



Cornell University
College of Veterinary Medicine



DOG Watch

Expert information on medicine, behavior and health from a world leader in veterinary medicine

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IN THE NEWS ...

Shelters Often Mislabel Some Dogs as Pit Bulls

DNA results of breed assessments of 120 dogs at four shelters found that staff members and veterinarians correctly identified pit bulls only 33 to 75 percent of the time. They're expected to judge the breed of dogs based on appearance alone, says researcher Julie Levy, DVM, Ph.D., professor of shelter medicine at the University of Florida.

"Unlike many other things, people can't quite define but 'know when they see it,' identification of dogs as pit bulls can trigger an array of negative consequences, from the loss of housing, to being seized by animal control, to the taking of the dog's life. In the high-stakes world of animal shelters, a dog's life might depend on a potential adopter's momentary glimpse and assumptions about its suitability as a pet," says Dr. Levy, lead author of the study published in the *Veterinary Journal*.

Pit bulls aren't a separate breed but derived from American Staffordshire Terriers and Staffordshire Bull Terriers. ♦

Are You Missing a Good Night's Sleep?

Medical or behavioral issues can trigger your dog's disruptiveness, but have hope — many are treatable

You adore your dog except for one habit: He prevents you from getting a full night's sleep. Perhaps he paces with his nails tapping on the floor or whines to be taken outside. Or he drops his favorite toy on your pillow 30 minutes before the alarm rings.

You're not alone. Many owners experience disruptive sleep because of their puppies and dogs. Dogs who have displayed proper manners can suddenly become restless and vocal in the middle of the night when they become seniors.



You awake? He is and he's ready to roll.

It's Daunting. Even veterinarians have contended with the challenge. "I had both geriatric dogs and cats who kept me awake at night," says Leni Kaplan, MS, DVM, a lecturer in the Community Practice Service at Cornell University College of Veterinary Medicine.

"I worked to identify what was causing their change in sleep behavior pattern and then adjusted the household environment or our schedule to adapt to their needs as geriatric pets."

The causes of dog's being active at night at the sacrifice of owners' sleep fall into two

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12 Signs of Medical Emergencies

When minutes count, use a closed carrier to take your dog to the nearest clinic and remain calm to avoid his panicking

When your dog suddenly becomes ill or injured, how do you know if he needs to go to the veterinarian or emergency hospital without delay? It's not always easy to determine.

Hiding weakness is a natural survival instinct for dogs, a vestige of their pre-domestication days to remain with their pack. They may exhibit only subtle signs that they're seriously sick.

On the other hand, some illnesses are obvious emergencies. The most important advice from the Section Chief of Critical Care at Cornell University College of Veterinary Medicine: "Some animals can appear



The Emergency and Critical Care Service at Cornell University Hospital for Animals is open 24/7.

fine after a traumatic event such as being hit by a car or being bitten by another animal," says Gretchen L. Schoeffler, DVM,

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SHORT TAKES

Largest Genetic Study Yields Clues to Disease

Cornell researchers have completed the genetic analysis of 4,200 dogs — the largest study of its kind. Their work will help map genes responsible for canine diseases from lymphoma to hip and elbow dysplasia. At the same time, because dogs and people share more than 350 diseases, their findings can help advance the understanding of human disease.

"The more we know about the genetic basis of diseases, the better we are at keeping pure-bred dog populations genetically healthy," says researcher Adam Boyko, Ph.D., assistant professor of biomedical sciences at Cornell University College of Veterinary Medicine.

"My hope is that as geneticists discover more of the variants that cause inherited disorders in dogs, it leads to better breeding strategies that help to minimize these diseases. You need to take a holistic approach and involve breeders, owners and vets," Dr. Boyko says.

The study also identified canine genes that influence traits such as size, fur length and shedding. Researchers found 17 genes for body size in dogs and, by looking at those genes, can predict a dog's size with 90 percent accuracy, Dr. Boyko says. "Size is related to many other traits in a dog — longevity, disease risk, suitability for certain owners — and it really is exciting to know that adult body size can be predicted in dogs with much more precision than, say, in humans based on genetic data alone."

The interest in dogs as a model for studying diseases in humans has been growing because similar pathways and genes often underlie their diseases. By identifying important genes and proteins in dogs for diseases and traits, researchers can then test similar genes in humans.

The Cornell study investigated 180,000 genetic markers — DNA sequences with a known physical location on a chromosome. The markers can help link an inherited disease with the responsible gene. Human disease-mapping studies generally include genotyping tens of thousands of individuals and looking at 1 million



Lindsay France, Cornell University Photography

The study also identified genes influencing canine characteristics such as size, fur length and shedding, says Adam Boyko, Ph.D., assistant professor of biomedical sciences.

markers across the genome — an organism's complete set of DNA.

Genetics in dogs is simpler. "In dogs, we expect to be able to identify genetic risk factors for most major diseases with 1,000 individual dogs and 1,000 controls," Dr. Boyko says.

Jessica Hayward, a postdoctoral research associate in Dr. Boyko's lab, and Marta Castelhana, director of the Cornell Veterinary Biobank, were co-lead authors of the paper published in *Nature Communications*.

The study used samples of more than 150 breeds, 170 mixed-breed dogs and 350 free-ranging village dogs from the Cornell Veterinary Biobank. Supporters included Zoetis Animal Health, the Cornell University Center for Advanced Technology in Life Science Enterprise, the National Geographic Society, National Institutes of Health, American Kennel Club and Cornell University College of Veterinary Medicine.

Dr. Boyko's lab is continuing genetic research, including studies of village dogs — semi-feral dogs found around the world — to learn how their traits evolved in natural populations. In partnership with the College of Medicine, he co-founded the startup company Embark Veterinary (embarkvet.com). "It's focused on giving owners a cutting-edge DNA test that gives them an accurate, comprehensive genetic profile of their dog and allows them to work with scientists to expand canine genetic research."

— Adapted from the "Largest Dog Genetic Study Informs Human Diseases" by Krishna Ramanujan in the *Cornell Chronicle*. ♦

When Compounding Is Right for Your Dog

Pharmacists can mix medications or alter them into chewables, tablets or liquids for specific needs

Like so many members of her breed, Bella, a 14-year-old Cavalier King Charles Spaniel, was being treated for mitral valve disease. Among the drugs she was taking was sildenafil, recommended by her cardiologist to help treat pulmonary hypertension related to congestive heart failure.

You may know sildenafil by its more common brand name, Viagra. In humans, it's used to treat erectile dysfunction, but in pets it may be prescribed to help increase blood flow in the lungs, thereby decreasing stress on the heart.

The only problem for Bella was that the pills available had to be cut into eighths to be at the appropriate dosage. In the process, they broke apart into irregular pieces that couldn't be used. The answer was compounding. That's the practice of combining, mixing or altering a drug's ingredients to tailor a medication to a pet's specific needs.

Injectables and Gels. Compounding is done by a licensed pharmacist, veterinarian or a person supervised by a licensed pharmacist. Examples of compounding include mixing two injectable drugs in the same syringe or creating a skin-penetrating gel for a drug typically given in other ways.

"Federal extra-label drug use regulations specifically permit compounding from FDA-approved drugs when a veterinarian believes there is a need to alter the approved drug to adequately medicate a non-food animal with a diagnosed medical condition," says Lisa Penny, R.Ph., pharmacy director at Cornell University Hospital for Animals.

Compounding offers several benefits:

- ◆ It allows for diluting the strength of a medication, which may be necessary when treating a pet.

- ◆ The drugs can be formulated with pet-approved flavors, such as chicken, beef, cheese or liver.
- ◆ The drugs can be made into a form that's more palatable to pets, such as chewable treats, tablet and liquid.
- ◆ It allows two active ingredients to be combined into one product.

Compounding can also be useful if a drug needed to treat a pet's condition isn't commercially available because of drug shortages or a product has been discontinued. It sounds like a welcome alternative when you have a dog who refuses to swallow a pill or needs a specific dosage like Bella. But it has some potential drawbacks. Here's what you need to know.

Compounded preparations must be prepared from animal and human drugs approved by the Food and Drug Administration through the Federal Food, Drug and Cosmetic Act. However, day-to-day regulations of compounding are the province of state boards of pharmacy



Michael P. Carroll, Cornell

Drugs and compounds may act differently in animals than in humans. "Owners should ask compounding pharmacies if they have specialized training or credentials in veterinary compounding," says Lisa Penny, R.Ph., pharmacy director at Cornell University Hospital for Animals.

and veterinary medicine. "This means that FDA does not verify the safety or effectiveness of compounded drugs," says Jason Strachman-Miller, an FDA health communications specialist.

No Assurances. The bottom line, according to the American Veterinary Medical Association, is that there is no assurance that a compounded medication will be safe or effective for your dog's medical condition. Whether any risk is associated with the use of a compounded medication depends largely on the veterinarian ordering the medication and the skill and care of the pharmacist doing the compounding.

Drugs and compounds may act differently in animals than in humans. Compounding can further complicate the situation because that formulation may affect how the drug works in the body. "This may result in drug concentrations that are above or below the therapeutic range and lead to the development of increased side effects, unexpected side effects or a decrease in the drug's effectiveness," Penny says. "Owners should ask compounding pharmacies if they have specialized training or credentials in veterinary compounding."

(continued on bottom of page 5)

HOW TO REPORT PROBLEMS

What happens if your dog has a problem with a compounded medication? If he takes a compounded medication and has an adverse reaction, or you notice possible quality or safety defects such as particles in a solution, an unusual color or separation of liquids, let his veterinarian know. He or she should report the problem to the compounding pharmacist and the appropriate regulatory agencies. You can also report adverse events by following the instructions on the FDA website. Use the keywords "report animal adverse drug experiences" at fda.gov.

EMERGENCIES ... (continued from cover)

who is a board-certified in emergency and critical care.

Don't Hesitate. As a result, owners may hesitate to seek veterinary care. "Unfortunately, internal injuries are relatively common and could result in loss of life if they are not identified and treated in a timely fashion," Dr. Schoeffler says.

Here's what you should know about recognizing and responding to emergencies — especially when minutes count. These conditions necessitate an immediate trip to the emergency room anytime day or night:

- 1) Bleeding that doesn't stop in five minutes or bleeding from the mouth, nose or rectum
- 2) Loss of consciousness or altered mental ability such as confusion or other abnormal behavior
- 3) Difficulty breathing
- 4) Sudden collapse, even if it is episodic and recovery seems spontaneous
- 5) Severe weakness or not wanting to move or get up
- 6) Broken bones
- 7) Sudden lameness or inability to walk
- 8) Diarrhea that appears bloody or black and tarry
- 9) Severe vomiting, especially if the vomit contains blood or looks as if it contains coffee grounds (a sign of internal bleeding)
- 10) Gums that appear blue or white instead of a healthy pink
- 11) Seizures or staggering
- 12) Known ingestion of a toxic substance such as antifreeze or rat poison

If you see any of these signs in your dog, remain calm and take the dog to the closest emergency clinic. Dr. Schoeffler says. "It's never helpful to panic. We want people to drive safely. I would also argue that most pets pick up on the owners' mental state. If the owner is anxious, then the pet is more likely to be anxious as well."

Dogs are likely to encounter certain types of emergencies, Dr. Schoeffler says. Here are those that she sees regu-



Severe vomiting can indicate a life-threatening emergency. Gastrointestinal obstruction can be ruled out through abdominal X-ray or ultrasound, as demonstrated by Marnin Forman, DVM, ACVIM, at Cornell University Veterinary Specialists in Stamford, Conn.

larly in dogs and the reasons a trip to the ER can sometimes mean the difference in a recovery.

◆ **Vomiting, loss of appetite and diarrhea.** Frequent or severe vomiting, especially if your dog seems unusually quiet or lethargic, should be of concern. "They may be the first indicators of very serious or even life-threatening disease," Dr. Schoeffler says. "At the very least the possibility of a gastrointestinal obstruction can be ruled out through abdominal X-ray or ultrasound, and the patient may benefit from fluids given intravenously or under the skin."

◆ **Traumatic injuries,** such as bite wounds, cuts and open wounds.

◆ **Difficulty breathing may indicate heart failure or poisoning.** Choking can cause difficult breathing but is a rare emergency, Dr. Schoeffler says. "If an owner finds their pet unresponsive and not breathing, I would recommend looking for a foreign object in the back of the mouth. If however, the dog is responsive and seems to be having breathing difficulty, it is more important to keep him calm and get him to the vet ASAP."

Excitement and/or overheating exacerbate breathing difficulty, especially in upper airway obstructions, Dr. Schoeffler says. "Dogs feel the need to increase their breathing when they are excited or are overheated — remember dogs cool

themselves by dissipating heat through their respiratory tract by exhaling it. When those dogs also have an upper airway obstruction, they cannot meet those increased breathing needs and become anxious and try to breathe harder. It becomes a vicious cycle."

Rule of thumb for a breathing problem, especially an upper airway obstruction, is to keep the dog cool and calm.

Breathing problems can also surface in poisoning. Dogs are notoriously indiscriminate eaters, Dr. Schoeffler says, and that leaves them vulnerable to ingesting toxins. Foods and drugs commonly found in the home that can be highly toxic include grapes, raisins and Zante currants, which can cause severe kidney failure; dark chocolate; coffee beans, plain or chocolate-covered; and the sweetener Xylitol in sugar-free gum, baked goods and peanut butter. Many over-the-counter human medications, such as Tylenol containing acetaminophen, or Aleve containing naproxen, can be fatal to dogs.

◆ **Straining to urinate,** which can signal a urinary tract obstruction caused by bladder stones; prostate disease or other serious conditions. A complete obstruction, in which the dog cannot urinate at all, can result in a ruptured bladder if not immediately treated. "This tends to be a serious problem more commonly in males but can also affect females," Dr. Schoeffler says.

◆ **Difficulty walking**, indicating a spinal injury. Back or spinal cord problems are common in dogs, Dr. Schoeffler says. Some breeds with long backs such as Dachshunds are more susceptible than others to ruptured intervertebral discs. Left untreated, a dog with spinal injury may become permanently paralyzed. A related

emergency situation is when a dog is reluctant to use a limb. "Dogs who are acutely unwilling to bear weight on a limb are in significant pain," Dr. Schoeffler says.

◆ **Tremors or seizures**, which can be caused by poisoning and neurological diseases. They should be treated as emergencies, especially if it's possible the dog has

ingested a toxic substance or has recently been treated with a topical medication such as a flea and tick preventive. If your dog seems restless, is panting or can't seem to get comfortable, he should be seen right away. These signs can indicate serious disease, including congestive heart failure.

When you take your dog to the emergency clinic, transport him in a closed, secure carrier whenever possible. "Ill dogs can behave in unexpected ways," Dr. Schoeffler says. "If they become panicked, they can inflict bodily injury directly or may distract a driver, resulting in a motor vehicle accident."

Know the veterinarian's hours and the location of the nearest emergency clinic if your pet has a problem in off hours. Put the phone number on speed dial so you can alert the clinic that you're on your way. And keep your dog's veterinary records handy, including his rabies vaccination certificate, so you can take them with you.

Most important, know your dog's normal behavior. Being able to recognize any changes can help you identify and treat problems before they become full-blown emergencies. ♦

KNOW YOUR BREED'S VULNERABILITY

Some breeds or types of dogs may be prone to certain emergencies. For instance, Bulldogs, Pugs, Boxers and other short-nosed breeds may find it difficult to breathe in excessively hot temperatures. Overweight dogs may also have trouble breathing in extreme heat. Signs of heatstroke, which require immediate veterinary care, include vomiting, restlessness, panting or drooling, rapid pulse and breathing.

Dalmatians, Bulldogs and Black Russian Terriers are especially prone to bladder stones. Small breeds like Cavalier King Charles Spaniels may go into congestive heart failure unexpectedly. Labrador Retrievers are known to eat whatever comes their way and may become poisoned or develop an intestinal obstruction.



Short-nosed breeds such as Boxers may have difficulty breathing in excessively hot temperatures.

COMPOUNDING... (continued from page 3)

Other questions to ask before you purchase medication for your pet from a compounding pharmacy:

- ◆ Is the pharmacy accredited by an independent accreditation body such as the Pharmacy Compounding Accreditation Board (PCAB)? This organization offers accreditation to compounding pharmacies that meet high quality and practice standards.
- ◆ Where does the pharmacy get the raw ingredients for compounding? Raw ingredients should be certified by the United States Pharmacopeia (USP).
- ◆ Is the pharmacy using an FDA-approved drug in the compound?
- ◆ Is the pharmacy licensed in your state? This is a consideration if you are purchasing drugs online.

- ◆ Does the pharmacy follow USP guidelines regarding good compounding practices as well as strength, quality, purity and stability?



Pharmacists can formulate medications with pet-approved flavors, such as chicken, beef, cheese or liver.

Compounded drugs may or may not be more expensive than the regular form of the drug. Factors may include the price of the drug, a dog's size and the type of compounding required. However, "It is not legal for a veterinarian to prescribe, or a pharmacist to compound, a medication that is commercially available just because the compounded product is less expensive," says Penny.

"There must be a documented reason for compounding the product, such as a smaller strength needed or the form of the medication needing to be changed — pills to suspension, etc. Choosing to use a compounded drug simply because it's less expensive could put a dog's health at risk because that formulation of the drug hasn't been proven safe and effective." ♦

SLEEP ... (continued from cover)

main categories: medical and behavioral. To help distinguish them, it's important to record and report changes in your dog to his veterinarian, Dr. Kaplan says. "If we do not identify and treat underlying medical causes of disruptive behaviors, we will not be able to treat them."

Treat Medical Problems First

Cognitive dysfunction syndrome (CDS), a degenerative brain disease similar to Alzheimer's in people, causes altered sleep patterns in dogs, among other behaviors. A dog may sleep more in the daytime and be awake at night.

"Cognitive dysfunction is the most common behavioral complaint among owners with older dogs," says behaviorist Katherine Houpt, VMD, Ph.D., professor emeritus at Cornell. "Owners say that their dog paces, howls and is extremely restless at night."

Veterinarians may prescribe Anipryl (selegiline), the first FDA-approved drug to control the signs of signs of canine CDS. Owners reported 69 to 75 percent of dogs improved in at least one clinical sign after a month of taking the drug, according to the manufacturer, Pfizer Animal Health. It cautions that responses may vary among individual dogs.

Ask your dog's veterinarian to do a complete examination to look for other medical problems that could cause restlessness, discomfort or an increased need to eliminate. For example, sensory changes, such as eyesight or hearing loss, can affect your dog's depth of sleep.

Other medical conditions that trigger nighttime wakefulness include:

◆ **Cushing's disease:** This endocrine disorder causes increased thirst, urination, hunger, pacing and panting.



Diabetic dogs can be ravenous and awaken owners for an early breakfast, as can dogs fed dinner too early the night before.

"This condition is a common culprit for disturbing senior dog sleep patterns and those of their owners," says Dr. Kaplan.

◆ **Diabetes:**

The condition causes ravenous appetite, weight loss and increased water consumption and urination. As a consequence, dogs may awaken in the middle of the night because they're hungry or the water bowl is empty.

◆ **Arthritis:** Physical pain, due to aching joints, can make it hard for dogs to

find a comfortable sleeping posture. "Pay attention to your dog, and if he is starting to limp during the day or is slow to get up after a nap during the day, get him examined by the veterinarian," says Dr. Houpt. "He may need pain medication to help him not only move but sleep better."

◆ **Irritation from flea or other parasitic infections.** They can cause stress and wakefulness because of constant itching and painful, irritated skin, all warranting a visit to the veterinarian.

◆ **Urinary tract diseases:** "House-trained dogs do not want to void in the house," Dr. Kaplan says. "If they need to go to the bathroom in the middle of the night, they will wake up their owners. Also, if a dog has a urinary tract infection or bladder stones, both of these conditions are painful and will not allow a dog to rest."

◆ **Side effects of medications.**

"Dogs with painful conditions may be given steroids, which make them urinate more frequently," Dr. Houpt says. Make of a list of medications your dog takes, including supplements, and review them with the veterinarian.

If necessary after medical treatment, you can gently retrain your dog to re-establish normal sleeping and waking hours. Try increasing his daytime and evening activity by

AMONG THE SLEEP AIDS: CRATES AND COMFORTING SHIRTS

If your dog is wide awake at night, these tips may help:

- ◆ **Usher him into a pet crate that contains a comfy padded bed.** Make sure he's familiar with the crate and comfortable in it. Ideally, dogs should be crate-trained at an early age.
- ◆ **Don't yell at or scold your dog.** This will give him more attention and motivation to escalate his disruptive behavior. And don't set booby traps that emit sprays when the dog approaches your bed. "I'm not a fan of booby trapping or scaring animals to discourage unwanted behaviors," says Leni Kaplan, DVM. "These tactics commonly cause anxiety and fear without really training the animal."

Behaviorist Katherine Houpt, VMD, Ph.D., adds: "Many smart dogs learn to just stay out of range of the booby trap and continue barking or scratching on the wall instead of the door."
- ◆ **Consider products and medications.** If your dog is diagnosed with anxiety and becomes destructive or doesn't have a normal sleep pattern due to stress, he may need anti-anxiety medications or benefit by wearing products like the Thundershirt that are designed to relieve anxiety.

giving him frequent walks, playing his favorite games, practicing obedience or tricks, and giving him food-puzzle toys and bones.

You May Play a Role in Behavioral Causes

You may be surprised to learn that you may be encouraging nighttime wakefulness if you feed your dog an early dinner and a meal as soon as you awaken in the morning. "I often recommend that my clients give their pets a late meal in the evening, preferably before the owner's bedtime," says Dr. Kaplan. "The pets are less likely to wake their owners due to hunger, and this late meal helps pets who are prone to vomiting overnight due to hunger and the long duration between feedings — known as billous vomiting syndrome."

Then you need to re-set his breakfast clock and feed him a little later in the morning. "Otherwise, you are training your dog to expect to be fed as soon as you wake up and that can motivate some dogs to bother you in the early morning while you are still in bed," Dr. Houpt says. "You are inadvertently positively reinforcing this unwanted behavior."

Bored dogs who spend many hours home alone during the day can unleash their pent-up energy by chewing up pillows, raiding kitchen garbage cans



Mental and physical stimulation during the day and early evening can help change altered sleep patterns. Try offering walks, games and food puzzle toys.

HOW COGNITIVE DYSFUNCTION IMPACTS SLEEP

Research shows that nearly half of senior dogs and more than 80 percent of geriatric dogs display signs of cognitive dysfunction. They may suddenly forget housetraining and urinate in the house or become lost in the corner of the living room. Many are restless, unable to sleep through the night.

"Some dogs with cognitive dysfunction will wander about aimlessly in the middle of the night, howling," says behaviorist Katherine Houpt, VMD, Ph.D. "They can become very agitated."

Some older dogs may have diminished vision and may howl or pace because they can't find their way. Adding nightlights and keeping the TV on may help them navigate at night and feel more relaxed, says Leni Kaplan, DVM.

She says it is also worth training your aging dog to:

- ◆ Have an assigned bed in an area where he can settle down and sleep. When he is having a rough night, you direct him to his bed.
- ◆ Confine him in a large kennel or X-pen to control his pacing. Introduce it to the area during the day and reward him with praise and healthy treats to make it a positive experience



Report changes in behavior to your dog's veterinarian. "If we do not identify and treat underlying medical causes of disruptive behaviors, we will not be able to treat them," says Leni Kaplan, DVM, at Cornell.

and jarring sleeping owners by jumping around on the bed.

"Dogs, just like humans, need exercise and an outlet for energy for both their physical and mental well-being," says Dr. Kaplan.

Effective boredom busters include:

- ◆ Clicker training to teach basic cues like sit, come and shake paws. "Clicker training sessions guarantee the dog gets attention, allows for positive reinforcement and strengthens the human-animal bond," Dr. Kaplan says. "It teaches the dog how to properly behave while mentally stimulating him."
- ◆ Taking your socialized dog to a reputable doggie day care while you're at work. Make sure he and other attendees are current on vaccinations and the center is adequately staffed. Or arrange for a professional pet sitter to take your dog for a daily walk.
- ◆ Maintaining his interest in his toys by taking out a few at a time, storing the rest and rotating toys every few days.

Parting advice: While medical conditions are being treated and behavior problems addressed, you may consider turning on a sound machine in your bedroom or wearing earplugs to block out your dog's nighttime activity. ♦



Michael P. Carroll, Cornell

Pamela Perry, DVM, Ph.D., provided the answer on this page. She is a resident in animal behavior at Cornell University College of Veterinary Medicine and an instructor for the small animal behavior course.

Please Share Your Questions

We welcome questions of general interest on health, medicine and behavior. We regret however, that we cannot comment on specific products and prior diagnoses. Please send correspondence to:

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COMING UP ...

SHY DOGS



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PANCREATITIS

Can Steroids Cause a Change in Personality?

Q I have a LWD — little white dog — a male of about 7 who looks to be a mix of Bichon and Poodle, among other breeds. He's been on a steroid for four years for inflammatory bowel disease (half a milligram every third day), and his personality has changed from a sweetheart to a pushy, demanding dog who would eat full time if I let him. I know steroids cause increased appetite and water consumption and urination (the carpet is a goner), but my questions are:

Do you know if steroids can change a dog's personality? I've read some dogs become more anxious and aggressive. I don't see aggression, but Max is a worrier and will urinate even if even thinks I'm going to leave the house. It's separation anxiety and I'm working on it, but he didn't used to be like that before the steroid.

How do I avoid his becoming overweight? It's a daily battle because twice a day he'll have a half cup of an expensive hypoallergenic dry food, then a few teaspoons of the same brand in the canned version that I use to wrap his meds — an antacid, a thyroid medicine and Dasuquin. I also give him two cooked green beans and two tablespoons of cooked organic ground turkey or chicken.

Sounds good for a 16-pound dog, right? In two hours, he's barking at the refrigerator, barking at me, licking his chops. He wants more food! What can I do with this otherwise sweet guy? He gets two half-mile walks a day, with four more short ones. I'd sure appreciate your advice.

A Max is very fortunate to have such a dedicated owner. While corticosteroids work well for a number of medical conditions, including inflammatory bowel disease, side effects are not uncommon. In a recent study, dog owners reported that while receiving corticosteroid treatment, their pets were significantly less confident and playful, and more fearful, nervous and/or restless.

They also were more likely to startle, guard their food, bark, react aggressively when disturbed and avoid

people or novel situations. Thus, it is not surprising that you have noticed a difference in Max's behavior.

The fact he urinates when you prepare to leave suggests he is anxious, which might be exacerbated by chronic steroid use. To properly assess his behavior, you should videotape Max when he is home alone. Dogs with separation anxiety show signs of distress only in their owner's absence. If that is the case, you should seek the help of his veterinarian, who may perform a complete blood count and chemistry screen to rule out medical problems that may be contributing to his behavior.

Because Max is anxious, never punish or scold him for urinating in the house — especially after the fact — because it will increase his anxiety. Instead, teach him to sit for everything he gets from you, including attention and petting. You should also teach him to "Lie down" and "Stay," using some of his kibble as a reward. At first, keep him in a "down-stay" for only a second or two. Very gradually, work up to having him stay long enough for you to leave the room for 10 minutes.

Max will benefit from getting his dry kibble from food-dispensing toys. This will provide enrichment and an appropriate outlet for his energy, and also will slow down his eating so that he is not constantly begging for food. Give him one of these toys 15 to 20 minutes before you leave and then ignore him. When you arrive home, ignore him for 10 to 15 minutes or until he has calmed down. In addition, perform tasks that typically indicate that you are about to leave, but without actually leaving.

You can also try over-the-counter remedies to reduce Max's anxiety, including Anxitane, containing the green tea extract theanine; Zylkene, with the milk protein casein; or Harmonase, with flower essences. The Thundershirt may be comforting because of its swaddling effect. The pheromone collar Adaptil (a synthetic version of an odor produced by a mother dog when she has puppies), can be reassuring to some dogs. If warranted, Max's veterinarian may prescribe an anti-anxiety medication if his blood work is normal.

I hope Max eventually can be weaned off the corticosteroids and that you have many happy years together. ❖

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