience on your part. If you work in an area that makes it more challenging for your dog to offer you the behaviors you want, his efforts should also be rewarded more frequently and generously. Big effort, big pay!

With your dog on a six-foot leash and a well-stocked treat pouch at the ready, give your dog the cue to start moving forward with you – I like to say “Let's go!” – and start walking. Since the goal is for the leash to remain slack at all times, follow the steps on the next page to help your dog understand the game.

### An alternate tact

*Trainers often recommend that we stop moving forward if there is tension in the leash. The logic behind this is that by stopping we avoid reinforcing a pulling behavior. This technique is often successful in helping a dog learn not to pull; if he wants to move forward, he has to keep the leash slack.*

*The check-in technique described here is another tool that can be used to teach a dog to walk on a loose leash. The focus here is on reinforcing any and all check-in behavior, rather than freezing if the dog pulls.*

## 1 START REINFORCING IMMEDIATELY.

Seize the moment! While your dog is still near you and before he ever gets the chance to bolt forward and tighten the leash, quickly say, “Yes!” and offer him a treat. Avoid reaching toward your dog; instead, deliver the treat close to your body. Why offer a treat right out of the gate? Well, in those first few seconds the leash was still slack, and that’s the goal, so don’t miss the opportunity to highlight that good behavior!

## 2 STOP TO REWARD, OR KEEP WALKING?

I like to mark and deliver a reward while still in motion, if possible, even if it means I’m moving very slowly. It can feel a bit awkward at first while you get used to the coordination required to mark, reward, and walk at the same time. If it’s a bit too much to juggle at first, it’s okay to stop to deliver the treat. However, you should work your way toward staying in motion. After all, your dog really wants to move forward, and frequent stopping might lead to some frustration, even if it’s for a treat.

## 3 TALK TO YOUR DOG.

Use your voice to stay connected with your dog while walking. I find that the dogs I work with are more likely to shoot a glance my way if they hear my voice. As we’re walking, I might say with a happy tone, “Where should we go today?” Or, if the dog has found something interesting to sniff I might say, “Ooh, whatcha got there?” or anything to encourage a response from the dog. If I get a tail wag or an ear flick, I’ll take that as a sign of interest and I’ll add a little more excitement to my tone. That will usually elicit a glance my way, and bingo! – I’ve got something to mark and reward.

As you move forward, feel free to whistle or make a kissy sound to encourage your dog to look at you. When he does, mark with a “Yes!” and reward with a treat. Repeat frequently, say, every six to 10 steps,

## Troubleshooting

- ✓ **Your dog just isn’t checking in with you:** If your dog was previously checking in with you in your home and on your front doorstep, as described in last month’s article, then the distractions might just be too much for your dog. If you’re unable to practice in a quieter area, try making the exercise easier. Rather than walking a long distance, stay within a few yards and keep covering the same area over and over again. That particular area will no longer be as exciting to your dog and it will become easier to capture his attention. This should offer you more opportunities to reinforce the behavior you want.
- ✓ **Your dog is pulling too far ahead of you:** To help your dog pay closer attention to you while walking on leash, change directions frequently. This should never be done by suddenly pivoting and jerking the leash. Always let your dog know you’re about to change directions by teaching him a cue – I like to use “This way!” Slow down gradually and say your cue. Stop walking and wait for your dog to turn back to see why you’ve stopped. This may take a moment; be patient. When he looks back at you, mark the check-in with a “Yes!” and when your dog starts to walk toward you to get his treat, start moving in the new direction. As he catches up with you, deliver the treat and say, “Let’s go!” Repeat this exercise often, and always gently. Your dog will soon figure out that “This way!” indicates you’re about to change directions, and he’ll more easily check in with you.
- ✓ **Your dog is checking in too much:** Oops! Your dog has taken the check-in behavior very seriously and now walks with his head turned toward you, staring. While we do want our dogs to be connected with us when we walk, this is a bit over the top. Encourage your dog to resume walking normally by saying your forward-motion cue (“Let’s go!”). This cue will come to mean that there is no reinforcer coming at the moment, so just keep walking.

always in motion if possible. Every time you deliver a treat, let your dog know he can return to walking and sniffing as he was (“Let’s go!”).

If you wonder whether you’ve done enough repetitions of attracting his attention with noises, try staying quiet as you walk. If he checks in with you of his own volition, you know he’s caught on! Mark and treat his spontaneous check-ins, and tell him the walk is still on (“Let’s go!”).

### MAINTAINING THE CHECK-IN

I mentioned earlier that I still reward my own dog for behaviors that I like when we walk together. She is no longer in training, but I continue to

reinforce the check-in behavior in order to maintain it, either with food or with a few upbeat words.

Checking in is such a friendly habit, and it’s no different from what we already do when walking and talking with a friend. Every now and then, we’ll turn our head to the side to look at our friend as she speaks. It shows we’re listening and it keeps us connected. Keep that connection strong with your own dog, and you’ll see his leash-walking skills grow quickly. 🐾

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# Protozoan Problems

*Microscopic parasites Giardia and Coccidia just might be the cause of your puppy's illness, or your dog's persistent diarrhea.*

The new puppy is finally here! He's cute and fun. You just wish the diarrhea would end, figuring it's the stress of the transition to a new home. Maybe. But probably not, and the longer you wait before seeking veterinary help, the more difficult it may be to end the cycle.

It's not uncommon for dogs coming from group environments to have parasitic infestations, and that doesn't necessarily mean you got the dog from a "bad" facility. Parasites survive by being difficult to eradicate and easy to spread from dog to dog.

Two of the most frustrating but common parasites your puppy might be hosting are *Giardia* and *Coccidia*. These are not worms, but two species of protozoa – single-celled organisms that reproduce in the intestines of infected animals and shed their spores into the environment through the infected animals' feces. These spores can survive in watery environments and soil, long enough to be incidentally consumed by other animals, either by drinking contaminated water, eating contaminated grass, or just walking through (or sitting or lying on) contaminated soil and then grooming themselves.

Once inside an animal, the spores find a home within the cells of the intestine and reproduce, starting the cycle all over again. Infections can be extremely difficult to eradicate from the environment.

These parasites are commonly found in rescues, kennels, and daycare facilities, mainly because it is so difficult to end the life cycle. Wild animals can transmit giardia, too. And *Coccidia* have been found to "travel,"



thanks to birds giving them a ride to a new location.

For this reason, "I advise my clients to do a fecal test on every new puppy or dog that comes into your home," says Eileen Fatcher, DVM, of Fairmount Animal Hospital in Syracuse, New York. If your new puppy was experiencing diarrhea for days or weeks before you sought diagnosis and treatment, the protozoa can readily establish a foothold in your yard, making reinfection a risk.

## GIARDIASIS

Giardiasis is the disease caused by an infection of *Giardia* parasites. *Giardia* organisms spread through the dog's contact with contaminated feces, which may be in water, on grass, on other animals – anywhere in the dog's environment.

The protozoa are ingested by your dog

*Puppies are highly vulnerable developing a serious illness from a Giardia or Coccidia infection, at least partly because they can become seriously dehydrated much more quickly than adults if they have diarrhea – the hallmark of these infections.*

while in the form of cysts, analogous to fertilized eggs that are waiting for the right conditions to develop. Once inside the dog, the cysts open up and release a flagellate form (trophozoite) of the organism, which use their whip-like appendages to migrate to the small intestine, where they multiply. They continue to move into the colon, where they enter the cyst form, waiting for release in the dog's feces. Incubation is five to 14 days after ingestion.

Although both the cyst and the trophozoite forms can be released in the dog's feces, only the cyst can survive out of the host. Humidity and

crowding favor their survival, but the hardy *Giardia* have been noted to survive for months in cold water.

The presence of *Giardia* in the gut causes the intestinal epithelial barrier to lose proper function, although scientists are still trying to figure out the precise biochemical mechanisms responsible for this. Interestingly, *Giardia* causes disease without penetrating the intestinal epithelium, invading the surrounding tissues, or entering the bloodstream. Fortunately, the disturbance to the epithelium resolves quickly when the parasite is cleared from the dog with appropriate treatment.



## COCCIDIOSIS

Coccidiosis is the disease caused by a *Coccidia* parasite. *Coccidia* are spore-forming protozoan. They are extremely hardy, withstanding even freezing temperatures, and can exist in the environment for a very long time. Dogs pick up the protozoa through ingesting contaminated feces (either by eating feces, or stepping or laying in it and later licking their feet or fur); ingesting an infected animal, such as a rodent; or eating or drinking from a contaminated source. Birds can pick up infected feces and spread it to far-reaching areas.

The dog ingests the *Coccidia* as immature oocysts. Once inside, the oocysts release sporozites that invade the cells of the intestinal lining, where they reproduce rapidly and cause destruction of those cells. As the sporozites reproduce, more oocysts are released into the environment to be picked up and spread to another host.

Unlike *Giardia*, whose method of damaging the intestinal epithelium is still unknown, *Coccidia* have a clear, physically destructive affect on the lining of the intestine. Infection with this protozoa causes even more dramatic diarrhea – explosive, uncontrollable diarrhea! – than *Giardia*. Left untreated, coccidiosis is far more dangerous than giardiasis, as it can lead to damaged intestinal lining, severe dehydration, and death.

## WHO CAN GET IT?

*Coccidia* and *Giardia* are fairly common in puppies, and immune-compromised adults are susceptible to either infection. *Giardia* is frequently seen in adult dogs,

*This Great Dane and all of her pups were surrendered to a shelter suffering from Giardia and Coccidia infections. As bad as they looked upon admission, happily, they all responded quickly and well to treatment, and not one was lost.*

but healthy adult dogs readily develop a natural immunity to *Coccidia*. Some adults can be hosting an infection without any symptoms at all, so if one of your dogs is infected, it's important to have them all tested and treated to prevent them from shedding the oocysts into your environment and threatening any visiting dogs or puppies with infection.

"If a dog comes into the clinic with diarrhea, we always test for these parasites," says Dr. Fatcheric. "They're common, highly contagious and often found in kennels and rescue facilities."

Many dogs are found to be infected with *both* protozoan species. Prognosis for both infections is generally good, if caught early and treated properly and the environment – inside and outside – is properly decontaminated.

## DIAGNOSIS

The most common symptom of an infection of either protozoan parasite is diarrhea. Given that there are so many things that can cause diarrhea in puppies and dogs, veterinarians will often ask whether the suffering canine has shown any other symptoms, including, loose or watery feces, dehydration, nausea, vomiting, gas, weight loss, or apparent abdominal pain.

Some infected dogs, however, will exhibit none of these – just persistent, sometimes intermittent diarrhea. This symptom alone warrants a harder look at that feces! Call your veterinarian's office and ask if you can bring in a stool sample for testing. Your vet will likely want to see your puppy at the same time you bring in a sample, but if your dog is an adult and has been seen by his vet recently, she may run tests on the stool before asking you to bring him in.

You should bring a fresh feces sample, less than 24 hours old and not dried out. You don't need to collect the entire stool; a teaspoon to a tablespoon of feces is enough! Ideally, use a small Ziploc bag to collect a small amount of your dog's stool; a

## Can You Catch This From Your Dog?

If you've witnessed your puppy or dog suffer with diarrhea that was diagnosed as giardiasis or coccidiosis, you may be especially concerned about any tummy upset of your own, or in a member of your family. You should take comfort from this: The protozoa infecting your canine are not the same species as the type that can infect and make humans sick.

*Giardia* is considered zoonotic, meaning it can be found in humans, too, although if you get it, it's probably not from your infected dog. According to the Centers for Disease Control, "the risk of humans acquiring a giardia infection from dogs or cats is small. The exact type of giardia that infects humans is usually not the same type that infects dogs and cats."

According to Susan E. Little, DVM, and Emilio DeBess, DVM, authors of "Canine Protozoa" (Today's Veterinary Practice, September/October 2013), "human giardiasis contracted from a dog has not been conclusively demonstrated in North America."

For those who have contracted it, the source is usually contaminated water. Human symptoms are similar to that of dogs.

*Coccidia* can infect all mammals, some birds, some fish, some reptiles, and some amphibians – but the four species of *Isospora coccidia* that are known to infect dogs (*Isospora canis*, *I. ohioensis*, *I. neorivolta*, and *I. burrowsi*) are not known to infect humans. Almost all *coccidia* infections in animals are specific to their own species.

doggy poop bag is fine, but something that seals the odor in the bag is much more considerate. Refrigerate any sample that you plan to take to the vet later that day or the next day (another reason to use a bag that seals tightly!).

The first test that is usually performed is a fecal flotation or centrifugation fecal flotation. In the former, some of the feces is mixed with a solution that helps any parasite eggs or cysts float to the top; after a few minutes, a microscope cover slip is then touched to the top of the solution. Any parasite eggs or *Giardia* or *Coccidia* oocysts present will stick to the glass, and will be visible under a microscope. In the latter, the sample is mixed with a solution and then spun in a centrifuge to help the parasite eggs or cysts rise to the top.

When the cysts are present in your

dog's feces, these low-tech tests will find them. But negative results for these tests do not mean your dog is clear of infection. Not all feces that comes out of your dog will contain the cysts, even if he's infected with one of these protozoan pests; they are shed intermittently, as the organisms reproduce. So, if your vet still suspects giardiasis or coccidiosis, she will likely run another, higher-tech test.

*Giardia* can be detected with an in-house SNAP ELISA (enzyme-linked immunosorbent assay) test, which is highly effective in detecting *Giardia*, or a fecal IFA (immunofluorescence assay) test. The latter test is usually done at an outside lab and results may take a couple of days.

For suspected infections of *Coccidia* that do not show on a flotation test, your veterinarian may request

a PCR (Polymerase Chain Reaction) assay, which is a reliable but more expensive procedure.

Or, your veterinarian might just recommend that she treat your dog for a suspected infection; a positive response to treatment confirms the presumptive diagnosis.

## TREATMENT

Although there are no FDA-approved treatments for canine giardiasis, most veterinarians use metronidazole (Flagyl) for five to seven days, and/or fenbendazole (Panacur) for three to five days, and then re-test. The usual broad-spectrum dewormers won't work on *Giardia*. Metronidazole is an antibiotic and anti-diarrheal often used to treat inflammation of the large intestine. Fenbendazole is a common deworming drug.

*Coccidia* requires a different approach. Albon (sulfadimethoxine, an antibacterial medication) or Tribissen (a combination of trimethoprim, a powerful broad-spectrum antibacterial, and sulfadiazine, an antibiotic) are frequently prescribed for coccidiosis. Treatment is one to three weeks. The drugs don't kill the organisms directly, but, rather, stop their reproduction. Usually, veterinarians will re-test for the organism one to two weeks after treatment ends.

Some veterinarians use a diluted form of ponazuril (Marquis), an off-label (not FDA-approved) treatment for coccidiosis in dogs.

While we appreciate the effectiveness of natural remedies for many canine ailments, it's just not worth it for these parasites. The pests are difficult to eliminate, and *Coccidia*, especially, can have extreme health consequences on your dog.

*Panacur (fenbendazole) is the treatment of choice for giardiasis. Panacur powder mixes easily into wet food and most dogs eat it readily.*

## HYGIENE

Regardless of the medication your veterinarian prescribes, your attention to your dog's hygiene will be vital to eliminating the parasites once and for all.

"It is critical to bathe your dog on the final day of treatment to remove any cysts that may be on the dog's hair, especially around the anus," Dr. Fatcheric says. If you neglect that step, you're not going to get rid of the parasite. Be especially mindful of the hind-end area and back legs. Discuss the use of a chlorhexidine shampoo with your veterinarian.

Because these organisms are generally hardy and can exist in the environment for long periods, it's important to disinfect the areas the dog frequents.

The Centers of Disease Control (CDC) recommends you clean all hard surfaces – floors, crates, trash cans – with soap and water, rinsing thoroughly. Steam-clean carpets with the solution recommended for your cleaner. (For more detail, see [tinyurl.com/cdc-dogs-protozoan](http://tinyurl.com/cdc-dogs-protozoan).)

- **Consider QATs:** Cleaning products containing quaternary ammonium compound products (QATS) – such as Pine-Sol Cleaner and Antibacterial, Clorox Broad Spectrum Quaternary Disinfectant Cleaner, and Fantastik All Purpose Cleaner – are recommended. The active ingredient may be listed on the label as alkyl dimethyl ammonium chloride. Follow product instructions, and be certain the prod-

uct stays in contact with the surface for the recommended amount of time.

You can also opt for your own mixture, using bleach and water ( $\frac{3}{4}$  cup of bleach to one gallon of water). Remember that bleach may discolor some surfaces.

- **Upholstery:** If your dog has an accident on upholstered furniture, use a carpet-cleaning agent with QATS to clean the area, then allow it to dry (always spot-test for discoloration in a tiny area first).

- **Use machines:** Wash items that fit in your washing machine and machine-dry them at the highest heat possible or dry them in direct sunlight. This includes toys and bedding.

Dishwasher-safe bowls and toys can be disinfected in your dishwasher, provided its rinse cycle gets hot enough. The CDC defines that as the rinse cycle reaching 113°F for 20 minutes, 122°F for five minutes, or 162°F for one minute. Consult your dishwasher manual. You can also disinfect some items in boiling water (boil them for at least one minute).

- **Outside Areas:** It can be difficult to eradicate these parasites from lawns and outside areas. "It's especially important to clean up poop as soon as it hits the ground," Dr. Fatcheric says.

Put the feces in a plastic bag and throw it away. If possible, direct your dog to eliminate on concrete, where it's easier to thoroughly disinfect the area. If that's not possible, limit the area your dog has access to until he is treated.

While some vets advise spraying a disinfectant on all outdoor dirt or grass areas where an infected dog has eliminated, the CDC states these efforts are largely ineffective. Instead, just pick up poop promptly, and watch your dog for any sign of reinfection following treatment. 🐾



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# Off the Mark

*Dealing with a dog who “marks” things in the house with urine can be frustrating, but the behavior can be managed or stopped. Here’s how!*

**T**inkle, tinkle, little Pug, must you mark upon my rug? Or the side of the couch? Or the leg of the coffee table?

Many dog owners are familiar with a dog’s unwanted usage of “pee mail,” more accurately known as “urine marking.” While this leg lifting is a perfectly normal behavior, “normal” does not mean “acceptable” when it comes to the peaceful cohabitation of humans and canines.

Marking is different from urination; a dog urinates to relieve his bladder of the sensation of feeling full. In contrast, marking does not involve full evacuation of the bladder; instead, the dog releases a small amount of urine as a communication strategy. Urine contains pheromones, chemicals that provide critical information regarding a dog’s age, gender, health, and reproductive status – all very interesting and important olfactory reading if you’re a dog. This is why dogs are so intent on smelling where other dogs have fully eliminated or marked.

Marking is most common in, but not limited to, male dogs, and typically begins at puberty. Depending on the breed (small breeds mature faster than large breeds), this usually happens around six to nine months of age. As male dogs begin to sexually mature, the increased presence of testosterone encourages the signaling of sexual ability and territory marking. Dogs who are neutered around six months of age are less likely to urine mark, or mark less often, compared to intact dogs or dogs who are neutered later. That’s not to say all unaltered dogs mark. As with many things, training goes a long way toward preventing marking among all dogs.

## ACCEPTABLE MARKING?

When out in the world, urine marking is like social media. Watch your dog while on a walk. Each time he stops and sniffs, he’s “reading” the canine equivalent of a Twitter feed. Think of your own social media habits.



Some posts you quickly read and move on to the next interesting tidbit. Some posts you “like.” Some posts inspire you to post a reply or comment of your own! Well, your dog makes similar choices. So long as he’s using his urine-based social media responsibly, we see no problem with this behavior, as it gives your dog, and those who happen by at a later time, valuable information.

## UNDESIRABLE MARKING

Marking inside the house is another story. When dealing with an indoor marker, it’s wise to first make sure you don’t actually have a basic housetraining problem. When young dogs, especially young toy- and small-breed dogs (whose bladders are smaller, resulting in less output, and, often, a need to relieve themselves more frequently), are given too much freedom too soon, they may develop the habit of urinating in the house. This is frequently done out of the owner’s sight, causing the owner to believe the dog is house-trained. When the owner finally catches the dog in the act, the dog is labeled a “marker.” In reality, the dog was *never* properly house-trained.

*This dog had developed a strong habit of urine marking in the house. His owner is managing the situation by making the dog wear a belly band (with a disposable sanitary pad inside), while also encouraging him to use “puppy pads” to relieve himself if need be. A security camera confirmed that he’s using the pads!*

As a general rule of thumb, until your new dog or puppy has been accident-free for at least a month (and perhaps as long as three full months!), he should not be allowed to roam the house unsupervised. Adhering to this lengthy benchmark goes a long way toward making sure your dog fully understands the “house rules” of toileting habits.

### MULTI-DOG HOUSEHOLDS

Marking is predominantly a stress- and anxiety-related behavior. Indoor marking is more common in multi-dog households because dogs compete for resources: bones, toys, prime lounging spots, access to humans, etc. This competition can be very subtle, and often goes unnoticed by humans. For example, a pointed glance or sudden stillness by another dog in the household – perhaps guarding a toy or a coveted spot – may seem mild to us, but to an anxious dog, might feel like a much more serious situation (perhaps like the difference between someone directing a mild expletive our way versus flashing a switchblade at us at the ATM). Most confident, well-adjusted dogs handle these normal interactions with ease – both in terms of giving and receiving information. Anxious or insecure dogs can struggle, and, as a result, are more prone to marking as an outlet for that stress.

### OTHER COMMON STRESSORS

A sudden change in routine, moving to a new home, short- and long-term houseguests, visiting animals, death of a housemate, worrisome noises outside, unexpected encounters on

walks, illness, and even re-arranging the furniture are all things our canine friends might find stressful.

Newly adopted dogs often mark in an attempt to create a sense of familiarity in an otherwise completely foreign environment. Your existing dog might mark during or following a visiting animal’s stay in the home, or even mark human guests’ belongings when left out, for similar reasons. “This doesn’t smell familiar . . . Here, let me take care of that.” Marking becomes an attempt to create a sense of normalcy. It’s like putting your favorite family photo on your desk during your first day on a brand-new job. “See! I do belong here. My stuff is here!”

Like people, our dogs get used to things being a certain way, and, just like people, some dogs handle change better than others. Owners frequently report their dogs started marking out of “spite” following a life change.

But spite and vindictiveness are uniquely human emotions. Dogs just aren’t wired *that* way. Plus, remember that, to dogs, urine (and feces) is a source of extremely useful information. A puddle of urine or pile of poo is like a page one *New York Times* article; it’s A-1 reading material! Why would your dog leave you such a gift if he was trying to “get back at you” for something? If you had the powerful nose of your canine companion, you’d look to the scent of your dog’s urine to enlighten you about his emotional state. I think we can all agree we’re glad we aren’t dogs when it comes to this habit. Trust your trainer when she says it’s not spite, it’s stress!

Even stressful run-ins away from home can lead to incidents of marking at home, just as a stressful day at work might cause us to reach for a glass of wine as soon as we head through the door.

For example, if your dog is fearful and finds walks stressful, he might not mark during the walk (since doing so would further announce his presence, and fearful dogs largely prefer to blend in, not stand out), but the residual effects of the stress-inducing event might cause him to mark as a coping mechanism once he returns home.

### MEDICAL REASONS

Any time there’s a sudden change in your dog’s behavior, it’s wise to rule out underlying medical reasons for the behavior. No amount of behavior modification will overcome a medical condition. If you can’t easily identify the possible stress-related reason for your dog’s behavior change, we recommend a vet visit. A dog with a urinary tract infection (UTI) can experience an almost constant need to “go,” and will often expel small amounts of urine frequently throughout the day.

### MITIGATING MARKING

Individually and in combination, the following strategies can help stop the marking:

**Employ management.** The first step in correcting a marking issue involves diligent management in an effort to stop the rehearsal of unwanted behavior. Keep a close eye on your dog – no unsupervised time! – so you’re able to immediately interrupt all attempts to mark and redirect his efforts to “go” outside.

When you can’t supervise, consider confining your dog to an x-pen or crate, or use baby gates to create an area small enough to deter soiling. If marking is limited to a specific room, restrict access to the area for at least a month (the same benchmark as housetraining). Some clients report success moving their dogs’ food and



*Keep a close watch on your dog, especially in the rooms or areas where he’s most prone to marking. If you’re not watching, he should be safely contained or wearing a control garment.*



water to the problem area, as most dogs won't mess where they eat. Often, employing diligent management to prevent the behavior is enough to offer long-term improvement.

**Reduce stress.** Identify events in your dog's life that might create stress. Some stressors can be tricky. For example, many owners think showering their dogs with endless treats while requiring little in terms of basic obedience is a wonderful way to convey love. Unfortunately, a lack of basic structure often contributes to anxiety, especially in multiple-dog households. While I'm not a fan of rigid "leadership" protocols, I believe dogs do best when taught a basic skillset designed to create a working partnership with their humans, whose job it is to ensure the well being of everyone in the household.

If marking mostly happens when you aren't home, your dog might be anxious being alone. Be sure to keep departures and arrivals low-key to reduce the tension of an already emotional event for your dog. Teaching your dog to accept time away from you – even when you're home – can also help reduce anxiety when you leave. (See "Please Don't Leave," WDJ October 2016, for more information about separation anxiety and isolation distress.)

Also, be mindful of potentially scary noises that might be causing anxiety – for example, the ear-piercing back-up beep of the garbage truck on trash day. Often, once you've identified the trigger, you can successfully counter-condition your dog's emotional response.

Anxiety can be a tricky issue to overcome. Some dogs respond well to homeopathic remedies or flower essence blends designed to reduce anxiety. Another option is Adaptil, a pheromone-based product available as a plug-in diffuser or a collar. Adaptil products release pheromones involved in the attachment process between a nursing dog and her offspring, offering an olfactory message of comfort and security. In some

cases, pharmaceutical intervention might be necessary.

**Clean soiled areas.** Use an enzymatic cleaner such as Nature's Miracle to thoroughly clean urine spots in the home. Avoid ammonia-based cleaners. Urine contains ammonia, and such products can encourage further marking. If moving into a new home formerly occupied by dogs, consider professionally cleaning or replacing the carpet to reduce your dog's desire to mark over existing animal scent. If this isn't possible, use a black light to search for potential problem areas.

**Consider neutering.** While not a guaranteed fix, neutering your dog, especially before he reaches full sexual maturity (12 to 15 months), is likely to reduce or eliminate his tendency to mark by stopping the influence of hormones.

**Discourage all marking, even outdoors.** In some cases, the act of marking becomes a well-practiced habit that remains even after removing environmental stressors or choosing to neuter (especially among dogs neutered later in life). In such cases, I recommend drawing a hard line when it comes to marking, even outdoors. When on a walk, give your dog an opportunity to fully void his bladder, then quickly but casually interrupt all subsequent attempts to leave his calling card throughout the neighborhood. It need not be a dramatic interruption; simply keep walking as your dog attempts to mark, almost like you hadn't noticed.

(Note: An opposing view holds that thwarting this behavior outside can *increase* a dog's stress, especially among anxious dogs. You may have to experiment to learn which approach improves the situation with your dog.)

**Try a belly band.** If you can't directly supervise or appropriately confine your dog to minimize his marking, a fabric belly band might be helpful. A belly band fits like a tube-top

### What you can do

- *Employ alert, active supervision of your dog. Any time you are not watching him, use a management tool (such as a crate, gate, exercise pen, or belly band) to prevent him or her from marking.*
- *Consider what might be adding to your dog's stress. Menace from another dog? A lack of structure? A smoke alarm chirp, incessantly warning of a low battery? Remove any stressors you can.*
- *Use an enzymatic cleaner on every location that has been "marked." Your dog's nose is far stronger than yours, and even the tiniest whiff of urine may serve as a prompt for him to mark again. Use a black light to make sure you haven't missed any spots that need to be cleaned.*

around your dog's waist, covering his penis. The band often discourages any amount of urination while the garment is on, or, at a minimum, absorbs the urine and protects your home and furniture.

**Most importantly, don't punish!** Remember that inappropriate marking is a stress response. Calmly interrupting a dog as he's marking is one thing. Reprimanding him after the fact will make things worse. Unless you intervene *as it's happening*, your dog won't connect your displeasure with his marking. He might look guilty as you reprimand him, but that look is an attempt to appease you in that moment – *not* because he realizes his marking, which took place however long ago, is unwanted.

Similarly, avoid stern admonishments in situations where he's likely to mark. "No marking while I'm gone!" or "You leave Grandma's stuff alone!" will serve only to increase your dog's anxiety, since he can't understand your words, but recognizes a harsh, unhappy tone. 🐾

*Stephanie Colman is a writer and dog trainer in Southern California. See page 24 for contact information.*



# Prescription Drugs for Arthritis Pain

*A range of options exist, but note the contraindications for each.*



*The Complete Medical and Integrative Guide to Treating Pain* (Countryman Press, 2016), Michael C. Petty, DVM, calls attention to pain symptoms that readers may not notice or consider important.

This is a mistake, he warns, because pain interferes with every aspect of a dog's life. He begins the book by noting that most veterinarians who practice pain management have a story about their relationship with pain. His began in 1984, when his 64-year-old mother died in agony from breast cancer while her physician refused to prescribe morphine to ease her final hours. "I vowed that as a caretaker and steward entrusted with an animal's health," he

writes, "I would never be indifferent to pain."

As Denise Flaim explained in "Feeling No Pain," WDJ December 2015, pain in animals used to be ignored, but attitudes are changing. Increasingly, veterinarians and pet owners are sensitive to their animals' pain and motivated to relieve it. In fact, pain management for pets has become a medical specialty. (To find veterinarians who belong to the International Veterinary Academy of Pain Management, visit [ivapm.org](http://ivapm.org).)

## RECOGNIZING PAIN

A major problem in the diagnosis and treatment of canine pain is that many dog owners don't notice its symptoms, or they notice the dog is slowing down but don't understand why. Another is that not everyone takes canine pain seriously, so it's easy to overlook.

You can help your dog live a pain-free life by noticing changes in posture, gait, and activity level. Tell your veterinarian if your dog exhibits any of the following symptoms:

*Keeping your dog out of pain, even if he has developed osteoarthritis or other joint and muscle issues, will help him stay mobile and active. This, in turn, will help him stay slim, which is especially important for senior dogs. By contrast, carrying extra weight can aggravate pain and cause a cycle of inactivity and more weight gain.*

Even the most athletic, lively dogs slow down as they age, just like their human companions. Exercise helps keep joints limber, but when it hurts to move, dogs tend to avoid moving, and their resulting inactivity makes the problem worse.

For many veterinarians, prescription drugs are a first choice for the treatment of chronic pain, while for some they are a last resort. Used well, drugs can make a world of difference for our older companions, but they are controversial because of their documented side effects. Would prescription meds improve your best friend's life?

Recent WDJ articles about aging dogs (see "WDJ's Canine Arthritis Series," opposite page) have explored nutritional, herbal, aromatherapy, and exercise treatments for arthritis. According to holistic veterinarians, these and other drug-free approaches are worth trying. Unfortunately, they don't work for every dog, and they may not work quickly.

In his book *Dr. Petty's Pain Relief for Dogs*:

- shows reluctance to walk on or difficulty getting up and down on slippery surfaces.
- struggles to walk up or down stairs.
- no longer jumps onto or off of furniture or car seats.
- gets up from a down position with the front legs first.
- seems to have trouble lying down or finding a comfortable position.
- declines to participate in favorite activities, especially running and jumping.
- develops abnormal wear on nails, or tends to walk with a foot turned under or dragging.
- seems reluctant to play or no longer initiates play.
- starts taking exception to being groomed or petted.
- experiences sleep interruptions.
- develops a decreased appetite.
- begins experiencing “accidents” or incontinence in the house.

A comprehensive pain exam, Dr. Petty explains, involves a visual inspection of your dog’s posture and gait, followed by a thorough hands-on exam and appropriate lab work in order to determine the pain’s underlying cause. “When it comes to signs of chronic or even short-term persistent pain,” he says, “simply treating the signs of pain with medications is not enough. In circumstances like this a proper diagnosis is required.”

Chronic pain can be caused by osteoarthritis, neurological disorders, injuries, and illnesses. Often, a condition has been progressing for months or even years before a caregiver notices a symptom for the first time,

such as limping or a reluctance to chase a ball.

Even when a dog is favoring one leg or obviously limping, her pain may be caused by something far from the leg, such as a disc in the neck. As Dr. Petty explains, a ruptured cruciate ligament in the knee, spinal arthritis, bone cancer, a severe muscle injury, or disc disease are impossible to distinguish from one another by observation only. A pain-oriented veterinarian asks detailed questions, examines the dog with careful palpation, takes x-rays as needed, and does a neurological exam to determine the pain’s cause and best treatment.

The most common canine illness is osteoarthritis, which affects four out of five dogs. But arthritis has many possible causes, making it a complex problem involving not only joints but also their surrounding structures. Osteoarthritis develops slowly, so it’s often not noticed until it has progressed to an advanced stage. There is no magic cure for osteoarthritis, and its management usually depends on a combination of treatments that continue through the dog’s life.

### FDA-APPROVED MEDICATIONS FOR K9 PAIN

Hundreds of drugs developed for human pain are used by veterinarians to treat chronic pain in dogs, but only nonsteroidal anti-inflammatory drugs (abbreviated as NSAIDs and pronounced “EN-seds”) and two non-NSAID prescription drugs (Galliprant and Adequan) have been approved by the U.S. Food and Drug Administration (FDA) for canine use.

The most familiar NSAID is aspirin, which is effective in the treatment of pain associated with canine arthritis. However, although there are numerous “dog aspirin” products on the market, aspirin is not FDA-approved for use in dogs. According to Dr. Petty, “the administration of

even a few doses of aspirin has been shown to cause inflammation of the gastric mucosa or lining of the stomach.” He considers all types of aspirin (plain, buffered, or coated) too dangerous for canine use.

If your veterinarian prescribes aspirin for your dog, be sure to discuss its dosage, potential side effects, and cautions before using it.

The FDA approved the first NSAID for use in dogs (carprofen, brand name Rimadyl, manufactured by Pfizer) 20 years ago. Since then, several other NSAIDs have been developed for dogs.

FDA-approved NSAIDs for dogs include etodolac (Etogesic), meloxicam (Metacam), deracoxib (Deramaxx), firocoxib (Previcox), tepoxalin (Zubrin), and carprofen (Novox, Vetprofen, and Rimadyl). These drugs have similar actions, contraindications, benefits, and side effects. Their primary influence is on the cyclooxygenase or COX pathway, in which chemical reactions create prostanoids, a family of lipid mediators that cause pain and inflammation in nerve endings and in the spinal cord.

COX-inhibiting NSAIDs help block this reaction, thus reducing pain. But some chemicals created through the COX pathway are important to proper kidney function and protection of the gastrointestinal tract. Reducing the body’s prostanoids reduces pain but contributes to the most common adverse reactions associated with NSAIDs. These include gastrointestinal ulceration, kidney failure in dogs with kidney disease, liver failure in dogs with liver disease, and liver failure in some dogs with no previous liver problems.

Symptoms include vomiting, diarrhea, loss of appetite, and depression, all of which should be watched for and if noticed, reported to your veterinarian, and the medication should be stopped at once.

Today, carprofen is very commonly prescribed for canine pain, but its ubiquity doesn’t mean it’s not without the potential for drastic and even fatal side effects due to liver or kidney problems, sometimes causing death within

#### WDJ’S CANINE ARTHRITIS SERIES

- “Canine Arthritis,” October 2016
- “Herbal Remedies for Arthritis Pain,” November 2016
- “Therapy That Smells Great,” December 2016
- “Senior Fitness,” December 2016
- “A Little Help” (Assistive Devices), January 2017
- “Ten Weight Loss Tips for Senior Dogs,” February 2017



*According to its manufacturer, more dogs have been treated with Rimadyl (carprofen) than all other canine NSAIDs combined. But that doesn't mean it should be used without caution.*

days. Any breed of dog can react to carprofen, but reportedly, Labrador Retrievers are more commonly affected than other breeds.

Problems with carprofen and other NSAIDs most often occur shortly after starting the drug. It has been observed that carprofen has caused a disproportionate number of NSAID-related dog deaths, although this could be because it is prescribed more than other NSAIDs.

NSAIDs should never be combined with corticosteroids (such as prednisone), aspirin, or other NSAIDs, or herbs that may contribute to bleeding or ulceration, such as white willow bark (*Salix alba*, the original aspirin).

Despite their potential side effects, NSAIDs are an effective first treatment for many dogs with osteoarthritis. By reducing the dog's pain, they help increase activity and exercise, which slows the progression of arthritis.

While NSAIDs should not be combined with each other, they are often combined with other drugs for improved results. In many cases, adding a compatible drug may permit the reduc-

tion of the dosage or frequency of the NSAID without a loss of effectiveness.

To ensure an NSAID does not adversely affect the liver or kidneys, it's recommended to have blood tests done prior to medication and again two to four weeks after starting the NSAID. Blood tests should be repeated every three months to a year while your dog is being given an NSAID.

It can be dangerous to switch from one NSAID (including aspirin) to another, or from an NSAID to prednisone or vice versa. It's best to wait at least a week in between, and preferably longer, before starting the new drug. This is particularly important when you are switching from one of the older-generation NSAIDs, including aspirin and white willow bark. If you switch from NSAIDs to prednisone, a three-day waiting period is considered sufficient.

## GALLIPRANT

Aratana Therapeutics' Galliprant was approved by the FDA in March 2016 for treating canine osteoarthritis. Galliprant is a piperant antagonist drug that inhibits the production of prostaglandins (lipid compounds with diverse hormone-like effects). NSAIDs target the entire cyclooxygenase or COX pathway, including the pathway's protective functions, which explains most of their adverse side effects. By contrast, Galliprant specifically blocks the EP4 receptor, which is the primary mediator of canine osteoarthritis pain and inflammation, without involving the COX pathway.

Because of its documented safety, Galliprant does not require expensive monitoring the way NSAIDs do, and it is said to relieve pain in dogs who are not able to tolerate NSAIDs. It is considered safe for dogs age nine months and older. Appropriate monitoring is recommended for long-term use.

Galliprant should not be used in combination with COX-inhibiting NSAIDs or corticosteroids. Its most common side effects, all of which are reported to be mild and infrequent, include vomiting, diarrhea, decreased appetite, and lethargy.

## ADEQUAN

An injectable joint protectant, Adequan Canine (polysulfated glycosaminoglycan, or PSGAG) from Luitpold Pharmaceuticals, Inc., is the only FDA-approved injectable, disease-modifying drug for canine osteoarthritis. Injected intramuscularly, Adequan stimulates cartilage repair, soothes and lubricates joints, reduces joint damage, and relieves pain.

Adequan travels to joints within two hours of injection and remains in joints for three days. It is administered twice weekly for up to four weeks with a maximum of eight injections. Signs of improvement usually appear within one month.

The drug's most common side effects are stinging at the injection site and (less common) an upset stomach, vomiting, diarrhea, depression, or abnormal bleeding. Adequan should not be used in dogs showing hypersensitivity to PSGAG or dogs with kidney disease, liver disease, or known or suspected bleeding disorders.

Although such treatment is considered "off-label" because it differs from the manufacturer's protocol, some veterinarians continue to give Adequan injections at monthly intervals, or they repeat the prescribed protocol whenever the dog's symptoms return.

It may not be necessary to inject this drug into muscles. Some veterinarians inject it subcutaneously, which is less painful for the dog and easier for owners to do themselves at home. A similar product, Cartrophen Vet, which is sold in Canada and other countries, is given subcutaneously.

## TRAMADOL AND OTHER OPIOID DRUGS

Tramadol (Ultram) is a synthetic opioid that appears to be safer than most narcotics and can be used for long-term chronic pain treatment. While not FDA approved for dogs, it's widely prescribed by veterinarians.

Tramadol's main action in dogs is as a serotonin and norepinephrine reuptake inhibitor. Serotonin and norepinephrine are neurotransmitters, substances that carry impulses from

one nerve to another. Tramadol's effect on neurotransmitters interrupts the transmission of pain signals. It acts on pain symptoms only and does not reduce inflammation. Tramadol is considered safe to combine with NSAIDs or with prednisone.

Tramadol should not be given with Monoamine oxidase inhibitors (MAOIs). Examples include Anipryl/l-deprenyl/selegiline, and the Preventic tick collar, which contains Amitraz, another MAOI. It may also be dangerous to combine tramadol with St. John's wort (*Hypericum perforatum*). In addition, tramadol should be used with caution in combination with selective serotonin reuptake inhibitors (SSRIs) such as Prozac, Zoloft, and Paxil, as well as tricyclic antidepressants such as Elavil and Clomicalm.

Because tramadol is metabolized through the liver and kidneys, its dosage must be reduced for dogs with liver or kidney disease. High doses may trigger seizures; it should be used with extreme caution in seizure-prone dogs.

Ultracet, which is tramadol combined with acetaminophen (Tylenol) for humans, can be dangerous for dogs.

Studies of tramadol's long-term effectiveness have shown possible problems with absorption from the stomach or a decrease in the liver's ability to utilize the drug. Recent research shows that tramadol may not work as well for dogs as it does for people. Higher doses, given more often, may be needed for adequate pain control, and it may work better for some types of pain than for others. Tramadol works best when combined with NSAIDs rather than used in place of them.

Opioid drugs (narcotics) are not FDA approved for canine use, but many veterinarians prescribe them for pain relief. Examples include oral hydrocodone (which can be combined with NSAIDs for additional pain relief), Vicodin (a combination of hydrocodone and acetaminophen, which cannot be combined with NSAIDs), codeine, oxycodone, and transdermal fentanyl (Duragesic) patches. Their narcotic effects make these drugs best for short-term use.

## CORTICOSTEROIDS

The strongest anti-inflammatory drugs are corticosteroids such as prednisone, methylprednisolone (Medrol), and dexamethasone, but their significant side effects make them most appropriate for short-term use. Corticosteroids are not FDA-approved for canine use but are widely prescribed by veterinarians.

Steroids can suppress the immune system, increase appetite (causing weight gain), increase thirst and urination, lead to muscle loss and weakness, and cause gastric ulcers.

NSAIDs are not compatible with steroids and should be discontinued at least 72 hours before beginning steroid treatment. Steroids can be combined with other pain medications mentioned here except for Galliprant.

Prednisone and other corticosteroids are usually given in large initial doses, then gradually reduced to the lowest dose that controls symptoms. Giving them every other day and giving them with food helps reduce side effects. Steroids should never be stopped abruptly but rather tapered off.

Long-time WDJ contributor Mary Straus had a Shar-Pei, Piglet, who lived to be 17 and was mobile to the end, thanks to Mary's attentive care and frequent trips to the veterinarian to adjust Piglet's medication regimen. Straus turned to prednisone in what turned out to be Piglet's last six months, explaining, "This allowed her to continue to be mobile after NSAIDs were no longer effective."

## MEDICAL MARIJUANA

Even though marijuana (*Cannabis sativa*) has gained public acceptance and is legal for medical and recreational use in several states, a confusing array of federal, state, and local regulations, and a lack of scientific studies, make its use controversial.

When it comes to treating canine pain, marijuana and other cannabis products have a following among pet owners and veterinarians. In "Dogs Going to Pot?" (WDJ April 2013), Mary Straus described the benefits of marijuana for canine pain control and the pioneering work of Doug Kramer,

DVM, whose Enlightened Veterinary Therapeutics clinic in California offered medical marijuana protocols for pets in his palliative and hospice care practice. Sadly, Dr. Kramer died in August 2013 before he completed a clinical trial, and his clinic closed.

Given the dearth of studies, there is no reliable information about what dosage of marijuana is safe and effective for pets. Concentrated forms (such as oils, tinctures, and other extracts) in particular can cause toxicity even in small amounts. This problem is further complicated by the variation in strengths for each of these based on the strain of marijuana grown, the timing of the harvest, and the preparation of the medical product.

Marijuana contains more than 60 chemicals called cannabinoids, the most important of which are cannabidiol (CBD), which has therapeutic properties, and tetrahydrocannabinol (THC), which is psychoactive but may provide additional benefits when small amounts are combined with CBD.

Because of its very low THC content, hemp (a *Cannabis sativa* plant traditionally used for making rope, paper, and fabric) is not considered intoxicating. Instead, its cannabinoids are known for their anti-inflammatory, analgesic, and anti-

### What you can do

- **Schedule a veterinary exam as soon as you notice signs of pain or lameness in your dog.**
- **Before giving any medication to your dog, ask your veterinarian about any possible drug interactions or contraindications.**
- **Note your dog's responses (good or bad) to any prescribed medications on a calendar or journal. Memory is fallible, and your vet needs solid information in order to tailor doses and changes in dosing frequency for maximum benefit to your dog.**

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spasmodic properties. Hemp capsules, oils, and other products containing cannabinoids derived from hemp are sold throughout the U.S. for human and canine use without restriction.

### DOXYCYCLINE

The familiar tetracycline antibiotic doxycycline, which is widely used to treat bacterial infections, especially those carried by ticks, has been shown to have anti-inflammatory properties and actually reduce the production of enzymes that lead to the progression of arthritis.

The discovery that human patients with arthritis improved while taking tetracycline drugs led to clinical trials, including some with dogs. Other trials have shown improvement in knee cartilage, other joints, and cartilage ulceration in both humans and dogs taking low doses of doxycycline.

The mechanism that causes improvement is not well understood. Researchers theorize that human rheumatoid arthritis is triggered by the immune system battling infection, and when antibiotics clear the infection, symptoms improve. Although some studies have shown little or no improvement in humans with osteoarthritis, some canine studies show a good response to that disease.

### GABAPENTIN

Gabapentin (Neurontin) is an anti-convulsant and pain relief medicine intended for the relief of neuropathy (nerve pain). It is similar in structure to GABA, a chemical messenger found in the brain, and it relieves or reduces pain by inhibiting the release of glutamate, which is a type of neurotransmitter. Gabapentin has been shown to be effective in combination with NSAID medications.

Because gabapentin can cause deficiencies of vitamins D, B1, and folate as well as calcium, it is important to provide a high-quality canine vitamin-mineral supplement in combination with the drug.

Gabapentin for dogs is administered in tablets or capsules. Do not administer liquid formulations intend-

ed for humans, as they may contain Xylitol, which is toxic to dogs.

Note: Most dogs build a tolerance to Gabapentin over time so that the starting dose becomes ineffective. Higher doses are then prescribed.

### AMANTIDINE

Originally developed as an antiviral drug to prevent Asian influenza, amantidine (Symmetrel) found success as a treatment for the symptoms of Parkinson's disease. More recently, veterinarians began prescribing amantidine for chronic pain in dogs with arthritis, cancer, and disc disease. It has been shown to improve the effectiveness of NSAID medications when combined with them. Amantidine is administered daily for one to two weeks, at which point it can be discontinued or resumed. Dogs with kidney problems receive lower doses. Reported side effects include agitation, diarrhea, flatulence, and dizziness. If any of these symptoms occur, the medication should be discontinued and your veterinarian notified.

Amantidine can interact with heart medications, antibiotics, and diuretics, any of which can reduce the drug's effectiveness, while antihistamines can increase its effects and induce a state of agitation.

### OTHER DRUGS

Used alone or combined with narcotics, NSAIDs, or steroids, some antidepressants relieve pain and discomfort in dogs with arthritis. These medications are not FDA approved for canine use but are prescribed by many veterinarians. Drugs in this category include amitriptyline (Elavil Rx) and other tricyclic antidepressants such as clomipramine (Clomicalm).

These medications should be administered under veterinary supervision as they require careful study, especially if they are used in combination with other drugs. 🐾

*Montana resident CJ Puotinen is the author of The Encyclopedia of Natural Pet Care and other books. See "Resources," page 24, for more information.*

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### BOOKS AND VIDEOS

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*The Encyclopedia of Natural Pet Care and Natural Remedies for Dogs and Cats*, by WDJ contributor CJ Puotinen, are available from [wholedogjournal.com](http://wholedogjournal.com)

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