

© THIS JUST IN

## New Immunotherapy for Canine Cancers

Treatment appears effective

A study from the University of California at Davis looked at an inhaled immunotherapy drug that shows promise against cancer.

In the study, 21 dogs with metastatic lung cancer received the treatment of interleukin-15, a natural protein that has immunotherapy properties. Interleukin stimulates the immune system to act against cancer cells.

The dogs involved in the study inhaled a mist twice daily for two weeks. Different doses were tested, watching for tolerance and side effects. While all these dogs had undergone other cancer treatments prior to the study, this was the only medication used during that time. Seven dogs showed promising results. Five had stabilization or reduction of their cancers for a period of months while two dogs had dramatic improvement, including one dog who went into remission for a period of over one year. While more research is needed, this is an exciting development in the treatment of metastatic lesions. ■

*Rebhun RB, et al. Inhaled recombinant human IL-15 in dogs with naturally occurring pulmonary metastases from osteosarcoma or melanoma: a phase 1 study of clinical activity and correlates of response Journal for ImmunoTherapy of Cancer 2022; 10:e004493. doi: 10.1136/jitc-2022-004493*

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## Stop Jumping on People

Even chronic jumpers can be retrained

When a fluffy little puppy jumps up on you begging for attention, it's cute. But when that fluffy little puppy turns into an 85-pound dog, the jumping up isn't so cute anymore.

### Why Dogs Jump

"Many dogs jump up on people as a way of greeting them," says Pamela J. Perry, DVM, PhD, behavior resident at Cornell University's College of Veterinary Medicine. "Because we tower over most dogs, jumping up allows them to greet us 'face-to-face.'"

In addition to excitement, dogs may jump up as a sign of stress. This sort of jumping is usually directed at owners and characterized by the dog frantically pawing at her person as if she wants to climb up onto the person. Happy or overexcited jumpers will throw themselves at pretty much anyone and may repeatedly bounce on their toes to lick your face or use your body as a backboard.

As with all bad habits, prevention is the best medicine. "To prevent dogs from jumping, owners should only give the dog attention when he is sitting," says Dr. Perry. "Being consistent with this will teach the dog that the only way to get the owner's attention is to sit."

When friends are meeting your dog, instruct them to have the dog sit before they pet or play with him. Training the humans can be harder than training the dog. Explain why you want to teach your dog good manners and thank them for their help.

### Chronic Jumpers

"If a dog has been jumping up on the owner for a long time, it will be more difficult to curtail the behavior," says Dr. Perry, but it can be done. "First, the dog should sit on cue consistently for the owner. Next, the owner should not give the dog any attention unless she sits. If the dog persists in jumping, the owner should quietly walk away while ignoring the dog completely," says Dr. Perry. "The dog should get attention only when she sits. Initially, dogs may need to be instructed by verbally

### What You Can Do:

- ▶ If the dog doesn't have a firm "Sit!" cue, teach it to him.
- ▶ Only allow people to engage with the dog when he is sitting.
- ▶ If the dog continues to jump, instruct the person (or yourself) to walk away and ignore the dog.
- ▶ Be consistent with training.

asking them to sit, but the cue should not be given repeatedly because the dog will learn to ignore it. If the owner is consistent with this protocol, the dog will learn that sitting is the only way to get the owner's attention and conversely, that jumping removes all attention."

Enlist the help of friends and family members to enforce your dog's rules against jumping up. Arm visitors to your house with treats and have each person ask your dog to sit before petting him. If he forgets and jumps up, they should quietly turn away and not give the treat.

Retraining a dog to not jump up won't happen overnight. Be patient, and know that in the end your efforts will pay off. ■



A dog who jumps on people is simply not appreciated by everyone.

## Fish-Skin Grafts Can Be Used to Heal Wounds

*Veterinarians are adopting this technique from human medicine*

**F**ish-skin grafts, which are used in people for serious wounds such as burns, are making their way into the veterinarian's office. Burns and degloving wounds (when the skin is peeled off a leg, for example) are notoriously difficult to get to heal, requiring months of intensive care. But the skin from North Atlantic cod fish seems to speed up the healing process.

The fish-skin grafts are processed to retain important factors like omega-3 fatty acids, collagen, lipids, and glycosaminoglycans. The graft is put in place after some healing starts, placed on the granulation bed (the red tissue that represents healing).

A retrospective multi-facility study looked at 13 dogs and four cats with severe wounds. Multiple applications of the fish skin were required for all but three of the cats. All wounds healed, with most experiencing regrowth of hair.

Obviously, the use of fish-skin grafts will be limited to severe wounds and those that are unresponsive to normal wound management. However, if your pet has burns, degloving injuries, or other slow-to-heal wounds or injuries, fish-skin grafts might be just the thing to stimulate and speed up the healing process. ■

*AJVR February 2022 Vol 83 No 2 "Acellular fish skin grafts for the management of wound in dogs and cats: 17 cases (2019-2021)*

## Approval for Cardiac Medication Expanded

*The FDA expands list of uses for VetMedin CA-1*

**A**s of June 16, the Food and Drug Administration (FDA) has expanded the use of VetMedin CA-1 (pimobendan) for dogs with heart problems. Currently, VetMedin has full FDA approval for dogs with any stage of congestive heart failure caused by myxomatous mitral valve disease or dilated cardiomyopathy. The new version is a chewable tablet that shows efficacy in delaying the progression of congestive heart failure in dogs with Stage 2 disease.

Dogs with myxomatous mitral valve disease have a defective valve in the heart that does not close tightly and lets blood leak back into the chamber. When blood leaks backward, it is harder for the heart to pump efficiently. Heart muscle enlarges due to more effort (this is cardiomegaly). Eventually, fluid will build up in the lungs and heart failure will develop.

Heart failure is staged. Dogs with Stage 2 are not yet showing clinical signs of heart failure, but they have a murmur due to valve leakage and a heart that is enlarged to various degrees. Signs of congestive heart failure include coughing, decreased activity, and loss of appetite.

While myxomatous mitral valve disease can occur in any dog, it is most common in small breeds such as Cavalier King Charles Spaniels. Initial diagnosis is generally done with a stethoscope. Then, most dogs are referred to a specialist. The ideal is to have an echocardiogram done by a veterinary cardiologist or internal medicine specialist.

VetMedin CA-1 has been shown to delay the progression of heart failure stages, which could mean a year or more of normal life and activity. ■

## Genetic Marker for Megaesophagus Puppies

*A breakthrough in determining the likelihood of this disorder*

**M**egaesophagus is a motility disorder of the esophagus that leaves food stuck in a puppy's throat. A study from Clemson University identified a genetic variant that predicted 75% of cases of megaesophagus. The researchers found a variant that influences a pup's appetite, weight, growth, and how food moves through the gastrointestinal tract. Female pups have a lower rate of the problem, so estrogen may play a protective role if this variant is present. Eventually, breeders might be able to use genetic testing to avoid this disorder by not breeding affected dogs. ■

<https://journals.plos.org/plosgenetics/article?id=10.1371/journal.pgen.1010044>

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DogWatch is an independent newsletter  
produced in collaboration with Cornell  
University College of Veterinary Medicine



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University College of Veterinary Medicine,  
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Subscriptions: \$39 per year (U.S.) • \$49 per  
year (Canada). For subscription and customer  
service information, visit  
[www.dogwatchnewsletter.com/cs](http://www.dogwatchnewsletter.com/cs)  
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Big Sandy, TX 75755-8535. 800-829-5574

**B**elvoir DogWatch\* (ISSN: 1098-2639) is  
published monthly for \$39 per  
year by Belvoir Media Group, LLC,  
535 Connecticut Ave., Norwalk,  
CT 06854-1713. Robert Englander,  
Chairman and CEO; Timothy H.  
Cole, Chief Content Officer; Philip L.  
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P.O. Box 8535, Big Sandy, TX 75755-8535.

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# CBD Use Continues to Rise

## What you need to know about its uses and efficacy

**S**ome people will tell you CBD is a miracle cure, while others insist it's simply snake oil and a waste of money. In reality, CBD oil is somewhere between.

Before we explain where we stand, it's important to know what CBD oil is and what it isn't. CBD is cannabidiol, which is an oil extracted from hemp plants.

Hemp does not contain any appreciable amount of THC (tetrahydrocannabinol), which is the psychoactive component in marijuana. Hemp usually has no more than 0.3% THC. For this reason, it is now approved in most, if not all, states. Most of the hemp plant is used for other purposes such as fabric and paper. (Cannabis, which is the marijuana plant, contains 12% THC.)

Joseph J. Wakshlag, DVM, PhD, chief of nutrition at Cornell University's College of Veterinary Medicine, says veterinarians can now recommend and discuss CBD oil with all clients.

### No Regulation

What medical problems can CBD help with? According to some advertising, the sky is the limit. In reality, clinical studies show a few areas where CBD is helpful and some where it is not.

The use of CBD for any health problem is complicated by the fact that it is not FDA regulated or approved. There is a huge variation between products in quality and potential amounts of THC and synthetic cannabinoid contamination.

No standard therapeutic dose has been established at this time

### Product Choices

Considerations when selecting a CBD product include whether it was grown organically and if the extraction method used was super critical carbon dioxide, which is the most widely recommended method. Always check to see if an independent company did a certificate of analysis, which will often include checking for things like heavy-metal contamination and if the levels of THC were tested.



In one Cornell study, 80% of dogs given CBD for arthritis pain were more comfortable.

and, since many products are made without standards, you can't always be sure exactly how much of the active ingredient is present in different batches of cannabinoid products anyway.

Dr. Wakshlag was the lead author on a study that evaluated 29 CBD pet products and found heavy metal contamination in four of the products. The researchers determined that two products had no cannabinoids in them and, of the remaining 27, only 10 were within 10% of the total cannabinoid concentrations of their label claim (*Vet Med.* 2020 Apr 15;111:45-55. doi: 10.2147/VMRR.248712. eCollection 2020).

### Concerns about CBD

Studies done with CBD have shown an effect on liver enzymes, specifically cytochrome P450s and alkaline phosphatase, both of which are involved in the metabolism of many medications. That means the risk of drug interactions, influencing both the effect of the other medication as well as dosages, can happen. So, while you may be able to pick up CBD treats at the store, you need to check with your veterinarian before giving them. The Pet Poison Helpline has seen CBD and related marijuana cases and consults increase a hundredfold in recent years.

The most common side effects noted by owners were sedation, which could be helpful if you were trying to treat anxiety, and an increase in appetite.

### Research

Studies using CBD have greatly increased in recent years. Dr. Wakshlag notes that, based on the available literature, there seems to be a place for hemp

products like CBD in the treatment of osteoarthritis, atopic dermatitis, and seizures. So far, the literature is not showing effectiveness of CBD for anxiety, but dosing has been low in those studies. All effects may be product-specific and dosing related.

One of the first CBD studies was done at Cornell and showed CBD helped with pain management in many dogs. In the study, over 80% of the dogs with osteoarthritis had a decrease in pain, allowing them to be more comfortable and active.

Colorado State University has an ongoing study on CBD as an addition to epilepsy control in dogs. The goal, as with all seizure medications, is to gain control of seizure activity, reducing it as much as possible, while having minimal side effects and maintaining good quality of life. At this point, the research shows CBD used with traditional medications can be a successful therapy.

Anecdotally, many dog owners have found that CBD helps with anxiety in many dogs. In addition, a Cornell study showed that 83% of the dogs had decreased stress or anxiety-related behaviors if the dogs were given CBD chews prior to a stressful event.

A recent study published in *Veterinary Dermatology* looked at a CBD product for help with dogs with atopy (a dermatologic allergy problem resulting in itching and chewing). Dogs were randomly given a CBD product or a placebo for four weeks. The results were encouraging, with 65% of the CBD dogs having at least a 50% decrease in itching and chewing. Of those dogs, half experienced an end to their itching while being treated.

Studies are also ongoing looking at CBD to add to cancer treatments. It appears to be synergistic with some of the standard chemotherapy drugs. Alone, there may be effects on cancer cell growth, so more research must be done.

### Bottom Line

Your dog may benefit from CBD products. However, it's risky to go out and buy a product and just try it. Consult with your veterinarian for safe and efficacious products and whether your dog's problem might be addressed by CBD. Research is ongoing and recommendations may change from study to study. ■

# Is My Dog's Diet Broken?

*Common ways we mess up our pups' nutrition*

**W**e've all heard the adage, "You are what you eat." So, you want your dog eating the best food to keep him healthy and happy. But some of the feeding choices we make out of love can be big mistakes, depriving our dogs of necessary nutrients, overdoing fats, or leaning too heavily on the magic of chicken and rice, which is really a temporary diet for upset digestive tracts.

## Too Many Treats

"Too many treats!" was the immediate answer from Joseph J. Wakshlag, DVM, PhD, chief of nutrition at Cornell University's College of Veterinary Medicine, when asked about doggy diet accidental mishaps.

"It is common, even when the dog is on a commercial diet, that folks like to feed treats or table scraps," says Dr. Wakshlag. "Treats should be limited to no more than 15% of the daily calorie intake since these are often not complete and balanced foods, which may throw off nutrient intake." Many veterinary nutritionists recommend limiting your dog's calories from treats



*Dogs are incredibly talented at getting us to give in and slip them an extra treat.*

to 10% of their total diet, especially if you are working on a weight-loss program.

Many of us feel like we only give our dogs occasional table scraps, but those bites add up quickly.

"I was involved in a study looking at table-scrap feeding, or human foods to be more precise, and the average calories from these sources was about 20% of calories for the average dog, which is a bit too much," says Dr. Wakshlag. "Veggies are often fine because they are low in calories, while the pizza crust, burger, and fries are just way too high in calories and can really lead to obesity and subpar nutrient intake."

The good news is that there are easy ways to get your dog's diet back in balance without denying him treats and snacks. For starters, instead of handing over random food items, use part of your dog's daily ration from his primary diet as treats. Set aside part of each meal to be used for training and random snacks. This is helpful both for weight-loss management and to ensure that your dog is eating a balanced diet.

Another option is to use healthy, low-calorie items as treats. Carrots, broccoli, and snap peas are three examples that many dogs love.

## Hazards of Home Cooking

Home-prepared diets for dogs are

increasing in popularity, but many veterinary nutritionists offer words of caution. It is critical to use a recipe that is deemed complete and balanced by a

veterinary nutritionist to make sure that your dog is getting everything that he needs. For dogs with health conditions, a custom diet designed specifically for your dog by a veterinary nutritionist is often the best plan.

"If people are feeding home-prepared diets, this can be a problem since there are a number of nutrients that are often deficient like calcium, B12, zinc, magnesium, etc., which can lead to subclinical deficiencies," says Dr. Wakshlag. "The most egregious deficiency is usually calcium, which can lead to pathologic fractures in puppies and osteopenia with a risk of fracture."

But your dog can have his ground turkey cake and eat it, too. If considering a home-cooked diet for your dog, ask your veterinarian or a veterinary

nutritionist to evaluate it for nutritional adequacy. "It's very important to use vitamin and mineral mixes designed for home-prepared diets when feeding dogs, particularly if using primarily a meat-based diet plan," says Dr. Wakshlag.

## Too Much of a Good Thing

Our dogs love meats and fats, but overly rich foods don't always love them back. Overindulging in a rich or fatty food such as ham, a holiday turkey carcass, or marrow bones can irritate your dog's pancreas and cause pancreatitis.

Pancreatitis is an extremely painful condition characterized by nausea, vomiting, lethargy, poor appetite, abdominal pain, diarrhea, and fever. In severe cases, it can be fatal. Pancreatitis is treated with pain medications, anti-nausea medications, and intravenous fluids. Most dogs who have experienced pancreatitis have to stay on a strict low-fat and low-protein diet for the rest of their lives to prevent recurrence.

Prevention is the best medicine when it comes to pancreatitis. Only give your dog small amounts of rich or fatty foods, especially if he has a history of having a sensitive GI tract. A marrow bone once in a while is likely safe, but avoid making them a regular snack. (Keep in mind that dogs also can crack or break their teeth chewing on these bones.)

## Need a Recipe for a Homecooked Diet?

The American College of Veterinary Nutrition ([acvn.org](http://acvn.org)) has a search function to locate veterinary nutritionists either locally or who are available to do remote consults.

Balance IT ([balanceit.com](http://balanceit.com)) allows you to input ingredients you want to feed your dog and then provides you with a complete recipe. It even recommends what vitamins and minerals need to be added in, and the company offers their own multivitamins and related products for sale.

At Cornell's Animal Nutrition Service ([loftuslab.vet.cornell.edu/nutrition-consult-form.html](http://loftuslab.vet.cornell.edu/nutrition-consult-form.html)) you can schedule a nutrition consultation with the team at Cornell and get a customized diet for your dog.

### Bland Diets Long-Term

Plain boiled chicken and rice can be a godsend when your dog has diarrhea. Cooked pasta and lean, cooked hamburger are two other great options when your dog is sick and needs a bland diet to soothe his GI tract. However, none of these diets are complete and balanced, and they are not safe to feed long-term.

Feeding a temporary bland diet for too long can result in many of the same nutrient deficiencies that Dr. Wakshlag warned about when feeding a home-prepared diet, such as calcium, B12, zinc, and/or magnesium.

If you find yourself whipping up a bland diet for your dog on a regular basis, he may have something more going on than a simple case of diarrhea due to dietary indiscretion. Some possible underlying causes include intestinal parasites, irritable bowel syndrome (IBS), pancreatitis, food intolerance, exocrine pancreatic insufficiency (EPI), Addison's disease, liver and kidney failure, food allergies, or even cancer. The bland diet will help temporarily with your dog's discomfort but won't resolve the underlying issue and may make it worse over time.

Schedule a veterinary appointment to discuss your dog's symptoms and do some tests to figure out why your dog keeps needing a bland diet. A simple fecal exam to check for parasites along with bloodwork is a great place to start, and if those tests don't give any answers, your veterinarian may recommend additional blood tests, an x-ray or ultrasound,

allergy testing, or endoscopy. Once you have a diagnosis, your dog will start treatment so he can start feeling better long-term.

### Switching Too Quickly

If you need to change your dog's diet, do it gradually. Start by feeding 75% the old diet mixed with 25% new diet. The next day, feed half of each, then on the third day feed 25% old diet and 75% new. This four-day transition works for most dogs, but dogs with sensitive stomachs may need a longer, more gradual swap.

If you end up doing a sudden diet change, your dog may have some diarrhea because he isn't used to the new diet yet. This is usually transient and will resolve without treatment but can be unpleasant for both of you. If the diarrhea lasts more than a day or two, or if your dog has other symptoms, call your veterinarian to get some probiotics and/or anti-diarrhea medications to help ease the transition. ■

### What You Can Do

- ▶ Feed a commercial diet that states it is complete and balanced for your dog's life stage or a home-prepared diet that has been approved by a board-certified veterinary nutritionist.
- ▶ Be conservative with treats. If you love giving your dog lots of little tidbits throughout the day, use either part of his normal daily ration or healthy snacks such as carrots or snap peas.
- ▶ Consider giving a probiotic during diet changes and make all diet changes gradually.
- ▶ Schedule an appointment with your veterinarian if your dog has chronic diarrhea or stomach upset.

## Understanding Feeding Tube Basics

*Owners can learn to feed their dogs through feeding tubes*

**F**eeding tubes are used to get nutrition, fluids, and medications into a dog who is too ill to take in these necessities himself. Some pets need a feeding tube for a short time to get over an illness. Others may require them for longer periods due to a chronic illness or injury.

Dr. Johanna Heseltine, a clinical associate professor at the Texas A&M College of Veterinary Medicine & Biomedical Sciences, offers some excellent advice for dog owners facing the use of a feeding tube.

There are three basic types of feeding tubes:

The smallest is the **nasopharyngeal, or N tube**. This tube gets threaded into your pet's nose and into the esophagus. This is for short-term use and is generally only used when your pet is hospitalized.

**Esophageal (E) tubes** are placed directly into the dog's esophagus via an incision in the neck.

**Gastrostomy (G) tubes** are placed directly into the stomach through an incision in the abdominal wall. G tubes usually have the largest diameter, can take thicker fluids and get more treatments into your pet, and can be left in long term.

Your pet may need to wear a cone or a body shirt to prevent him from pulling the tube out.

Most pets tolerate feeding tubes very well. Food, fluids, and medications are mixed together into slurries that pass through the tube into the dog's stomach. You connect a syringe with the mixture to one end of the tube and provide gentle pressure to pass the slurry into and through the tube.

Flushing with some clear liquid at the end is important to keep it clean. This may sound challenging but it's usually easy. Anything that goes into the tube must be at room temperature or slightly warmer. If it's too cold, it can shock your pet's system, and if too hot, it might burn the GI tract.

Once your pet is back to taking in normal nutrition for a week or so, the tube can usually be removed. Some pets start to eat on their own while the tube is still in place, which is fine. ■

<https://vetmed.tamu.edu/news/pet-talk/pet-feeding-tubes/>

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# Oh, My Aching Back

*Your dog is as vulnerable to back pain as we are*

**B**ack pain is as common in dogs as it is in people. Causes of back pain in dogs range from a disc injury to a pulled muscle, just as they do in us. And, also similarly, no matter the cause, back pain is uncomfortable at best and very painful at worst.

Minor back injuries often come from slips or falls. Sliding on ice, twisting to catch a ball or disc, or cutting a corner sharply chasing a friend can all cause some tweaks to your dog's back. Older dogs are likely to have arthritic changes while young dogs are more likely to have acute injuries from overexertion. You can recognize back pain in your dog by:

**His stature.** He may stand with his back arched or roached and his feet pulled together under his body. If you touch or pet along his spine he may flinch or even snap, yelp, or growl when you reach a sensitive area.

**His movements.** Your die-hard fetch player may not run after his ball. Your dog may hesitate or refuse to go up or down a set of stairs that he normally zips up and down. You may notice he's dragging his toes or limping as he tries to guard the painful area. Muscle spasms often appear in painful areas.

**His everyday activities.** Some dogs will avoid eating or drinking as it hurts to lower their heads because that stretches necks and pulls on painful areas. Female dogs may avoid urinating, and dogs of both sexes may get constipated since it hurts to flex their backs.

## Pain Management

Before treatment can start, you need a diagnosis, says Christopher W. Frye DVM, chief of sports medicine and rehabilitation at the Cornell University College of Veterinary Medicine, but it's

## Mixing Meds

Never mix pain medications, especially NSAIDs, without veterinary guidance. Side effects like gastrointestinal upsets (or worse) can be magnified by combining these drugs. Other combinations do have positive, synergistic effects, and your veterinarian will happily advise you, so always check first before giving them.



*A pain-free dog is playful, energetic, and happy.*

rarely a simple thing. Treatment will differ between an acute versus chronic condition as well.

Diagnosing back pain and locating the site requires a variety of tools. Your clinical history will help—he was jumping off the dock all weekend and now cries when you touch his back—as well as a through physical exam.

Your veterinarian will check for neurological function as well as trying to pinpoint painful areas. Next up will be radiographs (x-rays) to rule out disc problems and look for things like spondylosis. Bloodwork may be done, especially if there is concern about an infection causing the pain.

## Home Care

Acute injuries like muscle strains benefit from cold packs at the time of injury. Your veterinarian may recommend alternating these with warm compresses or explain when it's time to switch from cold (reduces pain and swelling) to warm (for stiffness and to warm up muscles).

You may need to make your dog's mobility easier. He may need a ramp to navigate stairs and get in or out of your car. Raised food and water bowls might be needed (be careful here, as elevated food bowls can cause some dogs to eat faster, increasing the risk of bloat).

Slippery floors can cause more injury. Place rug runners or inexpensive yoga mats on them for a safe pathway.

Non-restrictive harnesses for walking

and specialized lift assistance harnesses can help you maneuver your dog up or down stairs or getting up from a nap.

And weight loss is extremely helpful for the pudgy dog with back pain.

If your veterinarian is concerned about arthritic changes, oral joint supplements or injections can help. Omega-3 fatty acids, chondroitin sulfate, hyaluronic acid, and glucosamine are all oral supplements that may make your dog comfortable. Injectable polysulfated glycosaminoglycan (Adequan) can assist with dogs with cartilage conditions.

## Rehab

When it comes to rehabilitation, therapeutic laser and electroacupuncture are often at the top of the list.

For some conditions, hydrotherapy (controlled swimming or an underwater treadmill) can build muscle post injury to help prevent recurrence.

Your veterinarian may have specific rehab exercises for physical therapy that you can do at home to strengthen weak areas and restore function.

Specific massage therapies followed by cold or warm packs can reduce pain. A rehab plan will be customized to your dog based on the exact injury and his overall condition. Your dog may need to be confined and have his activity limited to controlled leash walks for a while.

Medical management with pain medications is important. Corticosteroids such as prednisolone can reduce inflammation and pain. Other nonsteroidal anti-inflammatory drugs (NSAIDs) include carprofen and meloxicam. Gabapentin is a medication aimed directly at nerve pain and can give relief to many dogs. Muscle relaxants such as methocarbamol can make your dog comfortable as he heals by decreasing muscle spasms.

## Bottom Line

Usually, back pain due to an injury has a clear-cut management plan, getting your dog back to normal relatively quickly, with a plan to help prevent recurrence.

But back pain is often connected to less-than-ideal conformation. For these dogs, management is important, especially weight control and fitness programs to minimize stress on the back.

An aging dog may need a switch from playing fetch to less physically stressful activity like scentwork. Luckily, your dog simply loves to do things with you, so any game works for them. ■

# Get a Grip on Diarrhea

*With chronic diarrhea, control is critical to health*

**D**iarrhea is common in dogs. If it's a random thing that resolves after a couple of days on a bland diet, like boiled chicken and plain rice, it's no big deal. But, if it lasts longer than that, it can become a very big deal.

Diarrhea lasting two or more days is considered chronic, and getting to the bottom of chronic diarrhea can be challenging. Following a sensible step-by-step process, guided by your veterinarian, is your best bet for success.

A 2019 article published in *Veterinary Medicine and Science* evaluated evidence-based, individualized diagnostic and therapeutic protocols for management of dogs with chronic diarrhea. The results of this study suggest that many cases of chronic diarrhea in dogs can be effectively resolved by following a carefully crafted, step-by-step process based on your dog's individual illness. This tactic benefits your dog and your wallet, as your dog's diarrhea may resolve sooner, hopefully without expensive diagnostics like ultrasound, endoscopy, and intestinal biopsies.

## What's Up with Your Dog?

The first thing your veterinarian must do is determine if your dog's diarrhea originates from the small bowel or large bowel, as diagnosis and treatment are different for both. Small bowel diarrhea is usually very loose and watery, often accompanied by poor appetite and weight loss. Large bowel diarrhea usually results in smaller, more frequent, soft stools with mucous and can be accompanied by excessive straining. You may even note fresh blood.

The first step to get control is to take your dog in for a fecal exam for intestinal parasites. If parasites are found, specific treatment may completely resolve the diarrhea. Boom. Done.

If the fecal exam is negative for parasites, however, most practitioners agree the next step is to empirically deworm with fenbendazole to cover for the possibility that there are adult parasites in the intestines that aren't shedding eggs into the feces.

Following this, baseline bloodwork (a chemistry screen and complete blood count) should be considered to check the dog's general health.

Assuming all is well with these, your veterinarian will likely recommend that you begin a diet trial with either a limited ingredient diet (LID) or a hydrolyzed protein (HP) diet. This is important. Inflammatory bowel situations, which are a cause of diarrhea, are frequently due to food hypersensitivity, also known as a food allergy.

If you embark on a diet trial with your dog, it is critical that your dog eat nothing else. The ingestion of additional ingredients, no matter how small, negates the benefit of a diet trial and confuses the interpretation of results. There are several good over-the-counter LIDs, and many prescription LIDs and HP diets to choose from, and your veterinarian will likely recommend one.

## When Things Get Messy

If your dog has large bowel diarrhea, adding fiber to the LID or HP diet is recommended, as fiber is good for colon health and improves large bowel diarrhea symptoms. It is fine to add fiber during the diet trial for these cases. (Adding fiber is not recommended for dogs with small bowel diarrhea.) Psyllium is the most popular fiber additive for dogs. Get advice from your veterinarian regarding how much to add to each meal.

If you've done a diet trial for 10 to 14 days and your dog still has diarrhea, it's time to add a probiotic. Probiotics contain "good bacteria" for the intestinal tract. These good bacteria help rebalance the intestinal microbiome, which is often negatively impacted by chronic diarrhea. Many different probiotic products are available, but they are

not all created equal. The types and numbers of bacteria they contain is important. Rather than choosing one off the shelf in a pet store, talk with your veterinarian. It makes a difference.

The next thing to try is an antibiotic trial, as there is a fairly common thing called "antibiotic-responsive diarrhea" in dogs. Two antibiotics, tylosin and metronidazole, appear to have anti-inflammatory effects on the intestinal mucosa. So, while continuing the diet trial, fiber (if chosen), and a probiotic, your veterinarian may elect to add one of these medications to the mix.

If nothing has worked to this point, it's time to consider some additional diagnostics. A blood test called a "GI panel" looks for exocrine pancreatic insufficiency (EPI), which causes diarrhea and is treated by adding digestive enzymes to the food; decreased folate levels, which imply small intestinal inflammation; and low cobalamin, which can occur with chronic diarrhea and, if not replenished, can make the intestinal inflammation worse.

Addison's disease (underactive adrenal glands) can cause diarrhea, too, so your veterinarian may test for this at this point as well. Fortunately, Addison's disease can be screened for with a simple baseline cortisol blood test.

Once intestinal parasites, EPI, cobalamin deficiency, and Addison's disease have all been treated or ruled out, if your dog still has diarrhea, your next steps include trying different hypoallergenic diets, different probiotics, and a different antibiotic. Changing these things up a bit just may be the ticket.

If none of this stepwise process has worked, your dog's disease is unusual and severe. At this point, your veterinarian will likely recommend referral to an internal medicine specialist for advanced diagnostics that may include endoscopy and intestinal biopsies. Hopefully, these procedures will yield a definitive diagnosis with specific treatment that will get your dog on the road to recovery.

## Bottom Line

Getting to the bottom of chronic diarrhea is challenging. It's important to follow the advice of your veterinarian as you move through the recommended diagnostic and therapeutic process. Skipping even one step can result in more frustration, cost, and an expensive specialty referral. Patience, perseverance, and compliance are critical to success. ■



A diet trial means no treats.

# Early Rising Puppy Problem

*It has a lot to do with the time the sun rises*

**Q** Twenty years ago, I was the editor of *DogWatch* and *CatWatch*. I noticed on the Cornell University website that you're still working there, Dr. Houpt, and I am hoping you can help with a question I have. We have added a Beagle puppy to our family, and we're having great difficulty getting him to sleep past 4 or 5 a.m. He's 10 months old and is otherwise a sweet, well-mannered dog. Why does he insist on waking so early?



*Puppies respond to environmental cues, like the rising and setting of the sun, not alarm clocks.*

**A** The bad news is that your puppy is responding to environmental cues. The sun starts to rise around 5 a.m. during June in upstate New York, but as the days start getting shorter, he will start sleeping later. Meanwhile, there are several things you can do:

First, make sure that he has plenty of evening exercise and does not sleep from dinner until bedtime.

Second, try to light-proof your room so he can't determine sunrise.

Finally, make use of modern technology to lower his motivation to wake you.

Have a dish that opens via a timer. Put his breakfast in the dish and set the timer for 4 a.m. The dish will open, and the puppy will get his breakfast and, as everyone knows, food is very important to a Beagle. However, most puppies also need to poop after eating, so that could become an issue.

You could add puzzle toys and stuffed Kongs to keep him occupied until a decent hour.

Of course, you could crate train him to sleep in a room far from your bedroom, but many of us like the presence of a furry friend in our bedroom if not in our bed. ■

## Reactive Adopted Big Dog

*She actively guards her home and personal space*

**Q** My dog, Lola, is a mix of Border Collie/Great Pyrenees. We adopted her when she was 3. She is now 5. She had been roaming the streets and was captured and turned over to a Border Collie rescue, which placed her with us. She lives very happily with us and our two cats and our daughter's dog, except for two problems.

**Problem 1:** She is a very polite and quiet dog until she hears or sees someone outside our home or our car. If she hears or sees someone, or an animal, she will go berserk, barking and carrying on aggressively, but not toward her family. She is very guarded about her personal space and will threaten to snap at any stranger who invades that space. Putting her on a leash will mostly settle her down, though.

**Problem 2:** She is not food-motivated. Her favorite treat is stroking and praise. She can be a bit of a Velcro dog at times. She does not eat with any regularity, often exhibiting an avoidance reaction to

the offer of food. Her weight and activity level seem normal. She does not like being approached with a food dish (and sometimes any object in my hand). This results in very irregular feedings. She sometimes will go a day without eating. The same thing happens with elimination habits. She can sometimes go for many hours without peeing or pooping. Any recommendations would be most appreciated. Thank you.

**A** You were very kind to take Lola into your home. Her first problem is a common one. She is exhibiting territorial aggression. Many dogs consider the car a sort of mobile territory, and it is easily defended because the dog is in a shell that protects her. That behavior is easily solved:

Keep her on leash so she cannot hurt anyone. She should have a seat belt in the car, both to restrain her from biting someone who approaches the car and to protect her in case of a car crash.

You can reduce the barking by limiting her view of the outside world. Window film at her level will allow you to have light and a view, but she won't be able to see the stranger or prey animal. A qualified dog trainer who uses positive reinforcement (no shock collars!) or, better yet, a veterinary behaviorist can give you additional, specific advice for your dog.

The lack of appetite problem is not one I associate with big dogs like her (I know of lots of toy dogs who train their owners to feed them cocktail franks).

Despite her apparent normality, I would have a complete veterinary examination, concentrating on her gastrointestinal tract to determine if she has a medical reason for not eating. Meanwhile, you can try the myriad different flavors and preparations of dog food. Most dogs like canned food better than dry food, so if you're not already doing it, adding in canned food to her kibble can help entice her to eat. ■



### Do You Have a Behavior Concern?

Send your behavior questions to Cornell's renowned behavior expert Katherine Houpt, VMD, Ph.D., shown here with Yuki, her West Highland White Terrier. Email to [dogwatcheditor@cornell.edu](mailto:dogwatcheditor@cornell.edu) or send by regular mail to DogWatch, 535 Connecticut Ave., Norwalk, CT 06854-1713.



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- ▶ *What You Should Know About Drooling*
- ▶ *Reasons an Annual Exam Is Important*
- ▶ *Answers to Questions About Canine Dentals*
- ▶ *Treadmill Exercise for Your Dog*
- ▶ *Simple Solutions for the Muddy Season*