



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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There are many hypotheses. Here are effective tactics that can stop it.

IN THE NEWS ...

Ancient Wolf Bone May Tell 'Dawn of the Dog'

Scientists on a six-week expedition to the far reaches of North Russia found a fragment of a rib bone from a Siberian wolf that suggests dogs diverged from wolves 27,000 to 40,000 years ago — far earlier than once believed. Previous studies placed dogs' domestication at 10,000 to 30,000 years ago in Europe, Asia and the Middle East. *Nature* magazine says the discovery, reported in *Current Biology*, may push back the "dawn of the dog."

Researchers, including population geneticist Pontus Skoglund, Ph.D., at Harvard and Love Dalén, an evolutionary geneticist at the Swedish Museum of Natural History, used DNA analysis to identify the species and radio carbon dating to determine age. As did at least one other study, they found the ancient wolf diverged from the common ancestor of present-day wolves.

Given the wolf's age, they theorize the first dogs were hunting companions for early humans as they settled Europe and Asia during the last Ice Age. ♦



The ideal pet population: One dog for every adult in the household.

BIGSTOCK

Dare You Add One More to the Pack?

First pause to consider expenses, your available time and the real deciders: the age and temperament of your current pets

If you're debating whether to bring home a new dog, you may stop and wonder: Do I dare add one more? We love animals, but the point comes when perhaps we should stop adding them to our households and hearts, whether due to cost, the time involved in caring for multiple pets, or our current pet population.

It may seem like a second dog could provide companionship for your lone pet, but proceed cautiously. If they're both spayed females, that pairing "seems to be

an awful combination," says animal behaviorist Katherine A. Houpt, VMD, Ph.D., emeritus professor at Cornell University College of Veterinary Medicine.

Aggressive Males. Castration often eliminates most aggression between male dogs. However, two spayed female dogs can become even more aggressive. That's because of the female hormones estrogen and progesterone. Estrogen is present for a

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The CBC, a Diagnostic Powerhouse

The humble complete blood count can uncover disease before signs emerge, making treatment more effective

In this age of high-tech diagnostic tools like digital X-rays and color Doppler ultrasound, one humble test — the complete blood count (CBC) — remains at the forefront. A single drop of blood contains millions of cells, and with only a scant half teaspoon, your dog's veterinarian can evaluate and diagnose a variety of conditions from anemia and autoimmune disease to cancers and infections.

"Since our patients do not speak, this blood work is an important way for us to peek inside their bodies and make sure there's no underlying disease that hasn't yet made a clinical

appearance," says Leni Kaplan, MS, DVM, a lecturer in the Community Practice Service at Cornell University College of Veterinary Medicine.

Alphabet Soup. A CBC may seem a mysterious jumble of alphabet soup, but it's easily understandable when you know its elements and functions. During its journey throughout the body, blood carries oxygen and nourishment to the tissues and removes waste products such as carbon dioxide and nitrogen.

Blood is comprised of plasma, the water component, and solids such as red cells,

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SHORT TAKES

Legalized Marijuana Poses a Risk of Poisoning to Dogs

More than 23 states and the District of Columbia have legalized marijuana for medical or recreational use, and with its growing acceptance has come a health threat to pets — specifically dogs.

Cats aren't particularly interested in marijuana, says the pet insurance company Trupanion, explaining, "Dogs, on the other hand, have rolled in it, ingested it and are much more likely to grab some special brownies off the countertop."

The ASPCA Animal Poison Control Center shared its spread sheets of calls about marijuana with us that showed they increased 68 percent last year over 2013 — from 320 to 539 — with dogs predominating.

Dogs can be poisoned by ingestion of marijuana or exposure to second-hand smoke, with effects from moderate to severe. The result, according to Trupanion: "From claims just under \$100, like a mixed breed dog who was given fluids and nausea medication, to claims over \$6,000 for a Shetland Sheepdog who ate a tray of 'weed brownies' and needed to be hospitalized for seven days, Trupanion has seen marijuana ingestion for dogs of all shapes and sizes." The average claim has been \$525.

Trupanion logged most claims per capita from Washington and Oregon, the two states that first legalized recreational marijuana. They had three times more marijuana toxicity claims compared to averages in other states. California, New York, Colorado and Florida also had a high number of claims.

The company paid more than \$78,000 for suspected marijuana claims last year in cases in which owners may have been reluctant to admit their dogs' exposure and over \$20,000 toward confirmed toxicity cases.

Dogs who ingest marijuana can show signs within minutes or hours. They include depression, vomiting, incoordination, hypersalivation, dilated pupils, low blood pressure, seizure,

coma and, in rare cases, death, according to the ASPCA Animal Poison Control Center (888-426-4435).

Treatment can involve IV fluids, anti-vomiting medication and respiratory support. Decontamination, such as inducing vomiting and giving charcoal, should be done only after consulting a veterinarian, says the Pet Poison Helpline, (855-764-7661).

While some owners have asked about treating ill dogs with medical marijuana intended for pets, Denise Petryk, DVM, MBA, Trupanion's medical director, says, "The reality is very few studies have proven a beneficial effect for pets, and the risks have not been completely investigated. If you are interested in treating your pet with cannabis products, do so under the supervision of a trusted veterinarian in a controlled environment."

Trupanion covers medicinal marijuana when recommended by a veterinarian. Claims are primarily for cancer treatment.

Three Lively New Breeds

The American Kennel Club has welcomed three new breeds — two herders and a good-natured hunter, an Italian dog whose underground quarry is a delicacy selling for \$1,200 a pound. The curly-coated Lagotta Romgano is celebrated as the only truffle-hunting purebred.

The Berger-Picard is a farm dog from Northern France who does well with children but needs an outlet for his drive, the AKC says. The Miniature Australian Shepherd, who originated on ranches in the American West, is noted for intelligence, trainability and devotion to his family. All three breeds are athletic and energetic, the canine club says, adding, "Read: Need lots of exercise." ♦



Some owners provide the Lagotta Romgano with a sandbox to satisfy the dogs' urge to dig. They were bred to sniff out truffles growing underground.



The effects of marijuana ingestion or exposure vary from moderate to severe.

Bigstock

The Key to Avoiding Acid Reflux

Keep large or high-fat meals off the menu — they increase the propensity for the disorder

Here's another compelling reason that you should never serve fatty meat scraps to your dog: You can put him at increased risk for acid reflux. Also known as gastroesophageal reflux disease (GERD), acid reflux occurs when gastrointestinal fluids flow back into the esophagus. The fluids, including stomach acid, bile and pepsin, can cause inflammation and a burning sensation in this tube connecting the throat to the stomach.

A dog suffering acid reflux may lick his lips, gulp, salivate excessively and wander about the room before regurgitating undigested food, mucus and gastrointestinal fluids. He may also have foul-smelling breath. It's hard to distinguish, but a dog with GERD tends to regurgitate, with fluids quickly coming from his mouth rather than his chest heaving and body crouching, as in vomiting.

"Because it can be difficult to truly diagnose or is often treated empirically, the true prevalence of GERD is unknown in dogs and cats," says Meredith Miller, DVM, ACVIM, a lecturer in small animal medicine at Cornell University College of Veterinary Medicine. "Feeding large or high-fat meals will increase the propensity for acid reflux. High-fat foods take longer to leave the stomach."

Acid reflux is often secondary to an underlying condition such as a hiatal hernia, which occurs when part of the stomach pushes through the opening of the diaphragm. Shar Peis, Chow Chows, English Bulldogs, French Bulldogs and Pugs are more prone to upper airway obstructions and at greater risk for congenital types of hiatal hernias.

"Acquired hiatal hernias, however, can occur in any breed at any age and the pathogenesis [the condition that led to it] is not well understood," says Dr. Miller.

Anesthesia Risk. Surprisingly, acid reflux can occur when a dog is in surgery. Anesthetic agents may reduce the lower esophageal sphincter pressure, causing an opening between his stomach and esophagus. Dogs who do not properly fast for the prescribed time before surgery are at greater risk.

Chronic vomiting or disorders in gastrointestinal motility can lead to acid reflux in dogs. The signs can also be similar to esophageal diseases or esophageal foreign bodies.

For suspected GERD cases, veterinarians will likely perform an X-ray to look for abnormalities of the esophagus and abdomen. If they believe additional



Shar Peis are among breeds prone to a type of congenital hiatal hernia that can lead to acid reflux.

diagnostics are needed or your dog doesn't respond to therapy, they may refer you to an internal medicine specialist to perform esophagoscopy to rule out other conditions, such as a foreign body in the esophagus or a mouth or throat disease. An endoscope, a device with a small camera, scans the lining of the esophagus to reveal inflammation, bleeding or ulcers.

In addition, veterinarians may take blood and urine samples to perform a complete blood count, serum biochemistry profile and urinalysis to look for underlying conditions that could be contributing causes, such as kidney disease.

Treating the underlying cause can be most effective if it's evident. This may involve corrective surgery to repair the hiatal hernia or clear obstructions in the airways. Afterward, veterinarians may recommend homemade meals (cooked, seasoned vegetables and lean chicken) for several days while your dog recovers.

In addition, just like people who suffer from heartburn, antacids can help tame your dog's stomach. "We use antacids like famotadine or omeprazole to reduce gastric acid secretion," Dr. Miller. "We can use motility modifiers to speed up the time it takes for the stomach to empty. They include metoclopramide or cisapride.

"Fortunately, with proper dietary and medical intervention and a careful search for underlying diseases, most dogs with acid reflux can be successfully managed or even cured," Dr. Miller says. ♦

WHAT YOU NEED TO KNOW

Adjustments to your dog's diet may be necessary if he's prone to acid reflux. Board-certified internist Meredith Miller, DVM, at Cornell recommends:

- ◆ Serving your dog's dinner meal early so he has time to digest the food. When a dog sleeps, his esophageal sphincter relaxes and that can worsen acid reflux episodes the next morning.
- ◆ Providing daily clean water served in clean bowls.
- ◆ Paying careful attention to administering medications. Some should be given on an empty stomach or given apart from other medications.
- ◆ Working with the veterinarian to select quality low-fat commercial diets that contain moderate levels of protein.

CBC ... (continued from cover)

white cells and platelets. It also contains chemicals like enzymes, hormones, nutrients (proteins and carbohydrates), and different types of other cells. Red blood cells, white blood cells and platelets are made in the bone marrow, although the spleen and lymph nodes also regulate red and white blood cells.

Veterinarians order CBCs when a dog exhibits fatigue or weakness, and has a suspected infection or a disease causing inflammation. In some cases, results may indicate the need for additional tests such as a urinalysis or imaging.

DIFFERENT ON THE OUTSIDE, DIFFERENT INSIDE

Dogs are the most varied species on the planet. They look different, act differently and their blood counts can vary from breed to breed. A study by the Royal Veterinary College in London, published in 2013, analyzed complete blood count data from nearly 6,100 healthy dogs, including 75 different purebreds and a group of mixed breeds, ranging in age from 8 weeks to 23 years old, and divided into neutered, spayed or intact males and females.

The findings: At least 37 breeds had distinct blood count profiles, with variation among all breeds. Age, gender and neutering status also had a noticeable impact on the results.

Veterinary science has recognized for some time that Greyhounds have significant differences in their CBCs, thought to be an adaptation to their development as racing sighthounds. Greyhounds have much higher red blood counts and lower numbers of white cells and platelets, which cause a different approach to interpreting CBCs. However, Greyhounds make excellent blood donors, allowing these differences to be used to save other dogs' lives.

'Don't Stress.' One caveat: CBC results are complex and inter-related. Don't stress about one or two "off" results. Your dog's veterinarian will explain if a potential health problem exists. "About 90 percent of CBC results do not reveal a cause for concern," Dr. Kaplan says, "but it's that 10 percent we are trying to capture and address."

Although normal results differ in puppies and adults, CBCs are important to establish a baseline of good health — what's normal in a particular dog. They're especially vital for seniors. CBCs as part of regular wellness checks can discover disease before symptoms are present, making treatment more effective or symptoms more manageable. Dr. Kaplan recommends dogs 8 to 12 years of age have a CBC performed annually and those 13 and older semi-annually.

CBCs can detect conditions that

could be life-threatening for dogs receiving anesthesia. They're also necessary to monitor the progress of chronic conditions. "Later we repeat the test looking for trends — how is the dog responding? Is there a complication?" Dr. Kaplan says.

In all cases, it's wise to follow the veterinarian's recommendation about when to have a complete blood count checked, she says. "It's better to have a normal test than not do it and regret it later once the pet is ill." ♦



A centrifuge separates blood into various components, which go to different laboratories for complete analysis.

Michael P. Carroll, Cornell

DRAWING BLOOD WITH A QUICK SQUEEZE AND PRICK

Although your dog probably won't like his blood being taken, he won't suffer major discomfort. He'll experience a little squeeze, a quick prick and perhaps stress, mostly from being restrained.

Depending on your dog's age and size, technicians take blood from a vein in the neck or one on the outside of the hind limb near the ankle. They apply a sterilizing agent, usually alcohol, and then manually compress the vein causing it to enlarge and be easier to access. A small needle attached to

Technicians collect blood from a vein in the neck or outside of the hind limb near the ankle. They manually compress the vein rather than using a tourniquet.



Michael P. Carroll, Cornell

a plastic syringe is gently but firmly inserted into the vein, and a plunger pulled, drawing blood into the tube.

The collected sample is placed in a centrifuge that separates blood into various components, which go to different laboratories for complete analysis.

EVALUATING RESULTS AND THEIR POTENTIAL MEANING

These are only a few of the components evaluated in a complete blood count:

BONE MARROW REPLACES RED CELLS

Red blood cells constitute approximately 40 to 45 percent of the blood and carry oxygen from the lungs to tissues via iron-based molecules called hemoglobin. Canine red blood cells live from 90 to 120 days — 104 to 115 is average — before the bone marrow replaces them.

Too few red blood cells in circulation may indicate anemia from blood loss or their inadequate production. Excess numbers may mean overproduction of red blood cells, dehydration or a lung disorder.

The measurements of various red blood components:

- ◆ **RBC:** The red blood cells in circulation.
- ◆ **HCT:** Hematocrit, also known as PCV or Packed Cell Volume. It determines the percentage of red blood cells present. In some cases, an elevation can mean shock.
- ◆ **HGB:** A measurement of hemoglobin concentration in the blood, which reflects oxygen-carrying capacity. This value is typically decreased in an anemic patient.
- ◆ **MCV:** Mean Corpuscular Volume, also Mean Cell Volume, a measurement of the average volume of red blood cells. The MCV may be elevated in liver disease or vitamin B12 deficiency. Kidney disease can cause a low reading.
- ◆ **RDW:** Red Cell Distribution Width describes the size range of the red blood cell population. Immature red cells are larger than mature ones, and anemic dogs will typically have them.

WHITE BLOOD CELLS: THE DISEASE FIGHTERS

White blood cells (leukocytes), which are a part of the immune system, defend against disease by removing foreign organisms such as bacteria or viruses, irritants and dead tissue. White blood cells have multiple types, each with its own sub-types, functions and means to measure them:

- ◆ **WBC:** Measures amount of total white blood cells present. There are about 1,000 red blood cells for each white blood cell.
- ◆ **Leukocyte differential:** This lists the percentages of different white blood cells.
- ◆ **Neutrophils:** These destroy infectious organisms, increasing in bacterial infections and decreasing with some viral infections and exposure to toxins.
- ◆ **Lymphocytes:** These are divided into B- and T-cells. B-cells produce antibodies that attack foreign material and disease-inducing organisms while T-cells cause other

cells to destroy viruses and foreign matter. Lower counts are seen in the beginning of many types of infection, as in parvovirus. Leukemia and lymphoma cause elevated levels.

- ◆ **Monocytes:** These cells consume foreign substances and infectious organisms, and aid in repair of injured or inflamed tissue. Monocyte numbers may be increased with leukemia, traumatic injury and fungal infection.
- ◆ **Eosinophils:** These cells increase in parasitic infestations, allergic responses, dermatitis, inflammatory bowel disease and mast cell tumors. Decreased amounts may occur under stressful conditions. Some large breeds of European origin, like Rottweilers and German Shepherd Dogs, have normally higher counts.

When a dog is stressed or excited during a veterinary visit, the hormones released in response — glucocorticoids or adrenaline — can affect white cell counts. Neutrophils and monocytes may be mildly increased while lymphocytes and eosinophils can be slightly decreased.

- ◆ **Basophils:** These cells usually have the lowest counts of white blood cells. They work with eosinophils during an allergic response, primarily in skin or mucous membranes.

PLATELETS FORM CLOTS TO SLOW BLEEDING

Platelets come together to form the initial clot after an injury to blood vessels. They trigger a number of chemical reactions that recruit other platelets and coagulation factors to the site of injury. This results in formation of a larger clot that slows or stops bleeding. Among the measurements:

- ◆ **PLT, PC:** Platelet and Platelet Crit count the clotting platelets present and their percentage. Increases are found in inflammatory bowel disease, lung or gastrointestinal cancers, and anemias. Decreased volume may indicate blood cancer, liver disease, autoimmune conditions or tick-borne infection. Some American Foxhounds suffer from a platelet storage disease, showing altered normal CBC results.
- ◆ **MPV:** Mean Platelet Volume calculates the average size of platelets. Cavalier King Charles Spaniels have larger platelets than other breeds — a genetic defect. A slightly low MPV in dogs doesn't always mean decreased production or response.
- ◆ **PDW:** Platelet Distribution Width measures the uniformity of platelet size to help evaluate platelet production. A dog may need additional tests to rule out or diagnose infection, autoimmune conditions, liver disease, bleeding disorders, iron, B12 or folate deficiencies, and even risk of bleeding to death.

ONE MORE?... (continued from cover)

relatively short time in dogs. Removing progesterone — through spaying — seems to make dogs more aggressive. So if you have a female, get a male as a second dog, Dr. Houpt says. If you have a male, get a female.

Big Dog, Little Dog. If you have a little dog, avoid adding a big dog — especially a big-breed puppy — because the original dog feels he is socially superior. “The puppy will think so, too, until he finally figures out that he is three times as big,” Dr. Houpt says. “And then you have a problem.”

How many dogs are too many? It’s impossible to name a specific number because of all the variables. Forty-seven percent of U.S. households have one dog, while 20 percent have two dogs. Just 10 percent of canine households have three or more dogs. All told, the average dog-owning household has 1.47 dogs.

Dr. Houpt’s rule of thumb: One dog per adult in the household works best. That’s because — especially if you have a dog with a behavior problem — you can’t deal with two dogs at the same time. She often has had to counsel clients who have tried using “Y” leashes to walk two dogs on the same leash, and they attack each other. “You’re really in trouble then,” she says.

Assessing Personality. The first step when considering adding a pet is to evaluate the ones you have now. How social or shy are they? Sometimes you don’t know that a dog is extremely possessive of his toys or food bowl until another dog is in the home. If you have an old dog, you may be tempted to get an energetic young dog to rejuvenate him.

While that may sometimes work, Dr. Houpt says that more commonly the overwhelmed old dog will relegate

himself to lying in the corner to get away from the stress-inducing newcomer. “I absolutely don’t recommend it,” Dr. Houpt says.

The next step is to consider your lifestyle: The more animals you have, the more time you’ll need to tend to and play with them, says Holly Putnam, DVM, program clinician in Maddie’s Shelter Medicine Program at Cornell. How long are you away from home each day? Some dogs may need to be crated during those long hours. How much free time do you have for exercise and walks? When you get home from work, your well-rested dogs are apt to be bursts of energy pining for a run or long walks.

While owners may want to rely on pets entertaining each other, that isn’t a substitute. In Dr. Putnam’s household, which she shares with a 6-year-old pit-bull, Ginger, and four cats, “None of my cats will lie together or groom each other. They tolerate each other.” Meanwhile, Ginger is the center of the household, and she does not like other dogs. “I know her world would be destroyed if I brought another dog in,” Dr. Putnam says.

DO THE MATH: 1 CAT + 1 OR 2 DOGS = HARMONY

When it comes to household harmony, animal behaviorist Katherine A. Houpt, VMD, Ph.D., at Cornell, offers these rules of thumb: Limit dogs to one per adult. If you want a cat as well, then one cat per household works best.

Beyond that, she says that one cat and a dog or two can live together harmoniously, but you need to provide vertical space for the cat to escape the dogs as needed. Often a kitten gets along happily with dogs, and some cats and dogs do, too. But there are exceptions. Dr. Houpt knows of a dog who didn’t leave the bedroom out of fear of the cat. Far more common are cats living upstairs out of fear of encountering the household dog.

An adult cat living with a new puppy is a potentially bad situation, says Dr. Houpt. She has a puppy and a Lynx Point Ragdoll cat named Hadley Who Behaves Badly, a former client’s cat she couldn’t cure. Hadley is aggressive — you can’t go near one corner of the guestroom’s bed because apparently she believes it’s her corner. To encourage harmony among her pets and practice good manners between them, one thing Dr. Houpt does is hold salami sessions. As the cat and puppy sit close together, she gives both small treats of cotto salami.



A cat and a dog or even two dogs can coexist happily, but the cat will need vertical spaces to escape when necessary.

Check Your Budget. Cost is another factor when weighing whether to take in another dog who may live 10 to 15 years. By one estimate, it costs more than \$1,600 a year to care for one dog. (See sidebar on Page 7.) The ASPCA

estimates the minimum cost to care for a large dog is \$1,843 for the first year and around \$875 yearly thereafter, though its figures don’t include kennel boarding or surgical veterinary visits. A small dog — requiring less food and fewer treats — costs an estimated \$1,314 the first year and, after that, about \$580 a year.

“You shouldn’t expect to pay less than this,” according to the ASPCA, “and you should definitely be prepared to pay more.” Dr. Putnam notes that health-care costs can rise in a pet’s senior years, when, for example, periodontal problems can require expensive treatment.

ANNUAL EXPENSES TOP \$1,600 FOR STARTERS

According to the 2013-2014 American Pet Products Association's National Pet Owners Survey, basic annual expenses for dog owners include:

Surgical Vet Visits	\$621
Routine Vet Care.....	\$231
Food	\$239
Food Treats.....	\$65
Kennel Boarding.....	\$327
Vitamins.....	\$64
Groomer/Grooming Aids.....	\$61
Toys	\$41

*Note: The expenses noted above aren't all inclusive. For example, they don't include a dog license or pet health insurance.



Owners spend \$41 annually on dog toys, according to a national survey.

Of course, all these factors are moot if you want a third pet and your apartment building, condo board or other housing situation forbids more than one or two. Knowing this, animal shelters commonly call landlords to check rules before signing off on an adoption for renters, Dr. Putnam says.

In the end, no matter how much you plan, chances are that life circumstances could dictate additional pets, thanks to blending two households through marriage, inheritance of Mom's two Terriers or a stray no one seems to want. If it turns out that you need help bringing harmony among your pets, know that you're not alone and seek advice from your pets' veterinarian.

Multiple pets can be a challenge, but often, as in the case of adoptions, you'll enrich their lives, and they can do the same for you. ♦

STUDIES SUGGEST BOTH BIOLOGY AND MENTAL HEALTH FIGURE IN HOARDING

You want a fifth or 10th dog or cat, so does that make you an animal hoarder? Actually, hoarding is not related to the absolute number of animals, despite the common perception, says Randall Lockwood, Ph.D., the ASPCA's senior vice president of forensic sciences and anti-cruelty projects. Someone with 50 animals may provide perfectly adequate daily care and veterinary care. Theirs is not an animal cruelty case.

Hoarding cases emerge in the news because of neglect and animal cruelty. Recent studies on animal hoarding in other countries indicate that it's found in many cultures, suggesting a potentially strong biological component and at least partly a mental health issue. "Hoarding does seem to run in families," Dr. Lockwood says.

The current thinking is that hoarding is a complex issue, perhaps related to obsessive-compulsive disorder, though hoarders don't have impulses to, say, touch a doorknob eight times, and they're not willing to change. Animal hoarders see themselves as rescuers, Dr. Lockwood says. "However, they will be in complete denial of their inability to provide minimal care for these animals, and meanwhile it is clear that the animals are suffering."

Animal hoarders also seem to process some perceptual information differently from the general public. "They don't see that their animals are in poor condition or

even dead, even though these are people who are otherwise functioning at a high level," Dr. Lockwood says. Doctors, lawyers, teachers and people of all types have been found to be animal hoarders.

However, living with hoarder can be "worse than death" for the animals, says Holly Putnam, DVM, program clinician in Maddie's Shelter Medicine Program at Cornell. "Animals have been known to starve to death, feeding on each others' carcasses, living on waste. And then you have to wonder, too, about their social interactions. Dogs can be aggressive and pick on the poor timid ones."

Each year brings an estimated 3,000 to 5,000 new cases of animal hoarding, Dr. Lockwood says. The agency monitors about 100 cases at any given time. The latest Diagnostic and Statistical Manual of Mental Disorders added a classification of hoarding disorder, although it provides no special recognition of animal hoarding, Dr. Lockwood says. The manual estimates that 2 to 5 percent of the general population has hoarding disorders.



Animal hoarders see themselves as rescuers, says Randall Lockwood, Ph.D., the ASPCA's senior vice president of forensic sciences and anti-cruelty projects.



Katherine A. Houpt, VMD, Ph.D., here with her West Highland White Terrier, Yuki, provided the answer on this page. Dr. Houpt is a diplomate of the American College of Veterinary Behaviorists and emeritus professor at Cornell University College of Veterinary Medicine.

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 ...

NEW FOOD
LABELS



LYMPHOMA
TREATMENTS



HYPERTENSION



ROUGH PLAY

How Can She Stop Her Shih Tzu's Coprophagia?

Q I have a Shih Tzu nearing 2 years old who, despite my best efforts, continues to eat her feces and any others' she can find. Would you please tell me why she does this and how to stop the behavior? Is it a bad for her health? Is she missing anything in her diet? I feed her high-quality dog food.

A Why do you care that she indulges in this behavior? I am sure there are several reasons:

1) It is aesthetically displeasing. In fact, it is downright repugnant. 2) Her breath will be bad, imbued with organic compounds called skatoles responsible for characteristic fecal odor. 3) Her fur, especially her muzzle, may be soiled, and she may transfer that material to you or your furniture. 4) You are concerned about her health. Eating her own feces is not a threat to her, but eating those of other dogs could be if they were ill or if the feces are slightly riper, she could acquire parasites.

I am sorry that I do not have an answer to your question about her motivation for coprophagia — the polite word for her behavior. There are various hypotheses: One is that you have been displeased when she produced feces in the house, so now she quickly cleans them up to avoid punishment or a harsh word from you.

Another hypothesis: It is nest-cleaning behavior. Female dogs will eat feces to prevent predators from smelling the odor and find the nest, her pups or her. It could be attention getting. I'll bet you react quickly when she starts to munch on offal and even negative attention is still attention. You are correct it is unlikely to be a dietary deficiency because you feed high-quality dog food, but sometimes dietary change can help.

Your Shih Tzu displays both autocoprophagia — eating her own feces — and allocoprophagia — eating those of other animals. You did not indicate whether she ate the feces of other dogs or other ani-

mals. Horse feces are particularly attractive because the relatively inefficient digestive process of the horse leaves more protein in the manure.

All this theorizing does nothing to answer your second question: How to stop the behavior? There are many, many putative treatments both commercial and homemade that have been touted to stop coprophagy. Unfortunately, none works consistently, but you can try them, as they are relatively harmless. One treatment is adding pineapple to the diet. The commercial products rely on taste to repel the dogs. Pungent (hot or bitter tastes) compounds are sprinkled on the feces or fed in a capsule that dissolves in the stomach, freeing the bitter compound to be expelled with the feces.

There is no cure, but feeding your dog from food-dispensing toys might satisfy her foraging demands. Because hard feces are more likely to be ingested, feeding a diet that produces softer feces could help, but if it does not, her muzzle would be even dirtier. Feeding a high roughage diet — a weight-loss diet — might satisfy her craving for more bulk that is probably missing in her high-quality food.

You did not mention when the misbehavior occurs. Some people have a dog door and the dog decides when and where to eliminate. Others accompany their dogs outside in what might be described as helicopter owners who hover over their dogs. Finally, some owners walk their dogs on a leash and expect the dog to eliminate on leash as well as to exercise.

In your case I would recommend hovering or leash walking so you can be present at the critical time. Don't punish her for eating feces because it is more likely to make her more furtive rather than less likely to eat feces. In addition, it may weaken her bond with you. The most you should do is pull her away by her leash. To modify her behavior, give her a treat just as she defecates so that she has something more delicious than feces to anticipate. Finally, keep your yard and the paths where she walks feces-free to avoid temptation. Good luck with this all too common problem. ❖

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